

Industrial Hose and Tubing Solutions



Powering Business Worldwide



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Read this page before using any of the products/information in this catalog.

This catalog is designed to be used as a guide in selecting the proper hose for the applications listed herein. It contains many cautions, warnings, guidelines, and directions for the safe and proper use of Eaton Industrial hose. All these directions and footnotes should be read and understood before specifying or using any of these hoses.

Throughout this catalog, potentially harmful situations are highlighted with the following symbols.



This symbol is used to indicate imminently hazardous situations which, if not avoided, will result in serious injury or death.



This symbol is used to indicate potentially hazardous situations which, if not avoided, could result in serious injury or death.



This symbol is used to indicate potentially hazardous situations which, if not avoided, may result in property or equipment damage.

Some of the most common problems in the chemical hose industry result from improper hose and coupling selection, improper assembly techniques, failure to correctly inspect and test hose assemblies, and improper cleaning practices and hose assembly storage techniques.

In turn, these situations can lead to material leakage, spraying, spattering, end blow-offs, explosions, and other situations that may result in serious personal injury and property damage.

Personal injuries caused by improper hose assembly specification, installation, and usage could include cuts and abrasions, serious burns, irreparable eye damage, or even death. Therefore, for your safety and the safety of others working around you, Eaton strongly urges you to read and comply with all safety information printed in this publication.



WARNING: Failure to properly follow the manufacturer's recommended procedures for the care, maintenance and storage of a particular hose may result in its failure to perform in the manner intended and may result in serious injury, death, and damage to property.



WARNING: Testing can be dangerous and should be done only by trained personnel using proper tools and procedures. Failure to follow such procedures might result in serious injury, death, or damage to property.

Consult the coupling manufacturer to make sure you choose the correct coupling and proper assembly for the application, or contact Eaton Technical Support.

Before using any hose in this catalog, consult the safety section in this catalog and the guidelines on the Eaton web site for the most current information or contact Eaton Customer Support at 1-888-258-0222.

Selection of Hose

Selection of the proper Eaton Industrial hose for an application is essential to the proper operation and safe use of the hose and related equipment. Inappropriate hose selection may result in hose leakage, bursting, or other failure which may cause serious bodily injury

or property damage from spraying fluids or flying projectiles. To avoid serious bodily injury or property damage resulting from selection of the wrong hose, you should carefully review the information in this catalog. Some of the factors to consider in proper hose selection are known as **STAMPED:**

- S - Size**
(I.D., O.D. and length)
- T - Temperature** of material conveyed and environmental
- A - Application**, the conditions of use
- M - Material** being conveyed, type and concentration
- P - Pressure** to which the assembly will be exposed
- E - Ends;** style, type, orientation, attachment methods, etc.
- D - Delivery** testing, quality, packaging, and delivery requirements

These factors and the supplemental information contained in this catalog should be considered in selecting the proper hose for your application. If you have any questions regarding the proper hose for your application, please contact Eaton at 1-888-258-0222.

Proper Selection of Hose Ends

Selection of the proper Eaton Industrial hose end or coupling is essential to the proper operation and safe use of hose assemblies and related equipment. Inadequate attention to the selection of the end fittings may result in hose leakage, bursting, or other failure which may cause serious bodily injury or property damage from spraying fluids or flying projectiles. In order to avoid serious bodily injury or property damage resulting from selection of an incompatible hose end or coupling, you should carefully review the information in this catalog. Some of the factors which are involved in the selection of the proper hose couplings are:

- fluid compatibility
- temperature
- installation design
- hose size
- corrosion requirements
- fluid conveyed

The given hose and hose end selection factors and the other information contained in this catalog should be considered by you in selecting the proper hose end fitting for your application.

If you have any questions regarding the use of hose/hose ends, please contact Eaton Technical Support at 1-888-258-0222.

Hose Installation

Proper installation is essential to the proper operation and safe use of the hose assembly and related equipment.

Improper hose assembly installation may result in serious injury or property damage caused by spraying fluids or flying projectiles. In order to avoid serious bodily injury or property damage resulting from improper hose assembly installation carefully review the information in this catalog. Some of the factors to be considered when installing a hose assembly are:

- hose elongation or contraction
- proper bend radius/hose routing under pressure
- elbows and adapters to relieve strain
- protection from rubbing or abrasion high temperature sources
- protection against excessive movement
- twisting from pressure spikes/surges

These hose assembly installation factors and the other information in this catalog should be considered by you before installing the hose assembly. If you have any questions regarding proper hose installation, please contact Eaton Technical Support at 1-888-258-0222.

Hose Maintenance

Proper maintenance of the hose is essential to the safe use of the hose and related equipment. Hose should be stored in a dry place. Hose should also be visually inspected. Any hose that has a cut or gouge in the cover that exposes the reinforcement should be retired from service. Hoses should also be inspected for kinking or broken reinforcement. If the outside diameter of the hose is reduced by 20% or more, the hose should be repaired or removed from service. Inadequate attention to hose maintenance may result in hose leakage, bursting, or other failure which may cause serious bodily injury or property damage from spraying fluids, flying projectiles, or other substances.

Coll-O-Crimp Hose, Hose Ends and Assembly Equipment Compatibility

The Coll-O-Crimp Equipment Package, Coll-O-Crimp Hose Ends and Coll-O-Crimp Hose have been engineered and designed as a complete hose assembly system. Each component of the Coll-O-Crimp hose assembly system is compatible with other Coll-O-Crimp components to which it relates. Component compatibility, along with the use of quality components, insures the production of reliable hose assemblies when assembled properly. The use or intermixing of fittings and hose not specifically engineered and designed for use with each

other and Coll-O-Crimp equipment is not recommended and may result in the production of unsafe or unreliable hose assemblies. This can result in hose assembly leakage, hose separation or other failures which can cause serious bodily injury or property damage from spraying fluids, flying projectiles, or other substances.



WARNING: Eaton industrial hose, should be used only with compatible/approved fittings and assembly equipment. Do not combine or use Aeroquip or Weatherhead fittings and assembly equipment with each other, i.e. Aeroquip fittings with Weatherhead assembly equipment, or with hose, hose fittings or assembly equipment supplied by another manufacturer. Eaton hereby disclaims any obligation or liability (including incidental and consequential damages) arising from breach or contract, warranty, or tort (under negligence or strict liability theories) should Aeroquip or Weatherhead hose fittings or assembly equipment be used interchangeably or with any fittings or assembly equipment supplied by another manufacturer, or in the event that product instructions for each specified hose assembly are not followed.

www.eaton.com/hydraulics

1-888-258-0222

Our "800" service is provided for your benefit and is available from 7:30 AM to 5:00 PM Monday through Friday Central time.

The Technical Support Group will assist you with information relative to:

- Part number interchanges
- Eaton Industrial part number verification
- Hose, hose ends, and fitting identification based on application information
- Identification of tube and pipe fittings based on description and dimensions

- Applications not listed in current catalogs
- Chemical resistance ratings
- Dimensions
- Coll-O-Crimp hose crimper information, troubleshooting, and replacement parts
- Selection of correct Coll-O-Crimp tooling

- Construction, materials, and properties of hose and fittings
- Eaton tools and accessories for Eaton Industrial hose
- Hose assembly troubleshooting and problem solving
- Referral to a Eaton Industrial Distributor or Area Sales Manager

Application Data

Hose and Tubing Quick Reference Chart

Tubing

Tube Name	Product #	Page	Tube	Cover	WP (psi)	Size	Color	Features
Type 11 PVC Tinted	11-	B-3	PVC	—	30-55	1/4" thru 1/2"	Any	Tinted Poly Vinyl Chloride tubing, lightweight
Type 12 PVC Colored	12-	B-4	PVC	—	30-55	1/4" thru 1/2"	Any	Colored Poly Vinyl Chloride tubing, lightweight
Type 16 Grey Drain	16-	B-5	PVC	—	25-45	1/2" thru 1"	Grey	Lightweight, non-marking and flexible.
Type CD Corrugated	CD-	B-6	PVC	—	—	3/4" thru 1"	Grey	Small bend radius for tight turns
Type 17 Co-Extruded	17-	B-8	Urethane	—	40-55	1/4" thru 1/2"	Clear	Good chemical resistance excellent abrasion resistance
Type 18 Urethane	18-	B-9	Urethane	—	35-85	1/8" thru 1/2"	Clear	Clear, flexible w/excellent abrasion & tear resistance
Type 40 KYNAR (PVDF)	40-	B-10	KYNAR (PVDF)	—	150-200	11/64" thru 1/2"	Blue	UV & abrasion resistance Great barrier properties
Type 57 Nylon 12	57-	B-11	Nylon	—	225-325	3/8" thru 1/2"	Natural	Exc. abrasion resistance good chemical resistance
Type 50 LLDPE	50-	B-12	Polyethylene	—	40-140	1/8" thru 1"	Natural	Materials comply w/FDA specifications and good stress crack resistance
Type 54 Fire Retardant	54-	B-13	Polyethylene	—	100-140	3/32" thru 3/8"	Black	Linear low density fire retardant, UL94 V2 flammability rating
Type 59 High Density	59-	B-13	Polyethylene	—	85-200	11/64" thru 7/8"	Clear	Food grade high density polyethylene, complies with FDA specifications
Type 55 Natural EVA	55-	B-14	EVA	—	75-125	3/8" thru 1"	Clear	General purpose EVA materials, good chemical & weather resistance

Application Data

Hose and Tubing Quick Reference Chart

A

Air and Multi-Purpose Hose

Hose	Product #	Page	Tube	Cover	Rein.	WP (psi)	Size	Color	Features
Low Working Pressure									
Type 24 Low Temp	24-	C-3	PVC	PVC	Fiber 2 Spiral	250- 300	1/4" thru 3/4"	Sky Blue	Good abrasion resistance lightweight, non-marking, flexible
Type 27 Grey High Temp	27-	C-4	Urethane/ PVC Blend	PVC	Fiber 2 Spiral	250	1/4" thru 1/2"	Grey	Good resistance to oil, UV & Ozone. High temperature resistance
Type 38 Medical Air	38-	C-5	PVC	PVC	Fiber 2 Spiral	250	1/4" thru 3/8"	Green, White, Yellow	Conductive volume resistivity (OHM-CM3) of 7-8 and RoHS compliant
Polyforce II	H275	C-6	PVC	PVC Pinpricked	Fiber Spiral	125- 250	3/16" thru 2"	Red, Blue, Yellow	Light weight. Abrasion, age, and ozone resistant. Flexible.
Ultraforce	H265	C-7	Modified Vinyl	Thermoplastic	Fiber Spiral	350	1/4" thru 2"	Blue, Red	Nonconductive. Abrasion Resistant. Non-marking pinpricked cover.
Boston Marathoner	H1981 H1982	C-8	Blended Nitrile	Neoprene/ Pinpricked	Fiber Spiral	200- 300	1/4" thru 1"	Red, Green, Yellow, Black	Longer lengths. Abrasion and oil resistant. Variety of colors.
Performer II	H115 & H116	C-9	Nitrile	Vinyl Nitrile	Fiber Braid	225- 300	1/4" thru 1-1/2"	Red	Abrasion, oil, and weather resistant.
Easy Couple	H201	C-10	Nitrile RMA Class A	Neoprene/ Vinyl Nitrile	Fiber Braid	300	1/4" thru 3/4"	Black, Blue, Gray	Push-On Hose Ends, Black color MSHA approved.
Shock Safe	H9949	C-11	Nitrile	Vinyl Nitrile	Fiber Braid	275	1/4" thru 1"	Red	Nonconductive. Abrasion, oil, and weather resistant.
Perfection 300	H1776 & H1777	C-12	Nitrile RMA Class A	Vinyl Nitrile	Fiber Braid	325	1/4" thru 1-1/2"	Red	Abrasion, oil, and weather resistant.
Medium Working Pressure									
Concord Air	H6002	C-13	Nitrile	Nitrile/ Pinpricked	Fiber Braid/ Ply	300- 400	1/2" thru 2"	Red	Excellent weather and abrasion resistance. Pinpricked cover.
Mineforce	H1571	C-14	Modified Vinyl	PVC/Nitrile Blend	Fiber Spiral	400	1/2" thru 1"	Yellow	Light weight. Flexible. Abrasion, age, and ozone resistant.
High Working Pressure									
Concord Yellow Jack	H6008	C-15	Nitrile RMA Class A	Neoprene/ Pinpricked	Wire Braid	400- 1,500	1/2" thru 4"	Yellow	Class A oil resistant tube. MSHA approved. Pin- pricked cover. Continuous permanent brand.
Contacto's Air	H9622	C-16	Nitrile RMA Class A	Neoprene/ Pinpricked	Wire Braid	500- 1,000	1/2" thru 2"	Yellow	Class A oil resistant tube. Pinpricked cover. Continuous permanent brand.
Boston Bulldog Gold	H6009	C-17	Nitrile RMA Class A	Carboxylated Nitrile/Pin Pricked	Wire Braid	400- 1,500	1" thru 4"	Black	Class A oil resistant tube. Superior abrasion resistance. Continuous permanent brand.

Application Data

Hose and Tubing Quick Reference Chart

General Purpose Air and Water

Hose	Product #	Page	Tube	Cover	Rein.	WP (psi)	Size	Color	Features
Bosflex A/W	H0105 & H0106	D-2	EPDM	EPDM	Fiber Spiral	200-300	1/4" thru 1"	Red	Pinpricked cover. Abrasion, age, and heat resistant.
Industrial A/W	H1812	D-3	EPDM	EPDM	Fiber Braid	250-275	1/4" thru 1-1/2"	Red	Abrasion, age, and heat resistant. Excellent coupling retention for impulse applications.
Contrac-Force	H1719	D-4	PVC	PVC	Fiber Spiral	150	5/8" and 3/4"	Black	Lightweight and flexible. Abrasion and weather resistant. 50' coupled assemblies and 500' uncoupled reels.
Contractors Water	H1987	D-5	EPDM	EPDM/ Pinpricked	Fiber Spiral	150	5/8" and 3/4"	Black	Abrasion, age, heat, and weather resistant.
Type 65 Natural EVA	65-	D-6	EVA	EVA	Fiber 2 Spiral	150-250	1/4" thru 1"	Natural or Colored	General purpose EVA materials, good chemical and weather resistance
Type 67 Urethane	67-	D-7	Urethane	Urethane	Fiber 2 Spiral	250	1/4" thru 1/2"	Clear	Good resistance to chemicals and petroleum-based liquids
Type 88 Self-Store	88-	D-8	Polyurethane	—	—	140	1/4" thru 3/8"	Blue or Clear	Extremely lightweight and flexible with high abrasion resistance
Type 21 Marine Water	21-	D-9	PVC	PVC	Fiber 2 Spiral	115-150	1/2" thru 3/4"	Clear w/Blue Tint	NSF certified under Standard NSF-51, Polyester reinforced w/colored tracer (red/blue)
Type 21 HD Clearbraid	21-	D-10	PVC	PVC	Fiber 2 Spiral	175-275	1/4" thru 3/4"	Clear w/Blue Tint	NSF certified under Standard NSF-51, Materials comply with FDA specifications
Green Garden Hose	H8679	D-11	Synthetic Rubber	Synthetic Rubber	Fiber Spiral	100	5/8" and 3/4"	Green	Cut and gouge resistant. Light weight and flexible.
Type 25 Std. Duty Garden	25-	D-12	PVC	PVC	Fiber 2 Spiral	100-125	1/2" thru 3/4"	Green	Lightweight, non-marking and flexible
Type 26 HD Golf Course	26-	D-13	PVC	PVC	Fiber 2 Spiral	125	3/4" thru 1"	Dark Green Tint	Lightweight, non-marking and flexible

Cleaning Service Hoses

Hose	Product #	Page	Tube	Cover	Rein.	WP (psi)	Size	Color	Features
Creamery/ Packing House cover.	H1066	K-3	Nitrile	Vinyl Nitrile/ Pinpricked	Fiber Braid	200	3/4"	White	Abrasion, animal fat, oil, & weather resistant. Heat resistant. Pinpricked cover, non-marking
Washdown 1000	H9610	K-4	Nitrile	Vinyl Nitrile	Wire Braid	1000	3/8" thru 3/4"	Yellow, Grey	Abrasion, animal fat, vegetable oil & weather resistant. Heat & detergent resistant.
Washdown 1250	H9673	K-5	Nitrile	Vinyl Nitrile	Fiber Braid	1250	3/8" thru 3/4"	Grey	Abrasion, animal fat, vegetable oil, & weather resistant. Heat and detergent resistant.
Supraforce	H1531	K-6	Thermoplastic	Thermoplastic	Fiber Spiral	300-400	1/4" thru 1"	Yellow	Nonconductive. Light weight. Flexible.
Pressure Washer	H3345	K-7	Nitrile RMA Class A	Vinyl Nitrile	1 Wire Braid	3,000	1/4" thru 1/2"	Blue	High pressure. Non-marking. MSHA approved.
Concord Sandblast	H0034	K-8	Natural Rubber	SBR	Fiber Braid/Ply	100-150	1/2" thru 1-1/2"	Black	Static dissipating tube. Weather and ozone resistant.

Application Data

Hose and Tubing Quick Reference Chart

A

Chemical Service Hoses

Name	Product #	Page	Tube	Cover	Rein.	WP (psi)	Size	Color	Features
Acid Suction									
Tiger	H0345	E-4	EPDM	EPDM	Fiber Spiral/ Ply w/ Helical Wire	150	1-1/2" thru 6"	Yellow	Excellent chemical and ozone resistance. Continuous branding with caution label. Suction/discharge. Flexible.
Cheetah	H0423	E-5	Hypalon	Neoprene	Fiber Spiral with Helical Wire	150	1-1/2" thru 4"	Yellow	Excellent chemical and ozone resistance. Continuous print brand w/caution label. Suction/discharge. Flexible.
Acid Discharge									
Leopard	H0346	E-6	EPDM	EPDM	Fiber Spiral	100-150	1-1/2" thru 4"	Yellow	Discharge only. Excellent chemical and ozone resistance. Continuous print brand with caution label. Flexible.
Hot Liquid Transfer									
Alleycat	H9699	E-7	Synthetic Rubber	EPDM	Wire Braid w/SS Static Wires	500	1-1/2" thru 3"	Yellow	Temperature resistance up to +300°F. High pressures up to 500Psi. Wire braid resistance to crushing. Grounding wires for static dissipation. Rated for open-end steam cleaning. Abrasion, chemical, and ozone resistant.
Chemical Transfer									
Green Cross-Link	H0378 & H0615	E-8	Clear Cross Link Polyethylene (XLPE)	EPDM	Fiber Braid/ Ply with Helical Wire	100-150	1" thru 4"	Green	Chemical and solvent resistant. Easy to clean. Low coefficient of friction - rapid fluid flow. Continuous impression branding. (corrugated also available)
Chemcat	H0523 & H0599	E-10	UHMW FDA Approved Material	EPDM	Fiber Braid/ Ply w/ Helical Wire	150-200	3/4" thru 6"	Purple, Green, Blue	Abrasion, chemical, and ozone resistance. Rated for open-end steam cleaning. Easy to clean. (corrugated also available)
Cougar CPE	H0661	E-12	CPE	EPDM	Fiber Ply w/ Helical Wires	150	1-1/2" thru 3"	Brown	Abrasion, chemical, and ozone resistant. Long hose life. Petroleum, acid, heat and alcohol resistant. Corrugated for greater flexibility.
Panther Chemical Transfer*	H8359	E-13	Clear Cross Link Polyethylene (XLPE)	EPDM	Fiber Braid/ Ply w/ Helical Wire	150-200	1" thru 4"	Yellow	Chemical and solvent resistant. Easy to clean. Low coefficient of friction - rapid fluid flow. Continuous impression branding.
Armorcat	H0554 & H0060	E-14	UHMW FDA Approved Material	EPDM	Wire Braid w/SS Static Wires	300	1-1/2" thru 4"	Red	Crush, abrasion, chemical, and ozone resistance. Rated for open-end steam cleaning. Dual ground wires to dissipate static charge. (corrugated also available)

*MTO-Made To Order

Teflon is a registered trademark of E.I. DuPont.

Application Data

Hose and Tubing Quick Reference Chart

Specialty Service Hoses

Hose	Product #	Page	Tube	Cover	Rein.	WP (psi)	Size	Color	Features
Hot Tar Pumping	H9603	F-3	Nitrile	CPE/Pin Pricked	Wire Braid	250	1"	Black	Ozone and weather resistant. Handles intermittent temperatures of up to 400°F.
Blackcat Hot Tar & Asphalt	H0372 H0616	F-4	Nitrile	Neoprene Ply	Fiber-glass Braids w/Helical Wire	200	2" thru 4"	Black	Heat and oil resistant. Light weight. Handles intermittent temperatures of hot tar up to +400°F. (Blackcat Hot Tar/Asphalt Corrugated also available)
Chemforce	H1560, H1561 & H1562	F-6	PVC/ Polyurethane Blend	PVC	Fiber Spiral	250, 600, or 800	3/8" thru 3/4"	Green, Yellow, Blue	Compatible with hydrocarbon-based aromatic chemicals. Excellent for pest control and lawn service.
Type 35 LW Chemical Spray	35-	F-7	PVC/ Polyurethane Blend	PVC	Fiber	600	3/8" thru 1/2"	Yellow	Lightweight, easy ID as well as easy coiling and abrasion resistant
Type 30 2 Pass PVC Ag Spray	30-	F-8	PVC	PVC	Fiber 4 Spiral	600	3/8" thru 1/2"	Yellow	All PVC compounds used on core and cover, lightweight, non-marking and flexible
Type 34 1 Pass PVC Ag Spray	34-	F-9	PVC	PVC	Fiber 2 Spiral	600	3/8" thru 1/2"	Yellow	Corrugated jacket for easy coiling and abrasion resistance
Hydrocarbon Drain	H9690	F-10	Nitrile	CPE/Pin Pricked	Wire Braid	300	3/4"	Blue	High temp (up to 350°F), oil, and abrasion resistant
Nitrogen Service	H8811	F-11	Nitrile	Neoprene/ Pinpricked	Fiber Spiral	300	1/2" and 3/4"	Yellow, Blue	Pinpricked cover. Abrasion, age, and oil resistant.
Nyall	H1941 & H1942	F-12	Nylon	Neoprene (Black), Vinyl Nitrile (Colors)	Fiber Braid	500-750 1"	1/4" thru 1"	Black, Red	Excellent chemical compatibility. Easy to clean. Low coefficient of friction. Paint and adhesive transfer.
Boston Bulldog Fuel Oil Delivery	H901	F-13	Nitrile RMA	Vinyl Nitrile Class A	Fiber Braid	250	1-1/4" thru 1-1/2"	Red	RMA Class A nitrile tube. Smooth, non-marking cover. Lightweight/Flexible.
Black Line LPG	H900	F-14	Nitrile	Vinyl Nitrile/ Pinpricked	Fiber Braid, 1" Built with SS Static Wires	100/1 Natural Gas	1/4" thru 1"	Black	UL 21 approved for LP Gas transfer. Abrasion resistant.
Chemical Booster	82-5751 82-5752	F-15	Rubber	Rubber	Textile Braid	800	3/4" thru 1"	Red	Abrasion, ozone and weather resistant.

Steam Hoses

Hose	Product #	Page	Tube	Cover	Rein.	WP (psi)	Size	Color	Features
200 L.L.	H6027	L-5	EPDM	EPDM/ Pin Pricked	1 Wire Braid	200	3/8"	Black thru 3/4"	Heat, age, ozone & weather resistant. Excellent heat resistance.
Concord 250	H9568	L-7	EPDM	EPDM/Pin Pricked	2 Wire Braid	250	1/2"	Black, thru 1"	Heat, age, ozone & weather resistant. RedExcellent heat resistance.
Concord 250 O.R.	H9682	L-8	EPDM	Special Oil Resistant Compound/ Pinpricked	2 Wire Braid	250	1/2"	Black, thru 1"	Oil resistant. Excellent heat resistance. Red
Concord Standard Steam Spiral Stripe	H0084 (Chlorobutyl)	L-9	Patrex	EPDM/ Pinpricked	2 Wire Braid, 2 SS Static Wires	250	1/2" thru 2" Spiral Stripe	Black and Red	Heat, age, ozone & weather resistant. Excellent heat resistance.

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Application Data

Hose and Tubing Quick Reference Chart

A

Food Industry Service Hoses

Hose	Product #	Page	Tube	Cover	Rein.	WP (psi)	Size	Color	Features
Food Preparation									
Clearforce	H285	G-3	PVC	PVC	Fiber Spiral	75-250	3/16" thru 2"	Clear	FDA approved materials. NSF-51 certified. Light weight. Flexible. Flow or blockage readily visible.
Aquaforce	H1592	G-5	Clear PVC	PVC/Pin Pricked	Fiber Spiral	150	1/2" thru 1"	Red	FDA approved materials. Temporary potable water lines.
Liquid Bulk Transfer									
Grey Food Transfer	H0384	G-6	Vinyl	Vinyl Nitrile	Fiber Nitrile Helical Wire	150 with	1-1/2" thru 4"	Light Grey	FDA approved materials. Abrasion, animal fat, and weather resistant. Suction or discharge service. Easy to clean.
Lion Food Transfer	H0350	G-7	Vinyl	Vinyl Nitrile	Fiber Nitrile Helical Wire	250 with	1-1/2" thru 4"	White	FDA approved materials. Abrasion, animal fat, and weather resistant. Suction or discharge service. Easy to clean.
Dry Bulk Transfer									
Dry Bulk Food Discharge	H0413	G-8	White Natural Rubber	Natural Rubber/SBR Blend	Fiber Braid with SS Static Wires	50	4"	Grey	FDA approved materials. Discharge of dry bulk food products. Abrasion and weather resistant. Dual static grounding wires for electric charge dissipation.

Water Suction & Discharge Hoses

Hose	Product #	Page	Tube	Cover	Rein.	WP (psi)	Size	Color	Features
Suction & Discharge									
Otter Water Suction and Discharge	H0364	H-3	EPDM	EPDM	Fiber Spiral/Ply	75-125	1-1/4" thru 8"	Black	Abrasion, weather and diluted agricultural chemical resistant.
Flexbuilt K-10 Water Suction	H0100	H-4	PVC	PVC Vinyl Helix	Rigid	35-65	1-1/2" thru 6"	Green	Light weight and abrasion resistant.
Type CE Corr. Suction	CE-	H-5	PVC	—	Rigid PVC Helix	60-70	1-1/2" thru 2"	Clear w/ white Helix	Rigid PVC Helix for max. flex & crush. Small bend radius for tight turns.
Royalflex 1196	H1196	H-6	Thermo-plastic Vinyl Nitrile	Thermo-plastic Vinyl Nitrile	100% Polyester & Helical Wire	200-300	1-1/2" thru 4"	Blue	Long lengths available. Crush and kink resistant. No delamination. Long service life.
Type 9F/H/G Arrow-FLO	9F/H/G-	H-7	PVC	Varies	Helix	65-100	1/2" thru 3"	Varies	Rigid PVC helix for max. flex and crush. Smooth core & cover construction.
Discharge									
Leader Water Discharge	H0378 & H0379	H-8	EPDM	EPDM	Fiber Spiral	80-150	1-1/2" thru 8"	Black	Heavy duty. Resistant to diluted chemicals.
Flexbuilt K-50 Water Discharge	H0500	H-9	PVC	PVC	Woven Synthetic Yarn	35-75	1-1/2" thru 6"	Blue	Folds flat. Light weight.
Type 12 Industrial DURA-TUFF	12-	H-10	PVC	—	—	10	1.63"	Blue	Durable, abrasion resistant, measurement identification markers.

Application Data

Hose and Tubing Quick Reference Chart

Fuel/Petroleum/Oil Field Service Hoses

Hose	Product #	Page	Tube	Cover	Rein.	WP (psi)	Size	Color	Features
Types 49 & 89	EH049-EH089-	I-4	PVDF	MPR	Varies	50 & 250	1/4" thru 3/8"	Varies	PVDF barrier, polyester reinforced black MPR cover, CARB approved
Light Duty Petroleum	H0436	I-5	Vinyl Nitrile	Vinyl Nitrile	Fiber 4 Spiral with Helical Wire	100	1-1/2" thru 4"	Black	Animal fat, abrasion, oil, and weather resistant. Impression branded.
Bobcat LT Light Weight Tank Truck	H0369	I-6	Vinyl Nitrile	Vinyl Nitrile (Red), Neoprene (Black)	Fiber 2 Ply w/ Helical Wire	100	2" thru 4"	Red, Black	Light weight and flexible (corrugated) - easy to handle. Abrasion, oil, and weather resistant. Continuous brand
Medium Duty									
Puma	H0363	I-7	Vinyl Nitrile	Vinyl Nitrile	Fiber with Helical Wire	150	1" thru 8"	Red, Black	Abrasion, oil, and weather resistant. Continuous brand.
Heavy Duty									
Jaguar Heavy Duty	H0327	I-8	Vinyl Nitrile	Vinyl Nitrile	Fiber 2 Ply with Helical Wire	250	1-1/2" thru 6"	Orange (6" w/ Black Vinyl Nitrile Cover)	Meets OSHA color requirements for flexible pipe systems. Oil, abrasion, and weather resistant.
Royalflex 1193*	H1193	I-9	Nitrile	Nitrile	100% Poly. & Helical Wire	200-300	1-1/2" thru 4"	Black	Best crush and kink resistance (more turns of helical wire per inch). Light weight and flexible. Tube and cover through polyester injected sock (homogeneous)- no delamination.
Kelly Power	H0377	76	Neoprene	Neoprene	Wire Spiral	3000	2"	Black	Abrasion, oil, and weather resistant.

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Material Handling Hoses

Hose	Product #	Page	Tube	Cover	Rein.	WP (psi)	Size	Color	Features
Lynx Softwall Dry Material	H0319	J-3	Natural Rubber/SBR Blend	SBR	Fiber Spiral	50	4"	Black	Natural Rubber tube is static dissipating. Abrasion, age, and weather resistance. Discharge only.
Lynx HD Softwall Dry Material	H0521	J-4	Natural Rubber/SBR Blend	SBR	Fiber Spiral	50	4" and 5"	Black	1/4" thick heavy wall tube for extended service life. Natural Rubber tube is static dissipating. Abrasion, age, and weather resistance. Discharge only.
Sabertooth Dry Material	H0347	J-5	Natural Rubber/SBR Blend	SBR	Fiber Spiral with Helical Wire	100	3" and 4"	Black	Natural rubber tube is static dissipating. Hard wall for higher pressures. Abrasion, age, and weather resistance. Suction or discharge service.

HOT AIR

Wildcat Hot Air	H0349	J-6	EPDM	EPDM/ Pin Pricked	Fiber Spiral/ Ply with Helical Wire	100-150	3" and 4"	Brown	Hot air blower hose for hot, dry, oil-free applications. Heat resistance +300°F. Age and weather resistant. Poor resistance to petroleum.
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Hose Construction

A hose consists of three components including the tube, reinforcement, and cover. Each component serves an important function in contributing to the overall performance of the hose.

Components of a hose:

Tube functions:

- Conveys media
- Temperature resistant
- Protects reinforcement and cover
- Dissipates static electricity

Reinforcement functions:

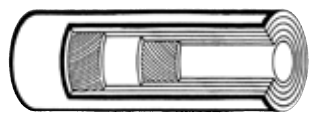
- Supports pressure/vacuum
- Supports tube
- Controls elongation/shrinking of hose OD/ID
- Helps fitting retention

Reinforcement types:

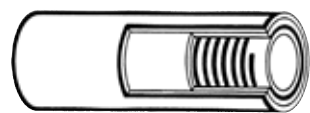
- 1) Braid - carbon steel or fiber
- 2) Spiral - carbon steel or fiber
- 3) Helical - carbon steel



Braid reinforcement



Spiral reinforcement



Helical reinforcement

Cover functions:

- Protects reinforcement from external environment
- Provides weather, abrasion, chemical, temperature, and ozone resistance

Hose Selection

Selecting the proper hose for an application is critical to ensure safety of people and property, as well as long hose life. Therefore, it is important to understand the factors involved.

These factors are:

- Application
- Pressure and/or suction
- Environment
- Compatibility with material conveyed
- Temperature
- Size
- Flexibility
- Bend radius
- Weight

Application

The first step in properly selecting a hose is to identify the application and material to be transferred. Then consider the hoses available for that type of service. Eaton Industrial hose is intended for specific applications and materials.



WARNING Hose use and care: Never use a hose to transfer material it is not specifically meant to transfer. Doing so could deteriorate the hose and result in leaking, hose bursting, or end blow-offs. This could lead to serious personal injury or death. Always transfer material in a hose that is designed specifically to transfer that material.

A special application consideration, especially in gases, petroleum-based liquids, volatile solvents, and dry material transfer applications, is whether the velocity of the material being transferred will cause static buildup. This, in turn, can cause an explosion.

According to Rubber Manufacturers Association (RMA) Hose Handbook IP-2 1996:

Electrical engineers differ in opinion on the effects of static electricity and the means of dissipating it. In handling gasoline and other petroleum-based liquids, recognized national associations and companies have conflicting opinions on the need for conductive hoses.

Until a consensus is reached among all associations, laboratories and users and a standard practice is established, it is essential that the user determine the need for a static bonded hose based on (a) the intended use of the hose, (b) instructions from the company's Safety Division, (c) the insurer, and (d) the laws of the States in which the hose will be used.

Some types of hose include a body reinforcing wire. This wire can be used for electrical continuity provided that proper contact is made between it and the hose coupling. This can be done by extending the body wire to the ends of the hose, or by attaching a light static wire to the outermost coils of the body wire. This lighter wire is led through the ends of the hose and attached to the couplings. In nonwire reinforced hose, a static wire can be included in the hose body.

The tendency has been toward a grounding connection completely separate from the hose or to have the tube or cover of the hose conducting. Examples would be sand blast hose with conducting tube or aircraft fueling hose with a conducting cover.

An internal static wire could break or lose contact with the couplings and not be detected visually. This could occur from an unusual stress imposed on the hose.

Finally, be aware that many industries have governing agencies that issue mandatory or suggested guidelines for the use of hose in certain applications.

Pressure & Suction

The selected hose and coupling must be able to continually withstand the maximum pressure that will be generated in the application.

⚠ WARNING Hose use and care: Consider both working pressure and pressure surges when determining “maximum” pressure. Failure to select a hose that meets both these requirements could lead to end blow-offs, hose leakage, and hose bursting. The result could be serious injury or death. The Eaton Industrial hose you choose must meet or exceed the required working pressure, and must have a safety factor to allow for surge pressure.

It may be reassuring to know that every length of Eaton Industrial chemical transfer hose is pressure tested to 1-1/2 times the working pressure before it is packaged and shipped. Equally reassuring is the fact that Eaton Industrial chemical hose has a 4:1 safety factor.** This means the burst pressure is a minimum of four times greater than the working pressure.

**Eaton Industrial Otter and Eaton Industrial Leader water hoses are rated 3:1 and can be used in some light chemical applications.

⚠ CAUTION In suction applications, suction (or vacuum) considerations are as critical to hose life as pressure considerations. Hoses in these applications are vulnerable to crushing forces because the atmospheric pressure outside the hose is greater than the pressure inside the hose. A hose not having the proper suction rating for your applications may collapse and result in equipment failure.

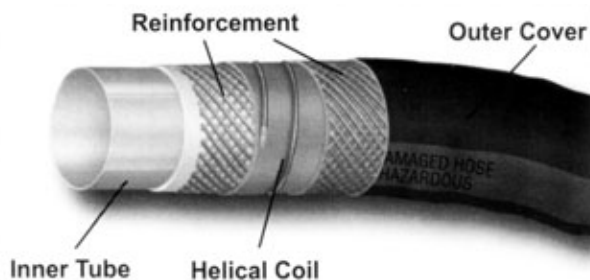
Eaton Industrial suction hoses have helical wire reinforcement and are rated for full vacuum. “Inches of mercury” is the standard of measurement for vacuum. Full vacuum is equal to 29.92 inches of mercury.

Environment & Compatibility

Environment refers to both the external environment and the internal environment in which the hose will be working. Different components of the hose will be affected by these two types of environment.

Most hoses consist of three components: an inner tube, a reinforcement, and an outer cover.

Elastomers are the basic ingredient of all rubber compounds. However, be aware that when specifying tube and cover compounds, significant application differences may exist between two compounds listed as having the same basic elastomer.



For example, Eaton Industrial's Tiger and Otter hoses list inner tubes made from EPDM, but *recommended* use for each of these hoses is quite different.

These differences occur because compounds contain many materials in addition to elastomers. Some of these materials include processing aids, carbon black, vulcanization agents, accelerators, age resistors, and other ingredients. Before making assumptions about the suitability of a particular hose for a given application, always read the “Applications” information for each specific hose listed in this catalog.

The first hose component, the inner tube, conveys the material being transferred. The tube must be compatible with these materials. This is the hose's internal environment. Whenever you specify a Eaton Industrial hose, refer to the chemical resistance chart in this catalog.

⚠ DANGER Never transfer material in an inner tube that is not compatible with that material. Likewise, never use hose at temperatures, pressures, or chemical concentrations above those recommended by Eaton. Doing so will weaken or deteriorate the hose, leading to leakage, hose bursting, or end blow-offs. Personal injury or death can result.

The next hose component, the reinforcement, is the strength member of the hose. Reinforcement usually consists of fiber, thermoplastic, carbon steel, or stainless steel spirals, braids and coils. The helical coil is used in all hardwall hoses and is required in vacuum and suction applications. The coil is necessary to help the hose withstand atmospheric pressure that is greater than the internal pressure of the hose to prevent the hose from collapsing. It is usually made of steel or thermoplastic monofilament.

The final hose component is the outer cover. The outer cover protects the reinforcement from the external environment. It is usually rubber, thermoplastic, fiber, or metal. The hose outer cover must protect against weathering, abrasion, chemicals, extreme temperature ranges, ozone, and other adverse conditions.

The “Elastomers” chart in this catalog (page 31) contains a listing of general characteristics of some common elastomers and their physical properties as they relate to specific service needs. When application questions arise, contact Eaton Technical Support at 1-888-258-0222.

Heat can be a catalyst for chemical reaction. When selecting a Eaton Industrial hose, consider both the ambient temperature and the temperature of the material being conveyed.

WARNING Do not use a hose at temperatures that exceed the hose temperature rating. Doing so could deteriorate the hose, leading to leaks, hose bursting, and end blow-offs. This could result in serious personal injury or death.

Cold temperatures are another consideration. Hose must be flexible and be able to withstand temperatures well below 0°F in some applications.

Be aware that rated hose temperatures do not imply that a hose can handle all materials within the listed temperature range and concentration.

For specific application information and hose temperature ratings, always follow the guidelines in this catalog, or contact Eaton Technical Support at 1-888-258-0222. All chemicals listed in the chart are rated at 70°F unless otherwise stated.

Size

Size can refer to the length of the hose, the inner diameter (I.D.), and the outer diameter (O.D.). To determine the correct length of hose for an application, always remember to subtract the cut-off factor for each end fitting or coupling from the overall length of the assembly. For example, if the total length of the assembly needs to be 20 feet, and each end extends past the hose three inches, the cut-off factor is three inches at each end, or six inches total. Twenty feet minus six inches yields a hose length of 19-1/2 feet.

Remember to subtract the cut-off factor for each end fitting when preparing hose.

Inner diameter is important in relation to volume transfer requirements. The larger the hose inner diameter, the greater the volume of material that can be transferred in a given time.

WARNING Be aware that if you replace a hose with one having a different I.D. than the original hose, material velocity could increase or decrease, possibly creating static electricity. This could lead to an explosion causing serious injury or death.

Temperature vs. Pressure Table for Reinforced PVC Hose

The table below has been prepared to demonstrate the effects of temperature vs. working pressure on reinforced PVC hose products. Working pressures for PVC hoses are tested at 68°F (20°C).

Example:

2-Spiral hose has stated working pressure of 250 psi at 68°F (20°C)

At 104°F (40°C) working pressure = 250 psi x 56% = 140 Psi.

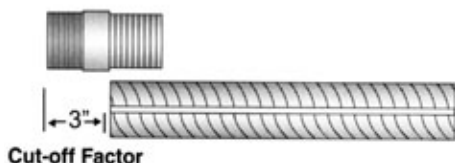
Example:

4-Spiral hose has stated working pressure of 400 psi at 68°F (20°C)

At 140°F (60°C) working pressure = 400 psi x 43% = 172 psi.

NOTE: WORKING PRESSURE DECREASES AS TEMPERATURE INCREASES. HOSE MUST BE PROPERLY COUPLED TO OBTAIN THE SPECIFIED PRESSURE RATING.

Temperature		Allowable Percent of Original Working Pressure	
°C	°F	2-Spiral	4-Spiral
20	68	100%	100%
25	77	86%	90%
30	86	75%	81%
35	95	65%	73%
40	104	56%	66%
45	113	47%	59%
50	120	40%	53%
55	131	33%	47%
60	140	27%	43%
65	149	23%	40%
70	158	20%	38%
75	167	17%	37%
80	176	15%	35%



Cut-off Factor

Hose Maintenance

Hose has a limited life based on the severity and type of chemical contact, environment or exposure to heat and petroleum products. Eaton recommends the following maintenance procedure to determine when hose should be replaced.

General Test and Inspection Procedures for Hose

An inspection and hydrostatic test should be done periodically to ensure hose is suitable for continued service.

A visual inspection of the hose should be made for loose covers, kinks, bulges, or soft spots which might indicate broken or displaced reinforcement. The couplings or fittings should be closely examined and, if there is any sign of movement of the hose from the couplings, the hose should be removed from service.

The periodic inspection should include a hydrostatic test for one minute at 150 percent of the recommended working pressure of the hose. An exception to this would be woven jacketed fire hose.

Woven jacket fire hose should be tested in accordance with the service test provisions contained in the current edition of National Fire Protection Association Bulletin No. 1962—Standard for the Care, Use and Service Testing of Fire Hose, Chapter 5.

During the hydrostatic test, the hose should be straight, not coiled or in a kinked position. Water is

the usual test medium and, following the test, the hose may be flushed with alcohol to remove traces of moisture. A regular schedule for testing should be followed and inspection records maintained.

Hose Inspection

Hose assemblies shall be inspected and tested immediately after the hose is subjected to abnormal abuse such as: severe end pull, flattening or crushing or sharp kinking. As you inspect a hose assembly, remember that most hose failures occur between the coupling and the first three feet along the hose length. Pay close attention to this area. Any hose that has been recoupled shall be proof-tested for one minute at 150 percent of the recommended working pressure of the hose, and inspected before being placed in service.



SAFETY WARNING: Before conducting any pressure tests on hose, provision must be made to ensure the safety of the personnel performing the tests and to prevent any possible damage to property. Only trained personnel using proper tools and procedures should conduct any pressure tests.

The following guidelines should be adhered to during testing and/or inspection:

1. Air or any other compressible gas must never be used as the test medium because

of the explosive action of the hose should a failure occur. Such a failure might result in possible damage to property and serious bodily injury.

- 2. Air should be removed from the hose by bleeding it through an outlet valve while the hose is being filled with the test medium.**
- 3. Hose to be pressure tested must be restrained by placing steel rods or straps close to each end and at approximate 10 foot (3m) intervals along its length to keep the hose from "whipping" if failure occurs; the steel rods or straps are to be anchored firmly to the test structure but in such a manner that they do not contact the hose which must be free to move.**
- 4. The outlet end of hose is to be bulwarked so that a blown-out fitting will be stopped.**
- 5. Provisions must be made to protect testing personnel from the forces of the pressure medium if a failure occurs.**
- 6. Testing personnel must never stand in front of or in back of the ends of a hose being pressure tested.**
- 7. If liquids such as gasoline, oil, solvent, or other hazardous fluids are used as the test fluid, precautions must be taken to protect against fire or other**

damage should a hose fail and the test liquid be sprayed over the surrounding area.

Visual Inspection

1. Hose

Any cuts, gouges or tears in the cover which do not expose the reinforcement should be repaired before the hose is returned to service. If the reinforcement is exposed, retire the hose from service.

Covers may show surface cracking or crazing due to prolonged exposure to sunlight, ozone, or high temperature during soak tank cleaning. Such deterioration, which does not expose reinforcing materials, is not cause for retirement.

Check for signs of soft spots, blisters, and kinking. If soft spots exist, pressure test the hose assembly and determine whether it is necessary to discard it.



WARNING If cover blisters exist, be careful not to pop them. If the hose was damaged in such a way that material was allowed to leak between the cover and inner tube, the blisters may contain this material. If the material is hazardous and splatters when the blisters are popped, it could cause serious physical injury.

Look for any indication of kinking or broken reinforcement as evidenced by any permanent distortion, longitudinal ridges, or bulges.

According to RMA IP-11-7 Chemical Hose Bulletin, crushed or kinked spots where the hose O.D. is reduced by 20 percent or more of the normal O.D. indicate the hose probably has internal damage. The hose assembly must be removed from service to ensure the safety of people in the work area.

⚠ WARNING: Kinks can cause hose to burst, leading to bodily harm.

Hose containing kinked or crushed spots where the hose O.D. is reduced by 20 percent may be used if the hose passes the hydrostatic tests. Use a caliper to measure the hose outer diameter at several places around the diameter to determine any O.D. reduction. An inspection mirror and a flashlight can be used to inspect the inner tube for abuse, wear, and/or chemical attack.



2. Couplings

All metals are subject to attack by various chemicals. Check with the manufacturer to make sure that suitable end fittings, appropriate to both the hose and the chemical being handled, are being used.

Exposed surfaces of couplings, flanges and nipples shall be examined for cracks or excessive corrosion. Either condition shall cause the hose assembly to be retired from service. Any evidence of coupling or nipple slippage on the hose is cause for removing the hose assembly from service.

The Rubber Manufacturers Association (RMA) has published a series of technical bulletins which detail maintenance, testing, and inspection recommendations.

Because the life expectancy of the hose is limited, the user must be alert to signs of impending failure, particularly when the conditions of service include high working pressures and/or the conveyance or containment of hazardous materials. The periodic inspection and testing procedures described here provide a schedule of specific measures which constitute a minimum level of user action to detect signs indicating hose deterioration or loss of performance before conditions leading to malfunction or failure are reached.

⚠ SAFETY WARNING: Failure to properly follow the manufacturer's recommended procedures for the care,

maintenance and storage of a particular hose might result in its failure to perform in the manner intended and might result in possible damage to property and serious bodily injury.

Hydrostatic Pressure Test

For large-bore hose being used in dock service, an inspection card which describes the hose, manufacturer, date received, purchase order number, and date of installation should be maintained for each hose. The inspection card should be used to record the test results and condition of the hose.

Eaton recommends that new hose assemblies be hydrostatically tested before being placed in service. Hydrostatic testing should be done at periodic intervals to determine if a hose is suitable for continued service. The hydrostatic test and examination shall be conducted in the following manner.

Hose to be pressure tested must be restrained by placing steel rods or straps close to each end and at approximate 10 foot (3m) intervals along its length to keep the hose from "whipping" if failure occurs; the steel rods or straps are to be anchored firmly to the test structure but in such a manner that they do not contact the hose which must be free to move.

1. Hose shall lie in a straight and horizontal position supported on rollers to permit easy

movement when under the test pressure.

2. Water should be used as the test liquid. Never pressure test with solvents, corrosive liquids, or with compressed gases.
3. Fill the hose with water with the outlet end raised and the outlet valve open to ensure the complete removal of air. When all the air has been expelled, close the outlet valve and lower the raised end.
4. For new hose, raise the pressure to 2 times the rated working pressure of the hose and hold for 5 minutes. During this hold period, the hose shall be examined for leaks at the couplings, fitting slippage, or for any indication of weakness in the hose structure.
5. For used hose, test with a pressure of 1-1/2 times the rated working pressure of the hose for one minute and examine as above.
6. Completely relieve test pressure from the system prior to releasing hose from test equipment.
7. Thoroughly drain the water from the hose after completion of the hydrostatic test.

Electrical Continuity

When required by the user, electrical continuity between the fittings shall be tested using an ohm meter. The hose must be clean and dry for this test.

General Care and Maintenance of Hose

Hose should not be subjected to any form of abuse in service. It should be handled with reasonable care. Hose should not be dragged over sharp or abrasive surfaces unless specifically designed for such service. Care should be taken to protect hose from severe end loads for which the hose or hose assembly was not designed. Hose should be used at or below its rated working pressure; any changes in pressure should be made gradually so as to not subject the hose to excessive surge pressures. Hose should not be kinked or be run over by equipment. In handling large size hose, dollies should be used whenever possible; slings or handling rigs, properly placed, should be used to support heavy hose used in oil suction and discharge service.

Hose Repair

There are some circumstances in which chemical hoses can be repaired. For example, if a hose has been kinked near the coupling and a close inspection of the assembly reveals that this is the only damage, the assembly can be repaired.

 **WARNING** Wear safety glasses, gloves, and protective clothing when cutting hose. They will help protect your eyes and skin from flying debris. When recoupling a used hose assembly, begin by cut-

ting the hose far enough beyond the shank to eliminate the possibility of cutting into the shank. When cutting out a kink, cut behind the kink far enough so that the ID/OD of the remaining hose is round. Use calipers to confirm roundness. Make sure to cut the hose squarely. Next wipe the inner tube of the cut end with a clean rag.

Before recoupling the hose, make sure to carefully inspect the tube. This is important because it is easy to see the condition of the tube and reinforcement of the hose when the coupling is cut off. Look for any evidence of deterioration of the hose tube. If there are signs of deterioration, remove the hose assembly from service. If after close inspection none of these signs is present, the hose may be recoupled.

Any hose that has been used to convey an abrasive material, such as plastic pellets and powders, should not be recoupled due to the inherent thickness reduction that results from the transfer of abrasive materials.

Finally, pressure test and tag any recoupled assembly as recommended.

Storage

Proper storage conditions can enhance and extend substantially the ultimate life of hose products. Rubber hose products in storage can be affected adversely by temperature, humidity, ozone, sunlight, oils, solvents, corrosive

liquids and fumes, insects, rodents and radioactive materials. The appropriate method for storing hose depends to a great extent on its size (diameter and length), the quantity to be stored, and the way in which it is packaged. Hose should not be piled or stacked to such an extent that the weight of the stack creates distortions on the lengths stored at the bottom. Since hose products vary considerably in size, weight, and length, it is not practical to establish definite recommendations on this point. Hose having a very light wall will not support as much load as would a hose having a heavier wall or hose having a wire reinforcement. Hose which is shipped in coils or bales should be stored so that the coils are in a horizontal plane.

Storage Do's:

- Whenever feasible, rubber hose products should be stored in their original shipping containers which provide some protection against the deteriorating effects of oils, solvents, and corrosive liquids; shipping containers also afford some protection against ozone and sunlight.
- Certain rodents and insects will damage rubber hose products, and adequate protection from them should be provided. Be sure ends are capped to keep out insects, rodents, and other contaminants that can damage the hose.

- Hose shipped in coils or bales should be stored so the coils are in a horizontal plane.
- Store items on a first-in, first-out basis. Remember that even under the best of conditions, an unusually long shelf life will deteriorate certain rubber products. Inspect and test the hose assembly before placing it in service. Usually, any wear or damage will be apparent during inspection or testing.
- The ideal temperature for the storage of rubber products ranges from 50° to 70°F (10-21°C) with a maximum limit of 100°F (38°C). If stored below 32°F (0°C), some rubber products become stiff and will require warming before being placed in service.
- Storage areas should be relatively cool and dark, and free of dampness and mildew. Items should be stored on a first-in, first-out basis, since even under the best of conditions, an unusually long shelf life could deteriorate certain rubber products.

Storage Don'ts:

- Don't pile or stack hose to such an extent that the weight of the stack distorts the lengths stored on the bottom. Remember that hose having a very light wall will not support as much load as a hose having a heavier wall or wire reinforcement.

- Don't store rubber products near heat sources such as radiators and base heaters, or near electrical equipment that might generate ozone. Also do not store hose for long periods in geographical areas of known high ozone concentration. Ozone ages rubber.
- Don't expose hose to direct or reflected sunlight during storage. This ages rubber.
- Don't store uncovered hose under fluorescent or mercury lamps. They generate light waves harmful to rubber.
- Don't hang hose assemblies on hooks, nails, or other devices which could cut or damage hose.

The Rubber Manufacturers Association has published separately a series of Hose Technical Information bulletins describing hoses designed for different applications which detail Maintenance, Testing and Inspection recommendations. Refer to the *RMA Catalog of Publications*, issued annually, to determine the availability of the latest edition. Bulletins published include the following:

Publication No.

- IP 11—1— Steam Hose
- IP 11—2 — Anhydrous Ammonia Hose
- IP 11—4— Oil Suction and Discharge Hose
- IP 11—5— Welding Hose

- IP 11—6— Fire Hose
- IP 11—7— Chemical Hose
- IP 11—8— Fuel Dispensing Hose

Rubber Manufacturers Association

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RMA Publications order desk: (800) 325-5095

Proper Used Hose Storage

Before placing used hose in storage, completely drain it and flush out any potentially explosive vapors or corrosive residues.

Also make sure you dispose of waste in a manner that complies with federal, state, and local environmental regulations.

 **WARNING: Take extreme care when flushing out a chemical hose with water. Some chemicals, such as concentrated acids, may react with water and cause spattering. These materials can cause serious personal injury or death if they get into eyes or onto skin. Wear safety glasses, gloves and other protective clothing to help guard against this.**

Continue by laying the hose assembly on a solid support, allowing air to circulate through it. This helps extend the hose life. Further, store the hose in a cool, dark, dry place at a temperature ideally between 50°F and 70°F.

Proper Hose Handling

Proper hose handling can help preserve hose assembly life and work environment safety. Therefore, consider the following points when handling hose assemblies.

- Avoid crushing or kinking the hose. This can cause severe damage to the reinforcement that isn't always obvious when looking at the cover.
- Do not drag the hose or lift a large bore hose from the middle of its length with the ends hanging down. Doing so can cause kinking, cover cuts, hose reinforcement damage, and coupling damage.
- Limit the curvature of the hose to the minimum bend radius recommended by the manufacturer. Also avoid sharp bends at the end fittings and at manifold connections.
- Do not exceed pressure and temperature limits because this could damage the hose and ultimately result in serious bodily injury or property damage. Monitor pressure and temperature during hose use.
- Never allow chemicals, solvents, or any other hazardous materials to drip onto ground. Always comply with environmental laws.
- Never allow chemicals to drip on the exterior of a hose or allow hose to lay in a pool of chemicals. The hose cover may not have the chemical resistance of the tube. If a corrosive material comes into contact with the hose reinforcement, the result could be early hose failure.
- Avoid extreme flexing of the hose near the coupling. If necessary, use elbows in the piping system to assure a straight line connection with the hose.
- Protect hose from heat, flame, cutting, and twisting. Use shields or clamps to do this.
- Support hose to avoid mechanical strain on couplings.
- Be aware that dropping or dragging the assembly, chemical incompatibility, exposure to temperature extremes, or extensive internal coupling abrasion can cause leaks and reduce coupling retention.

 **WARNING: Do not use damaged hose. Doing so could result in serious personal injury or death.**

Cleaning Hose Assemblies

Cleaning of hose assemblies should be done at a facility with the means of disposing of wastes and hazardous materials properly. All water and/or cleaning solutions used should be retained and disposed of in a way that complies with applicable laws.

Eaton Industrial does not recommend that distributors handle hose assemblies that have not been cleaned properly.

When you clean a tank or change the materials to be transferred, clean the hose assemblies. Three methods can be used: the soak tank, the closed loop system, or the rotating brush. The most appropriate method will depend on the hose use and location.

⚠ WARNING: Use of pressure wands to clean hose is not recommended. The high concentration of heat and pressure in a confined area can damage the hose inner tube and lead to hose bursting, leakage, spraying, or end blow-offs. This could cause serious personal injury or death.

⚠ WARNING: Always wear safety glasses, gloves, and protective clothing when cleaning hose, no matter which hose cleaning method you use. Otherwise, burns, blisters, eye damage or other injuries could occur.

If you choose the soak tank method, the cleaning solution usually caustic soda and water- should be no more than 150°F. Gently lay the hose in the cleaning solution to prevent it from splashing.

Soak the hose no more than 15 minutes to prevent the hose from becoming brittle with a shortened service life. Flush the hose thoroughly with clean water. After making sure that all the water is drained from the hose, store the hose in a cool, dry place. Once the hose has cooled (approximately 45 minutes), cap the ends to keep contaminants out.

The second method of cleaning is the closed-loop system. With this method, the caustic solution used to clean the tank is also pumped through the hose and back to the tank. Typically, fluid is 180°F and is pumped through the system until the tank is clean.

When the cleaning process is complete, flush the hose thoroughly with water. Store the hose in a cool, dry place. Cap the ends to keep contamination out.

⚠ WARNING: Strong acids should be thoroughly drained prior to and after cleaning to avoid an exothermic reaction.

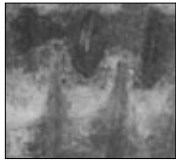
RMA Class Oil Resistance

Rubber hose is used to convey petroleum products both in the crude and refined stages. The aromatic content of refined gasoline is often adjusted to control the octane rating. The presence of aromatic hydrocarbons in this fuel generally has a greater effect on rubber components than do aliphatic hydrocarbons. Aromatic materials in contact with rubber tend to soften it and reduce its physical properties. For long lasting service, the buyer of gasoline hose should inform the hose manufacturer of the aromatic content of the fuel to be handled so that the proper tube compound can be recommended for the specific application.

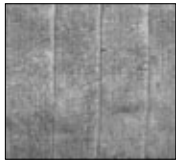
The effects of oil on rubber depend on a number of factors that include the type of rubber compound, the composition of the oil, the temperature and time of exposure. Rubber compounds can be classified as to their degree of oil resistance based on their physical properties after exposure to a standard test fluid. In this RMA classification, the rubber samples are immersed in IRM 903 oil at 100°C for 70 hours. (See ASTM Method D-471 for a detailed description of the oil and the testing procedure.) As a guide to the user of the hose in contact with oil, the oil resistance classes and a corresponding description are listed.

Physical Properties After Exposure to Oil

	Volume Change Maximum	Tensile Strength Retained
Class A (High oil resistance)	+25%	80%
Class B (Medium-High oil resistance)	+65%	50%
Class C (Medium oil resistance)	+100%	40%



1.



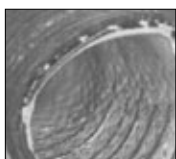
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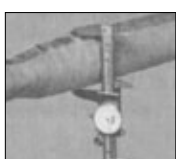
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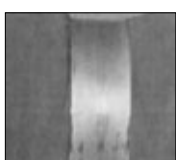
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9.



WARNING: Selection of the proper hose for the application is essential to the proper operation and safe use of the hose and related equipment. Inadequate attention to selection of hose for the application can result in serious bodily injury or property damage. In order to avoid serious bodily injury or property damage resulting from selection of the wrong hose, you should carefully review the information in this catalog.

Hose failures can be caused by conditions such as excessive pressures, fluid incompatibility, extreme temperatures and many more. Eaton has illustrated below some of the more common failures. If the conditions you are experiencing are not listed, please contact Technical Support at 1-888-258-0222.

1. Problem: The hose has exposed reinforcement and a loose cover. This could be caused by an abrasive environment or the life of the hose has been exceeded.

Solution: Route hose properly to avoid excessive abrasion. Some hoses are made with materials that handle abrasion better.

2. Problem: Cracks in the hose cover can be caused by prolonged exposure to sunlight, ozone or high temperatures.

Solution: Store hose in cool dark areas when possible. Do not store or use the hose where the recommended temperature rating is exceeded.

3. Problem: Cuts, gouges, or tears in hose tube can be caused by improper cleaning with high-pressure water wand.

Solution: Do not use high pressure water wand to clean hoses. Instead, three cleaning methods are commonly used: the soak tank, the closed loop system or the rotating brush. The most appropriate method will depend on the hose use and location.

4. Problem: Bubbling and flaking of the tube material caused by the tube not being compatible with the chemical being conveyed.

Solution: Check the chemical resistance guidelines to make sure the hose you are using is compatible with the chemical(s) being transferred. Also, make sure the hose can handle the application temperatures.

5. Problem: Deterioration of the hose tube has caused the reinforcement to be exposed. This may be caused by abrasive material being conveyed through a hose not made for this abrasive material or hose life has been exceeded.

Solution: Make sure that the hose can handle the material being conveyed. Possibly use a hose with a thicker tube.

6. Problem: Hose is kinked due to exceeding the minimum bend radius of the hose. The result is damaged reinforcement.

Solution: To avoid this problem, check the minimum bend radius of the hose and route the hose so the minimum bend radius is not exceeded.

7. Problem: Improperly banded shank may create a possible leak path.

Solution: Make sure the coupling is secured tightly and according to manufacturer's specifications. Bands should be placed inside of the barbs on the coupling shank, toward the coupling side. The band farthest from the hose end should be tightened first. If two bands are present, Eaton suggests rotating the clamp buckles 180° from each other.

8. Problem: Overtightened band could cause leaks, spraying and end blow-offs. Band was applied with excessive pressure and cut the cover of the hose causing reinforcement to be exposed.

Solution: Do not attach bands at pressures that are too high. Apply the bands to the manufacturer's recommended settings.

9. Problem: The steam hose has developed cracks in the cover due to heat in the application.

Solution: Steam hose has a limited service life. It should be inspected before every use. Any crack that exposes the reinforcement is a reason for the hose to be removed from service.

⚠ WARNING – This information provides guidelines for the safe use of Eaton Industrial Hose and Tubing. The information shown here was gathered through testing, and is accurate for controlled conditions (at 70°F unless otherwise noted). Factors such as concentration, fluid contamination, and extreme temperatures may affect these performance specifications. Contact Eaton for recommendation and assistance.

⚠ WARNING – Selection of Hose: Selection of the proper hose for the application

is essential to the proper operation and safe use of the hose and related equipment. Inadequate attention to selection of the hose for your application can result in serious bodily injury or property damage from spraying fluids or flying projectiles. In order to avoid serious bodily injury or property damage resulting from selection of the wrong hose, you should carefully review the information in this catalog.

⚠ WARNING – Proper Selection of Hose Fittings: Selection of the proper fittings for the hose and application is essential

to the proper operation and safe use of the hose and related equipment. Inadequate attention to the selection of the fittings for your application can result in serious bodily injury or property damage from spraying fluids or flying projectiles. In order to avoid serious bodily injury or property damage resulting from selection of the wrong fitting, you should carefully review the information in this catalog.

⚠ WARNING – The following list of chemicals is offered as a guide to the chemical resistance properties of

the tube material of the hoses shown. It should be used as a guide only, as the degree of resistance of any elastomer to a particular fluid depends upon such variables as temperature, concentration, pressure conditions, velocity of flow, duration of exposure, aeration, stability of the fluid, etc.

Therefore, when in doubt, it is advisable not to use the hose. If this is not practical, tests should be devised that simulate actual service conditions as nearly as possible. Eaton offers additional technical assistance.

Fluid	Hose and Tubing Material																		Metals			
	UHMW	XLPE	PVC	Nitrile	Vinyl Nitrile	Neoprene	Teflon (PTFE)	Teflon (FEP)	Nylon 6/66	EPDM	Hypalon	Natural Rubber/SBR	Hytrek	Polyurethane	CPE	EVA	LLDPE	Nylon 11	PVC / PU Blends	Brass	Steel	316 Stainless
Acetaldehyde	G	G	X	X	X	X	G	G	F	G	F	X	X	X	—	G	X	G	X	X	X	G
Acetic Acid (Concentrated)	G	G	X	X	X	X	G	G	X	G	X	X	X	X	G	X	X	X	X	X	X	G
Acetic Acid (Dilute)	G	G	F	X	X	F	G	G	X	G	F	X	G	X	G	G	G	F	X	X	X	G
Acetic Anhydride	G	G	X	G	G	X	G	G	X	G	F	X	X	X	G	X	X	X	X	X	F	F
Acetone	G	G	X	X	X	X	G	G	F	G	F	X	F	X	G	X	G	G	X	G	G	G
Acrylonitrile	G	G	G	X	X	X	G	G	—	X	X	X	—	X	G	—	—	G	X	—	G	G
Air	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
Alcohols:																						
Amyl Alc.	G	G	X	G	G	F	G	G	G	G	G	G	G	X	G	G	G	G	F	G	F	F
Butyl Alc., Butanol	G	G	X	G	G	G	G	G	G	G	G	G	—	X	G	G	G	G	X	G	G	G
Ethyl Alc., Ethanol	G	G	F	G	G	G	G	G	G	G	G	G	G	X	G	F	G	G	G	G	F	G
Isopropyl Alcohol, Isopropanol	G	G	G	G	G	G	G	G	G	G	G	G	G	X	G	G	G	G	G	G	G	G
Methyl Alcohol, Methanol	G	G	X	G	G	G	G	G	G	G	G	G	G	X	G	G	G	G	F	G	F	G

G - Good F - Fair X - Not Recommended — - Insufficient Information

*For Intermittent Transfer Only

**Use Approved Freon Hose

***Use Propane Approved Hose Only

◇ Use Pinpricked Hose for Gas Applications

Application Data

Chemical Compatibility Chart

A

Fluid	Hose and Tubing Material																			Metals		
	UHMW	XLPE	PVC	Nitrile	Vinyl Nitrile	Neoprene	Teflon (PTFE)	Teflon (FEP)	Nylon 6/66	EPDM	Hypalon	Natural Rubber/SBR	Hytrel	Polyurethane	CPE	EVA	LLDPE	Nylon 11	PVC / PU Blends	Brass	Steel	316 Stainless
Aluminum Chloride	G	G	G	G	G	G	G	G	X	G	G	G	G	G	G	G	G	X	G	X	X	F
Aluminum Fluoride	G	G	G	G	G	F	G	G	X	G	G	G	—	G	X	G	G	X	G	X	X	X
Aluminum Hydroxide	G	G	G	G	G	G	G	G	G	G	G	G	—	G	G	G	G	G	G	X	F	G
Aluminum Nitrate	G	G	G	G	G	G	G	G	F	G	G	G	—	X	—	G	G	G	G	X	X	G
Aluminum Sulfate	G	G	G	G	G	G	G	G	F	G	G	G	G	G	G	G	G	G	G	X	X	G
Alums	G	G	G	G	G	G	G	G	G	G	G	G	X	G	G	G	G	F	G	X	X	F
Ammonia, Anhydrous	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	X	F	G
Ammonia Solution (10%)	G	G	G	G	G	F	G	G	X	G	G	F	X	X	X	—	G	G	—	X	G	G
Ammonium Chloride	G	G	G	G	G	G	G	G	X	G	G	G	G	F	G	G	G	X	G	X	G	F
Ammonium Hydroxide	G	G	X	F	F	F	G	G	X	G	G	F	X	X	G	G	G	G	F	X	F	G
Ammonium Nitrate	G	G	G	G	G	G	G	G	G	G	G	G	G	X	G	G	G	G	G	—	—	G
Ammonium Phosphate	G	G	F	G	G	G	G	G	G	G	G	G	G	F	G	G	G	G	G	X	X	G
Ammonium Sulfate	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	X	X	F
Amyl Acetate	G	G	X	X	X	X	G	G	G	F	X	X	F	X	X	X	X	G	X	G	F	G
Amyl Alcohol	G	G	X	G	G	F	G	G	G	G	G	G	G	X	G	G	G	G	X	G	F	F
Aniline	G	G	X	X	X	X	G	G	X	X	X	X	X	X	X	X	X	X	X	X	G	G
Aniline Dyes	G	G	X	F	F	F	G	G	X	G	F	F	X	X	X	X	X	X	X	X	X	F
Animal Oils and Fats	G	G	G	G	G	X	G	G	—	F	F	X	G	X	F	X	X	G	X	G	G	G
Anti—Freeze (Glycol Base)	G	G	G	G	G	G	G	G	—	G	G	G	G	X	G	G	F	G	G	G	G	G
Aqua Regia	X	X	X	X	X	X	G	F	X	X	X	X	X	X	X	X	X	X	F	—	X	X
Aromatic Hydrocarbons	G*	G*	X	X	X	X	G	G	G	X	X	X	X	X	X	—	G*	G	—	G	G	G
Asphalt Emulsion	X	X	X	G	X	X	G	G	—	X	X	X	G	X	F	X	—	G	F	G	G	G
Barium Chloride	G	G	G	G	G	G	G	G	—	G	G	G	G	G	G	G	G	G	G	X	F	G
Barium Hydroxide	G	G	G	G	G	G	G	G	G	G	G	G	G	X	G	G	G	G	G	X	G	G
Barium Sulfate	G	G	G	G	G	G	G	G	G	G	G	G	X	G	X	G	G	G	G	G	G	G
Barium Sulfide	G	G	G	G	G	G	G	G	—	G	G	G	X	G	G	G	G	X	G	X	X	G

G - Good

F - Fair

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◇ Use Pinpricked Hose for Gas Applications

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	UHMW	XLPE	PVC	Nitrile	Vinyl Nitrile	Neoprene	Teflon (PTFE)	Teflon (FEP)	Nylon 6/66	EPDM	Hypalon	Natural Rubber/ SBR	Hytrel	Polyurethane	CPE	EVA	LLDPE	Nylon 11	PVC / PU Blends	Brass	Steel	316 Stainless
Beet Sugar Liquors	G	G	G	G	G	G	G	G	G	X	G	G	—	X	G	G	G	G	—	X	G	G
Benzaldehyde	G	G	X	X	X	X	G	G	G	F	X	X	X	X	X	X	X	G	X	F	F	G
Benzene, Benzol	G*	G*	X	X	X	X	G	G	G	X	X	X	X	X	F	X	X	G	F	G	G	G
Benzoic Acid	G	G	X	X	X	G	G	G	X	X	X	X	X	X	G	G	G	X	G	F	X	F
Black Sulfate Liquor	G	F	X	F	F	G	G	G	X	G	F	X	G	X	X	G	G	X	G	X	G	G
Bleach Solution	F	F	F	X	X	X	G	G	X	G	F	X	F	F	G	G*	G	X	G	X	X	G
Borax Solution	G	G	G	F	F	G	G	G	—	G	G	G	G	G	G	G	G	G	G	G	G	G
Boric Acid	G	G	G	G	G	G	G	G	G	G	G	G	G	G	X	G	G	G	G	X	X	G
Brake Fluid (Glycol Ether Base)	G	G	X	X	X	F	G	G	—	G	X	X	—	X	G	—	X	G	X	G	G	G
Brine	G	G	G	G	G	G	G	G	—	G	G	G	G	X	G	G	G	G	G	—	X	F
Bromine	X	X	X	X	X	X	G	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Butyl Acetate	G	G	X	X	X	X	G	G	—	F	X	X	F	X	F	—	X	G	X	G	G	G
Butyl Alcohol, Butanol	G	G	X	G	G	G	G	G	G	G	G	G	G	X	G	G	G	G	F	G	G	G
Calcium Bisulfite	G	G	G	G	G	G	G	G	X	G	G	G	X	G	X	G	G	G	G	X	X	X
Calcium Chloride	G	G	G	G	G	G	G	G	X	G	G	G	G	G	G	G	G	G	G	X	F	F
Calcium Hydroxide	G	G	G	F	F	G	G	G	G	G	F	G	G	X	G	G	G	G	G	F	G	G
Calcium Hypochlorite	G	G	G	F	F	F	G	G	X	G	F	X	F	X	G	G	G	X	G	F	X	F
Cane Sugar Liquors	G	G	G	G	G	G	G	G	—	G	G	G	G	X	G	G	G	G	—	F	G	G
Carbon Dioxide (Dry)	G	G	G	G	G	G	G	G	G	G	G	F	G	G	G	G	G	G	G	G	G	G
Carbon Dioxide (Wet)	G	G	G	G	G	G	G	G	G	G	G	F	—	G	—	G	G	G	G	F	G	G
Carbon Disulfide (Bisulfide)	F	X	X	X	X	X	G	G	X	X	X	X	X	G	X	—	X	X	—	G	G	G
Carbon Monoxide (Hot)	—	—	X	F	F	F	G	G	X	F	G	X	G	F	G	G	X	X	G	X	F	G
Carbon Tetrachloride	G*	G*	X	X	X	X	G	G	G	X	X	X	F	X	X	—	X	G	X	G	G	G
Carbonic Acid	G	G	G	G	G	G	G	G	—	G	G	G	X	G	X	G	G	G	G	X	X	F
Castor Oil	G	G	G	G	G	F	G	G	—	F	G	X	F	F	G	X	X	G	G	G	G	G
Cellosolve Acetate	G	G	X	X	X	X	G	G	—	F	F	X	X	X	X	X	—	G	G	X	X	G
Chlorinated Solvents	G*	G*	X	X	X	X	G	G	G	X	X	X	X	X	X	—	X	F	X	G	G	F

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Chloroacetic Acid	G	G	X	X	X	X	G	G	X	F	X	X	X	X	X	X	X	X	F	X	X	F
Chlorobenzene	G*	G*	X	X	X	X	G	G	X	X	X	X	X	X	—	X	X	X	X	F	F	G
Chlorine Gas (Dry)	X	X	X	X	X	X	G	X	X	X	X	X	X	X	X	X	X	X	G	F	F	G
Chlorine Gas (Wet)	X	X	X	X	X	X	G	X	X	X	X	X	X	X	X	X	X	X	F	X	X	X
Chloroform	G*	G*	X	X	X	X	G	G	G	X	X	X	X	X	X	X	X	F	U	G	G	G
Chlorosulfonic Acid	F*	F*	X	X	X	X	G	G	X	X	X	X	X	X	X	X	X	X	X	X	F	X
Chromic Acid (under 25%)	G	X	F	X	X	X	G	G	X	G	G	X	X	X	X	G	F	X	G	X	X	G
Chromic Acid (25-40%)	G	X	X	X	X	X	G	G	X	G	G	X	X	X	X	F	X	X	F	X	X	F
Citric Acid	G	G	G	F	F	G	G	G	F	G	G	G	G	X	X	G	G	X	G	X	X	G
Coke Oven Gas	X	X	X	X	X	X	G	G	—	X	X	X	—	X	X	—	G	—	G	F	G	G
Copper Chloride	G	G	G	G	G	F	G	G	X	G	G	G	G	G	X	G	G	X	G	X	X	G
Copper Cyanide	G	G	G	G	G	F	G	G	G	G	G	G	—	G	—	G	G	G	G	X	X	G
Copper Sulfate	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	X	X	G
Corn Syrup (Non-food)	G	G	G	G	G	F	G	G	—	G	F	F	G	G	—	G	G	G	G	—	G	G
Cottonseed Oil	G	G	F	G	G	X	G	G	—	F	F	X	G	G	G	G	G	G	G	G	G	G
Creosote	G	G	X	F	F	X	G	G	X	X	F	X	X	F	F	X	X	X	X	F	—	G
Cresol	G	G	X	X	X	X	G	G	X	X	X	X	X	X	G	X	X	X	—	—	G	G
Cyclohexanol	G	G	X	F	F	F	G	G	G	G	G	F	—	—	G	G	F	G	X	G	F	G
Dextrose (Food Grade)	G	X	X	X	X	X	G	G	X	X	X	X	X	X	X	G	G	X	—	—	—	G
Dichlorobenzene	G*	G*	X	X	X	X	G	G	—	X	X	X	X	X	X	X	X	G	X	—	—	G
Diesel Fuel	G	G	X	G	G	X	G	G	—	X	F	X	F	F	G	—	X	G	—	G	G	G
Diethanolamine	G	G	X	F	X	X	G	G	—	G	X	F	X	X	—	—	—	G	—	X	G	G
Diethylene-triamine	G	G	X	F	X	X	G	G	X	G	X	F	—	X	—	—	G	X	—	—	—	—
Dowtherm A	—	—	X	X	X	X	G	G	X	X	X	X	X	—	X	X	X	X	X	X	F	G
Enamel (Solvent Base)	G	G	X	F	F	X	G	G	—	X	X	X	G	—	G	—	G	G	—	G	—	G
Ethanolamine	G	G	X	F	F	X	G	G	—	G	X	G	—	X	—	—	G	G	—	X	G	G
Ethers (Ethyl Ether)	G	G	X	X	X	X	G	G	—	X	X	X	X	X	G	X	X	G	X	G	G	G
Ethyl Alcohol	G	G	F	G	G	G	G	G	G	G	G	G	G	G	G	F	G	G	G	F	G	G

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◇ Use Pinpricked Hose for Gas Applications

Application Data

Chemical Compatibility Chart

Fluid	Hose and Tubing Material																			Metals		
	UHMW	XLPE	PVC	Nitrile	Vinyl Nitrile	Neoprene	Teflon (PTFE)	Teflon (FEP)	Nylon 6/66	EPDM	Hypalon	Natural Rubber/SBR	Hytrel	Polyurethane	CPE	EVA	LLDPE	Nylon 11	PVC / PU Blends	Brass	Steel	316 Stainless
Ethyl Acetate	G	G	X	X	X	X	G	G	G	G	X	X	F	X	F	F	G	G	X	G	G	G
Ethyl Acrylate	G	G	X	X	X	X	G	G	—	F	X	X	—	X	F	—	—	X	X	—	G	G
Ethyl Methacrylate	G	G	X	X	X	X	G	G	—	F	X	X	—	X	F	—	—	X	—	—	G	G
Ethylamine	G	G	X	X	X	X	G	G	X	F	X	X	—	X	—	—	G	X	—	G	—	G
Ethyl Cellulose	G	G	X	F	F	F	G	G	—	F	F	G	—	F	G	—	G	F	—	F	G	F
Ethyl Chloride	G*	G*	X	X	X	X	G	G	—	X	X	X	X	F	X	X	X	G	X	F	F	G
Ethylene-diamine	G	G	X	F	X	G	G	G	X	G	F	G	—	X	—	—	G	X	—	G	G	G
Ethylene Dibromide	G	G	X	X	X	X	G	G	—	X	X	X	—	X	—	—	—	F	—	—	—	—
Ethylene Dichloride	G*	G*	X	X	X	X	G	G	—	X	X	X	X	X	X	X	X	F	X	G	X	X
Ethylene Glycol	G	G	G	G	G	G	G	G	G	G	G	G	G	F	G	G	G	G	G	F	G	G
Ethylene Oxide	G	G	X	X	X	X	G	G	—	X	X	X	G	X	X	X	X	G	X	X	F	F
Fatty Acids	G	G	G	F	F	X	G	G	G	F	X	X	G	—	F	F	G	G	G	F	F	G
Ferric Chloride 5%	G	G	G	G	G	G	G	G	G	G	G	G	—	F	G	G	G	G	G	X	X	X
Ferric Sulfate	G	G	G	G	G	G	G	G	G	G	G	G	G	—	G	G	G	G	G	X	X	F
Fertilizer Salts Solution	G	G	G	F	F	F	G	G	—	G	G	G	—	—	—	—	F	G	—	—	—	G
Formaldehyde	G	G	X	F	F	F	G	G	G	G	X	F	F	X	G	G	G	X	G	F	X	G
Formic Acid	G	G	X	F	F	F	G	G	X	G	X	X	X	X	G	G	G	X	—	F	X	G
Freon 12**	—	—	—	—	—	—	G	—	—	—	—	—	—	—	—	—	—	—	—	G	G	G
Freon 134a**	—	—	—	—	—	—	G	—	—	—	—	—	—	—	—	—	—	—	—	—	G	G
Fuel Oil	G	G	F	G	G	F	G	G	—	X	X	X	—	F	G	X	X	G	G	F	G	G
Furfural	G	G	X	X	X	X	G	G	X	F	F	X	—	—	F	X	X	X	X	F	G	G
Gasoline (Refined)	G	G	X	F	F	X	G	G	G	X	X	X	G	F	G	—	X	G	X	G	G	G
Gasoline (Unleaded)	G	G	X	G	G	X	G	G	G	X	F	X	X	X	G	—	X	G	F	G	G	G
Gasoline (10% Ethanol)	G	G	X	G	G	X	G	G	G	X	X	X	X	X	—	—	X	G	F	G	G	G
Gasoline (10% Methanol)	G	G	X	F	F	X	G	G	G	X	X	X	X	X	—	—	X	G	F	G	G	G
Glucose (Non-food)	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
Glycerine, Glycerol (Non-food)	G	G	G	G	G	G	G	G	G	G	G	G	G	X	G	G	G	G	G	G	G	G
Greases	G	G	G	G	G	F	G	G	G	X	F	X	G	G	G	—	G	G	G	G	G	G
Green Sulfate Liquor	G	G	G	F	F	F	G	G	X	G	G	G	X	G	X	G	G	X	F	X	X	G
Heptane	G	G	X	G	G	F	G	G	G	X	F	X	G	F	G	X	X	G	G	G	G	G

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Fluid	Hose and Tubing Material																			Metals		
	UHMW	XLPE	PVC	Nitrile	Vinyl Nitrile	Neoprene	Teflon (PTFE)	Teflon (FEP)	Nylon 6/66	EPDM	Hypalon	Natural Rubber/SBR	Hytrel	Polyurethane	CPE	EVA	LLDPE	Nylon 11	PVC / PU Blends	Brass	Steel	316 Stainless
Hexane	G	G	X	G	G	F	G	G	G	X	F	X	G	F	G	X	X	G	X	G	G	G
Houghto Safe 273 to 640	G	G	F	G	G	G	G	G	—	G	—	F	—	X	G	—	G	G	—	G	G	G
Houghto Safe 5046, 5047F	G	G	G	G	G	G	G	G	—	X	X	X	G	X	G	—	G	G	—	G	G	G
Houghto Safe 1000 Series	G	G	X	X	X	X	G	G	—	G	X	X	—	X	—	—	X	G	—	G	G	G
Hydraulic Oils:																						
Straight Petroleum Base	G	G	G	G	G	F	G	G	G	X	F	X	G	G	G	F	G	G	G	G	G	G
Water Petroleum Emulsion	G	G	—	G	G	F	G	G	—	X	F	X	G	X	G	—	F	G	—	G	G	G
Water Glycol	G	G	X	G	G	G	G	G	G	G	X	F	X	X	G	—	—	G	—	G	G	G
Hydraulic Oils:																						
Straight Phosphate Ester	G	G	X	X	X	X	G	G	G	G	X	X	—	X	G	—	X	G	—	G	G	G
Phos. Ester/Petroleum Blend	G	G	X	X	X	X	G	G	G	X	X	X	—	X	G	—	X	G	—	G	G	G
Polyol Ester	G	G	—	G	G	X	G	G	—	X	—	X	—	G	G	—	—	G	—	G	G	G
Hydrobromic Acid (under 48%)	G	G	G	X	X	X	G	G	X	G	G	X	X	X	G	G	G	X	G	X	X	X
Hydrochloric Acid	G	G	G	X	X	X	G	G	X	G	G	X	X	X	G	G	G	X	G	X	X	X
Hydrocyanic Acid	G	G	G	F	F	X	G	G	X	F	G	X	X	—	X	G	G	X	F	X	F	G
Hydrofluoric Acid (under 50%)	G	G	F	X	X	X	G	G	X	F	G	X	X	X	X	G	F	X	G	X	X	G
Hydrofluoric Acid (over 50%)	G	G	X	X	X	X	G	G	X	X	G	X	X	X	X	G	X	X	G	X	X	G
Hydrofluosilicic Acid	G	G	G	F	F	X	G	G	X	G	G	X	—	—	G	—	G	X	—	X	X	X
Hydrogen	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	F	—	—	F	—	—	G
Hydrogen Peroxide	F	F	—	X	X	X	G	G	X	F	X	X	—	—	G	X	G	X	F	X	X	G
Hydrogen Sulfide	G	G	G	X	X	X	G	G	X	X	F	X	G	—	X	G	G	X	G	F	F	F
Hydrolube	G	G	G	G	G	F	G	G	—	G	—	—	F	X	—	—	G	G	—	G	G	G
Iodine	F	F	X	F	X	X	G	G	X	G	G	X	—	X	G	X	X	X	X	X	X	X
Isocyanates	G	X	X	X	X	X	G	—	X	X	X	X	X	X	X	—	X	X	—	—	—	—
Isopropyl Alcohol, Isopropanol	G	G	G	G	G	G	G	G	G	G	G	G	G	X	G	—	G	G	G	G	G	G
Isopropyl-amine	G	G	X	X	X	F	G	G	—	F	X	F	—	—	—	—	—	X	—	G	—	G
Iso-Octane	G	G	X	G	G	F	G	G	G	X	F	X	G	X	G	—	X	G	X	G	G	G
Jet Fuel (Transfer Only)	G	G	X	G	G	F	G	G	G	X	X	X	G	F	G	—	X	G	X	G	F	G

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Chemical Compatibility Chart

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	UHMW	XLPE	PVC	Nitrile	Vinyl Nitrile	Neoprene	Teflon (PTFE)	Teflon (FEP)	Nylon 6/66	EPDM	Hypalon	Natural Rubber/ SBR	Hytrel	Polyurethane	CPE	EVA	LLDPE	Nylon 11	PVC / PU Blends	Brass	Steel	316 Stainless
Kerosene	G	G	X	G	G	F	G	G	G	X	F	X	F	G	G	X	X	G	X	G	G	G
Lacquer	G	G	X	X	X	X	G	G	G	X	X	X	X	X	F	X	F	G	X	G	X	G
Lacquer Solvents	G	G	X	X	X	X	G	G	G	X	X	X	F	X	F	X	F	G	X	G	X	G
Lactic Acid	G	G	G	X	X	G	G	G	G	F	G	X	X	X	X	G	G	G	G	F	F	G
Lime Sulfur	G	G	G	X	X	G	G	G	F	G	F	F	—	—	—	G	G	G	G	X	—	G
Lindol	G	G	—	X	X	X	G	G	G	G	X	X	—	X	—	—	—	G	X	F	G	G
Linseed Oil	G	G	G	G	G	X	G	G	G	X	F	X	F	F	G	X	G	G	G	F	G	G
Lubricating Oils	G	G	G	G	G	F	G	G	G	X	F	X	G	F	G	X	G	G	G	G	G	G
Lye	G	G	G	F	F	G	G	G	F	G	G	G	—	X	F	—	G	G	—	F	X	G
Magnesium Chloride	G	G	G	G	G	G	G	G	G	G	G	G	—	G	G	G	G	G	G	F	F	G
Magnesium Hydroxide	G	G	G	F	F	G	G	G	G	G	F	G	—	X	G	G	G	G	G	G	G	G
Magnesium Sulfate	G	G	G	G	G	G	G	G	G	G	G	G	—	—	G	G	G	G	G	F	G	G
Mercuric Chloride	G	G	F	F	F	G	G	G	X	G	G	F	—	—	X	G	G	X	G	X	X	X
Mercury	G	G	F	G	G	G	G	G	G	G	G	F	G	G	G	G	G	G	G	X	G	G
Methyl Alc., Methanol	G	G	X	G	G	G	G	G	G	G	G	G	G	F	G	G	G	G	X	F	G	G
Methyl Acrylate	G	G	X	X	X	X	G	G	X	F	X	X	—	X	X	—	—	X	—	G	G	G
Methyl Bromide	X	X	X	X	X	X	G	G	F	X	X	X	X	X	X	X	X	G	X	G	G	G
Methyl Chloride	G*	G*	X	X	X	X	G	G	G	X	X	X	X	X	F	X	X	G	X	G	G	G
Methylene Chloride	G*	G*	X	X	X	X	G	G	F	X	X	X	X	X	X	X	X	F	X	G	G	G
Methyl-t-Butyl Ether (MTBE)	G	G	X	F	F	X	G	G	G	X	X	X	—	—	G	—	—	G	—	—	G	G
Methyl Ethyl Ketone	G	G	X	X	X	X	G	G	G	F	X	X	G	X	X	X	G	G	X	G	G	G
Methyl Iso-butyl Ketone	G	G	X	X	X	X	G	G	G	F	X	X	—	X	X	X	G	G	X	G	G	G
Methyl Iso-propyl Ketone	G	G	X	X	X	X	G	G	G	F	X	X	—	X	X	—	G	G	X	G	G	G
Methyl Methacrylate	G	G	X	X	X	X	G	G	—	X	X	X	—	X	X	—	—	G	—	—	G	G
Mineral Oil	G	G	F	G	G	F	G	G	G	X	F	X	G	G	G	X	X	G	G	G	G	G
Mineral Spirits	G	G	X	G	G	F	G	G	G	X	X	X	G	F	G	—	G	G	—	G	G	G
Naphtha	G	G	X	F	F	F	G	G	G	X	X	X	G	F	G	X	G	G	X	F	G	G
Napthalene	G	G	X	X	X	X	G	G	G	X	X	X	F	F	G	X	X	G	X	F	G	G

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Nickel Acetate	G	G	G	X	X	G	G	G	G	G	G	G	—	X	—	G	G	G	G	G	G	G
Nickel Chloride	G	G	G	G	G	F	G	G	G	G	G	G	X	X	G	G	G	G	G	X	X	F
Nickel Sulfate	G	G	G	G	G	F	G	G	G	G	G	G	—	F	G	G	G	G	G	X	X	G
Nitric Acid (under 35%)	G	F*	G	X	X	X	G	G	X	F	F	X	X	X	X	G	F*	X	G	X	X	G
Nitric Acid (35% to 60%)	F	X	F	X	X	X	G	G	X	X	X	X	X	X	X	X	X	X	G	X	X	G
Nitric Acid (over 60%)	X	X	X	X	X	X	G	G	X	X	X	X	X	X	X	X	X	X	G	X	X	G
Nitrobenzene	G	G	X	X	X	X	G	G	—	X	X	X	X	X	X	X	X	X	X	F	G	G
Nitrogen Gas ◇	G	G	G	G	G	G	G	G	G	G	G	G	—	G	G	—	G	G	—	G	G	G
Nitrous Oxide	G	G	X	X	X	X	G	G	F	X	X	G	X	X	X	—	X	F	G	G	G	G
Oleic Acid	G	G	F	F	F	X	G	G	G	F	F	X	G	F	G	X	G	G	G	F	F	G
Oleum (Fuming Sulfuric Acid)	X	X	X	X	X	X	G	G	X	X	X	X	X	X	X	X	X	X	X	X	F	G
Oxalic Acid	G	G	G	X	X	X	G	G	X	G	X	X	X	—	G	G	G	X	G	F	X	G
Oxygen (non-breathing, non-welding) ◇	G	G	G	F	F	G	G	G	G	G	G	F	G	G	G	G	G	G	G	G	G	G
Ozone (300 pphm)	F	F	X	X	X	X	G	G	X	G	G	X	X	G	G	X	X	X	X	—	F	G
Paint (Solvent Base)	G	G	X	F	F	X	G	G	G	X	X	X	—	X	—	—	F	G	—	G	G	G
Palmitic Acid	G	G	F	F	F	F	G	G	G	F	X	X	G	X	G	F	G	G	F	X	F	F
Paper Mill Liquors	G	G	X	F	F	F	G	G	X	G	F	F	X	X	—	—	X	X	—	—	—	—
Pentane	G	G	X	G	G	F	G	G	—	X	F	X	G	X	G	—	X	G	X	G	G	G
Perchloroethylene	G*	G*	X	X	X	X	G	G	G	X	X	X	X	X	X	—	F	X	F	F	G	G
Petroleum Ether	G	G	X	G	F	X	G	G	G	X	X	X	—	G	G	X	X	G	F	G	G	G
Petroleum Oils	G	G	G	G	G	F	G	G	G	X	F	X	G	G	G	—	G	G	—	G	G	G
Phenol	G	G	X	X	X	X	G	G	X	X	X	X	X	—	G	X	X	X	X	F	X	F
Phosphoric Acid (to 85%)	G	G	G	X	X	F	G	G	X	G	G	F	X	X	X	G	G	X	G	X	X	F
Picric Acid (Molten)	X	X	X	X	X	X	G	G	X	X	F	X	X	X	X	G	X	X	X	X	X	F
Picric Acid (Solution)	G	G	X	F	F	X	G	G	X	F	G	X	X	F	X	G	X	X	X	X	X	F
Potassium Chloride	G	G	G	G	G	G	G	G	G	G	G	G	—	G	G	G	G	G	G	F	X	G

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Potassium Cyanide	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	F	G	G	F	X	G	G
Potassium Dichromate	G	G	G	X	X	X	G	G	—	G	X	X	—	G	G	G	G	F	G	X	G	G
Potassium Hydroxide	G	G	G	F	F	F	G	G	F	G	G	G	F	X	G	G	G	G	G	F	X	G
Potassium Permanganate	G	G	G	X	X	X	G	G	X	G	G	G	X	X	—	X	G	X	G	—	—	—
Potassium Sulfate	G	G	G	G	G	G	G	G	G	G	G	G	—	G	G	G	G	G	G	F	F	G
Propane Liquid***	—	—	—	G	—	—	—	G	—	—	—	—	—	—	—	X	—	—	—	G	G	G
Propylene Glycol	G	G	F	G	F	G	G	G	—	G	G	G	G	—	G	G	G	G	—	F	G	G
Pyridine	G	G	X	X	X	X	G	G	X	F	X	X	X	X	X	—	G	X	—	F	G	G
Sea Water	G	G	G	G	G	G	G	G	G	G	G	G	G	X	G	G	G	G	G	G	F	G
Silver Nitrate	G	G	G	G	G	G	G	G	G	G	G	G	—	G	—	G	G	G	G	X	X	F
Skydrol	G	G	X	X	X	X	G	G	G	G	X	X	—	X	G	—	X	G	—	G	G	G
Soap Solution	G	G	G	G	G	F	G	G	G	G	G	X	G	G	G	G	X	G	G	G	G	G
Sodium Bicarbonate	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	F	F	G
Sodium Bisulfate	G	G	G	G	G	G	G	G	G	G	G	G	X	G	G	G	G	G	G	F	F	F
Sodium Bisulfite	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	F	X	G
Sodium Borate	G	G	G	G	G	G	G	G	G	G	G	G	G	G	—	—	G	G	—	G	G	G
Sodium Carbonate	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	X	G	G
Sodium Chloride	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	X	F	G
Sodium Cyanide	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	X	F	G
Sodium Hydroxide	G	G	G	F	F	G	G	G	F	G	G	G	—	X	F	G	G	G	F	F	X	G
Sodium Hypochlorite	G	G	G	X	X	X	G	G	X	G	G	X	G	X	F	G	G	X	G	X	X	F
Sodium Nitrate	G	G	G	G	G	F	G	G	G	G	G	G	G	F	G	G	G	G	G	F	G	G
Sodium Perborate	G	G	G	G	G	X	G	G	F	G	X	G	G	X	X	—	G	G	—	F	F	G
Sodium Peroxide	G	G	X	F	F	F	G	G	X	G	F	X	G	X	X	—	X	G	—	X	F	G
Sodium Phosphates	G	G	G	G	G	F	G	G	G	G	G	G	G	G	X	G	G	G	G	F	F	F
Sodium Silicate	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	F	F	G

G - Good

F - Fair

X - Not Recommended

— - Insufficient Information

*For Intermittent Transfer Only

**Use Approved Freon Hose

***Use Propane Approved Hose Only

◇ Use Pinpricked Hose for Gas Applications

Application Data

Chemical Compatibility Chart

A

Fluid	Hose and Tubing Material																			Metals		
	UHMW	XLPE	PVC	Nitrile	Vinyl Nitrile	Neoprene	Teflon (PTFE)	Teflon (FEP)	Nylon 6/66	EPDM	Hypalon	Natural Rubber/SBR	Hytrel	Polyurethane	CPE	EVA	LLDPE	Nylon 11	PVC / PU Blends	Brass	Steel	316 Stainless
Sodium Sulfate	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	F	F	G
Sodium Sulfide	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	X	X	G
Sodium Thiosulfate	G	G	G	G	G	G	G	G	G	G	G	G	—	G	G	G	G	G	G	X	X	G
Soybean Oil	G	G	F	G	G	F	G	G	—	F	G	X	G	G	G	—	G	G	—	G	G	G
Stannic Chloride	G	G	G	G	G	X	G	G	X	G	G	G	G	G	G	G	G	F	G	X	X	X
Steam 450°F	X	X	X	X	X	X	G	G	X	G	X	X	X	X	X	—	X	X	—	F	F	G
Stearic Acid	G	G	F	F	F	F	G	G	G	F	F	X	G	G	G	G	G	G	F	X	X	G
Stoddard Solvent	G	G	X	G	G	F	G	G	G	X	X	X	G	G	G	X	X	G	G	G	G	G
Styrene	G*	G*	X	X	X	X	G	G	G	X	X	X	X	X	X	—	X	G	X	G	G	G
Sulfur 70°F	G	G	F	X	X	G	G	G	G	G	G	X	G	F	G	G	G	G	G	X	X	G
Sulfur 200°F	X	X	X	X	X	X	G	G	X	X	G	X	X	X	X	—	X	X	—	X	X	G
Sulfur Chloride	G	G	X	X	X	X	G	G	X	X	F	X	X	X	G	—	G	X	—	X	X	X
Sulfur Dioxide	X	X	X	X	X	X	G	G	X	G	X	X	X	X	X	X	X	X	F	X	—	G
Sulfuric Acid (under 50%)	G	G	G	X	X	X	G	G	X	G	G	X	X	X	X	G	G	X	G	X	X	X
Sulfuric Acid (51% to 70%)	G	G	G	X	X	X	G	G	X	F	G	X	X	X	X	X	X	X	F	X	X	X
Sulfuric Acid (71% to 95%)	G	F	X	X	X	X	G	G	X	F	F	X	X	X	X	X	X	X	G	X	X	X
Sulfuric Acid (96% to 98%)	G	X	X	X	X	X	G	G	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Tannic Acid	G	G	G	F	F	F	G	G	X	G	G	G	G	G	G	G	G	X	G	F	X	G
Tar	X	X	X	F	F	F	G	G	G	X	X	X	G	F	F	—	X	X	—	F	F	G
Tartaric Acid	G	G	G	G	G	F	G	G	G	G	G	G	—	G	G	G	G	G	G	F	X	F
Tetrachloro-ethane	G*	G*	X	X	X	X	G	G	—	X	X	X	X	X	X	—	F	F	X	—	—	G
Tetrahydro-furan (THF)	G	G	X	X	X	X	G	G	—	X	X	X	—	X	—	X	X	G	X	—	—	G
Toluene	G*	G*	X	X	X	X	G	G	G	X	X	X	X	X	X	X	G*	G	X	G	G	G
Transmission Oil (Petrol. Base)	G	G	G	G	G	F	G	G	G	X	F	X	G	G	G	X	G	G	—	G	G	G
Trichloro-ethane	G*	G*	X	X	X	X	G	G	G	X	X	X	X	X	X	—	G*	F	—	G	G	G
Trichloro-ethylene	G*	G*	X	X	X	X	G	G	G	X	X	X	X	X	X	X	G*	F	—	G	G	G
Tung Oil	G	G	—	G	G	F	G	G	—	X	F	X	G	F	X	—	—	G	—	F	G	G
Turpentine	G	G	X	F	F	X	G	G	G	X	X	X	F	X	F	X	G	G	G	F	G	G
Urea (Water Solution)	G	G	G	X	X	G	G	G	G	G	G	G	G	G	G	G	G	G	G	—	G	G

G - Good F - Fair X - Not Recommended — - Insufficient Information *For Intermittent Transfer Only **Use Approved Freon Hose
 ***Use Propane Approved Hose Only ◇ Use Pinpricked Hose for Gas Applications

Application Data

Chemical Compatibility Chart

Fluid	Hose and Tubing Material																		Metals			
	UHMW	XLPE	PVC	Nitrile	Vinyl Nitrile	Neoprene	Teflon (PTFE)	Teflon (FEP)	Nylon 6/66	EPDM	Hypalon	Natural Rubber/ SBR	Hytrel	Polyurethane	CPE	EVA	LLDPE	Nylon 11	PVC / PU Blends	Brass	Steel	316 Stainless
Uric Acid	G	G	G	—	—	—	G	G	G	—	—	—	X	X	—	G	G	G	G	—	—	F
Varnish	G	G	X	X	X	X	G	G	G	X	X	X	—	X	F	X	G	G	X	G	G	G
Vegetable Oil (Non-food)	G	G	F	G	G	X	G	G	G	X	G	X	—	G	—	X	G	G	G	G	G	G
Vinegar	G	G	G	F	F	G	G	G	X	G	G	F	—	X	F	G	G	G	—	X	F	G
Vinyl Acetate	G	G	X	X	X	X	G	G	—	F	X	X	—	X	—	X	—	G	X	F	G	G
Water (non-potable)	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	F	F	G
Water—Glycol Mixture	G	G	X	G	G	G	G	G	G	G	X	F	X	X	G	G	—	G	G	G	G	G
Water—Petroleum Mixture	G	G	—	G	G	F	G	G	G	X	F	X	G	X	G	G	F	G	G	G	G	G
Xylene	G*	G*	X	X	X	X	G	G	G	X	X	X	F	X	X	X	G*	G	X	G	G	G
Zinc Chloride	G	G	G	G	G	G	G	G	X	G	G	G	X	G	X	G	G	X	G	X	X	X
Zinc Sulfate	G	G	G	G	G	G	G	G	G	G	G	G	—	G	X	G	G	G	G	X	X	G

G - Good F - Fair X - Not Recommended — - Insufficient Information

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◇ Use Pinpricked Hose for Gas Applications

Application Data

Elastomer Chart

The chart below shows the general characteristics of some of the common rubber compounds. Elastomers are mixed with

various chemicals to provide a wide range of physical properties for specific service needs.

A

Astm Designation	Common Name	Composition	General Properties
CR	Neoprene	Chloroprene	• Good abrasion • Good weathering resistance • Good oil resistance • Flame retarding
NBR	Nitrile (Buna-N)	Acrylonitrile-butadiene	• Excellent oil resistance • Moderate resistance to aromatics
IIR	Butyl	Isobutylene-isoprene	• Excellent ozone resistance • Good resistance to fire resistant fluids • Good heat resistance • Low permeability • Poor resistance to petroleum fluids
CIIR	Chlorinated Butyl	Chloro-isobutylene isoprene	• Same as Butyl
SBR	SBR	Styrene-butadiene	• Good abrasion resistance • Poor resistance to petroleum fluids
EPDM	EPDM	Ethylene-propylene diene terpolymer	• Excellent ozone resistance • Good chemical resistance • Good temperature resistance • Poor resistance to petroleum fluids
XLPE	Cross-Linked Polyethylene	Polyethylene & cross linking agents	• Excellent chemical resistance
EVA	EVA	Ethylvinylacetate	• Excellent flexibility • Chemical resistance
LLDPE	Linear, low density Polyethylene	Linear, low density Polyethylene	• Excellent ESCR resistant • FDA Approved NSF 51 material available
Nylon 11	Nylon 11	Nylon 11	• Good chemical resistance
PVC/PU Blend	PVC/PU Blend	Polyvinyl flouride/polyurethane Blend	• Excellent chemical resistance
PVDF	KYNAR®	Polyvinylidene flouride	• Excellent Chemical resistance.
PA	Nylon	Polyamide	• Good abrasion resistance • Good chemical resistance • Low coefficient of friction
CSM	Hypalon	Chloro-sulfonated Polyethylene	• Excellent ozone resistance • Good abrasion resistance • Good heat resistance • Fair petroleum qualities
NR	Natural Rubber	Polyisoprene	• Excellent abrasion resistance • Acid resistance • Not oil resistant
V-NBR	Vinyl Nitrile	PVC/NBR	• Good ozone resistance • Good resistance to animal fats & oils • Good petroleum resistance
UHMWPE	Ultra-high molecular weight polyethylene	Polyethylene	• Excellent chemical resistance • Moderate heat resistance • Excellent abrasion resistance • FDA-accepted material
CM	CPE	Chlorinated Polyethylene	• Excellent ozone resistance • Excellent weathering resistance • Good abrasion resistance • Good heat resistance • Good resistance to petroleum oils
XNBR	Carboxylated Nitrile	Carboxylated Acrylonitrile-butadiene	• Excellent abrasion resistance • Excellent oil resistance • Excellent weather resistance
PTFE	Teflon	Polytetrafluoroethylene	• Excellent temperature resistance • Excellent chemical resistance • FDA accepted material • Low coefficient of friction for high flow rates and easy cleaning • Excellent resistance to thermocycling
PVC	PVC	Polyvinylchloride	• Resistant to many chemicals • Good Flexibility
FEP	Teflon	Fluorinated Ethylene Propylene	• Excellent temperature resistance • Excellent chemical resistance • FDA accepted material • Low coefficient of friction for high flow rates and easy cleaning • Excellent resistance to thermocycling

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Mass Equivalents Table

Pounds (lb)	Grams (g)	Kilograms (kg)	Tons	Ounces (oz)
1	453.5930	0.4536	0.0005	16
10	4,535.9300	4.5359	0.0050	160
20	9,071.8600	9.0719	0.0100	320
30	13,607.7900	13.6078	0.0150	480
40	18,143.7200	18.1437	0.0200	640
50	22,679.6500	22.6797	0.0250	800
60	27,215.5800	27.2156	0.0300	960
70	31,751.5100	31.7515	0.0350	1,120
80	36,287.4400	36.2874	0.0400	1,280
90	40,823.3700	40.8234	0.0450	1,440
100	45,359.3000	45.3593	0.0500	1,600
120	54,431.1600	54.4312	0.0600	1,920
130	58,967.0900	58.9671	0.0650	2,080
140	63,503.0200	63.5030	0.0700	2,240
150	68,038.9500	68.0390	0.0750	2,400
160	72,574.8800	72.5749	0.0800	2,560
170	77,110.8100	77.1108	0.0850	2,720
180	81,646.7400	81.6467	0.0900	2,880
190	86,182.6700	86.1827	0.0950	3,040
200	90,718.6000	90.7186	0.1000	3,200
210	95,254.5300	95.2545	0.1050	3,360
220	99,790.4600	99.7905	0.1100	3,520
230	104,326.3900	104.3264	0.1150	3,680
240	108,862.3200	108.8623	0.1200	3,840
250	113,398.2500	113.3983	0.1250	4,000
260	117,934.1800	117.9342	0.1300	4,160
270	122,470.1100	122.4701	0.1350	4,320
280	127,006.0400	127.0060	0.1400	4,480
290	131,541.9700	131.5420	0.1450	4,640
300	136,077.9000	136.0779	0.1500	4,800
310	140,613.8300	140.6138	0.1550	4,960
320	145,149.7600	145.1498	0.1600	5,120
330	149,685.6900	149.6857	0.1650	5,280
340	154,221.6200	154.2216	0.1700	5,440
350	158,757.5500	158.7576	0.1750	5,600
360	163,293.4800	163.2935	0.1800	5,760
370	167,829.4100	167.8294	0.1850	5,920
380	172,365.3400	172.3653	0.1900	6,080
390	176,901.2700	176.9013	0.1950	6,240
400	181,437.2000	181.4372	0.2000	6,400

Mass = 1 kg = 0.001 metric ton = 2.20462 lb_m = 35.27392 oz

1 lb_m = 16 oz = 5 x 10⁻⁴ ton = 453.593 g = 0.53593 kg

Length = 1 m = 100 cm = 1000 mm = 10⁶ microns (μm) = 10¹⁰ angstroms (Å)

= 39.37 in = 3.2808 ft = 1.0936 yd = 0.0006214 mile

Application Data

Temperature and Pressure Conversion Chart

A

Temperature Conversions Chart

Degrees F (Fahrenheit)	Degrees K (Kelvin)	Degrees C (Celsius)	Degrees F (Fahrenheit)	Degrees K (Kelvin)	Degrees C (Celsius)
-40	233.15	-40.00	240	513.15	115.56
-20	253.15	-28.89	260	533.15	126.67
0	273.15	-17.78	280	553.15	137.78
20	293.15	-6.67	300	573.15	148.89
40	313.15	4.44	320	593.15	160.00
60	333.15	15.56	340	613.15	171.11
80	353.15	26.67	360	633.15	182.22
100	373.15	37.78	380	653.15	193.33
120	393.15	48.89	400	673.15	204.44
140	413.15	60.00	420	693.15	215.56
160	433.15	71.11	440	713.15	226.67
180	453.15	82.22	460	733.15	237.78
200	473.15	93.33	480	753.15	248.89
220	493.15	104.44	500	773.15	260.00

Pressure Conversions Chart

psi (lbs/ square inch)	kPa (kilo pascals)	bar	atm	mm Hg	psi (lbs/ square inch)	kPa (kilo pascals)	bar	atm	mm Hg
0	0.00	0.00	0.00	0.00	250	1,723.68	17.25	17.01	12,928.69
10	68.95	0.69	0.68	517.15	260	1,792.63	17.93	17.69	13,445.84
20	137.89	1.38	1.36	1,034.30	270	1,861.58	18.62	18.37	13,962.98
30	206.84	2.07	2.04	1,551.44	280	1,930.53	19.31	19.05	14,480.13
40	275.79	2.76	2.72	2,068.59	290	1,999.47	19.99	19.73	14,997.28
50	344.73	3.45	3.40	2,585.74	300	2,068.42	20.68	20.41	15,514.43
60	413.68	4.14	4.08	3,102.89	310	2,137.37	21.37	21.09	16,031.57
70	482.63	4.83	4.76	3,620.03	320	2,206.31	22.06	21.77	16,548.72
80	551.58	5.52	5.44	4,137.18	330	2,275.26	22.75	22.46	17,065.87
90	620.53	6.21	6.12	4,654.33	340	2,344.21	23.44	23.14	17,583.01
100	689.47	6.89	6.80	5,171.48	350	2,413.16	24.13	23.82	18,100.16
110	758.42	7.58	7.49	5,688.62	400	2,757.89	27.58	27.22	20,685.90
120	827.37	8.27	8.17	6,205.77	450	3,102.63	31.03	30.62	23,271.64
130	896.31	8.96	8.86	6,722.92	500	3,447.37	34.47	34.02	25,857.38
140	965.26	9.65	9.53	7,240.07	1,000	6,894.73	68.95	68.05	51,714.75
150	1,034.21	10.34	10.21	7,757.21	1,250	8,618.41	86.18	85.06	64,643.44
160	1,103.16	11.03	10.89	8,274.36	1,500	10,342.10	103.42	102.07	77,572.12
170	1,172.10	11.72	11.57	8,791.50	1,750	12,065.78	120.66	119.08	90,500.81
180	1,241.05	12.41	12.25	9,308.66	2,000	13,789.47	137.90	136.09	103,429.50
190	1,309.99	13.10	12.93	9,825.80	2,250	15,513.15	155.13	153.10	116,358.19
200	1,378.95	13.79	13.61	10,342.95	2,500	17,236.83	172.37	170.11	129,286.88
210	1,447.89	14.48	14.29	10,860.10	2,750	18,960.52	189.60	187.13	142,215.57
220	1,516.84	15.17	14.98	11,377.25	3,000	20,684.20	206.84	204.14	155,144.26
230	1,585.79	15.86	15.66	11,894.39	4,000	27,578.93	275.79	272.18	206,859.01
240	1,654.74	16.55	16.33	12,411.54	5,000	34,473.67	344.74	340.23	258,573.76

Pressure = 1 atm = $1.01325 \times 10^5 \text{ N/m}^2$ (Pa) = 101.325 kPa = 1.01325 bars
= $1.01325 \times 10^6 \text{ dynes/cm}^2$
= 760 mm Hg at 0°C (torr) = 10.333 m H₂O at 4°C
= 14.696 lbf/in.² (psi) = 33.9 ft H₂O at 4°C
= 29.921 in Hg at 0°C

Application Data

Area and Circumference Chart

Area and Circumference of Circles for Given Circle Diameters

Dia. (inches)	Area (sq. inches)	Circum. (inches)	Dia. (inches)	Area (sq. inches)	Circum. (inches)	Dia. (inches)	Area (sq. inches)	Circum. (inches)	Dia. (inches)	Area (sq. inches)	Circum. (inches)
			1	0.78500	3.14000	2	3.14000	6.28000	3	7.06500	9.42000
1/32	0.00077	0.09813	1/32	0.83483	3.23813	1/32	3.23889	6.37813	1/32	7.21295	9.51813
1/16	0.00307	0.19625	1/16	0.88619	3.33625	1/16	3.33932	6.47625	1/16	7.36244	9.61625
3/32	0.00690	0.29438	3/32	0.93909	3.43438	3/32	3.44127	6.57438	3/32	7.51346	9.71438
1/8	0.01227	0.39250	1/8	0.99352	3.53250	1/8	3.54477	6.67250	1/8	7.66602	9.81250
5/32	0.01917	0.49063	5/32	1.04948	3.63063	5/32	3.64979	6.77063	5/32	7.82010	9.91063
3/16	0.02760	0.58875	3/16	1.10697	3.72875	3/16	3.75635	6.86875	3/16	7.97572	10.00875
7/32	0.03756	0.68688	7/32	1.16600	3.82688	7/32	3.86444	6.96688	7/32	8.13288	10.10688
1/4	0.04906	0.78500	1/4	1.22656	3.92500	1/4	3.97406	7.06500	1/4	8.29156	10.20500
9/32	0.06209	0.88313	9/32	1.28866	4.02313	9/32	4.08522	7.16313	9/32	8.45178	10.30313
5/16	0.07666	0.98125	5/16	1.35229	4.12125	5/16	4.19791	7.26125	5/16	8.61354	10.40125
11/32	0.09276	1.07938	11/32	1.41745	4.21938	11/32	4.31213	7.35938	11/32	8.77682	10.49938
3/8	0.11039	1.17750	3/8	1.48414	4.31750	3/8	4.42789	7.45750	3/8	8.94164	10.59750
13/32	0.12956	1.27563	13/32	1.55237	4.41563	13/32	4.54518	7.55563	13/32	9.10799	10.69563
7/16	0.15025	1.37375	7/16	1.62213	4.51375	7/16	4.66400	7.65375	7/16	9.27588	10.79375
15/32	0.17249	1.47188	15/32	1.69342	4.61188	15/32	4.78436	7.75188	15/32	9.44530	10.89188
1/2	0.19625	1.57000	1/2	1.76625	4.71000	1/2	4.90625	7.85000	1/2	9.61625	10.99000
17/32	0.22155	1.66813	17/32	1.84061	4.80813	17/32	5.02967	7.94813	17/32	9.78874	11.08813
9/16	0.24838	1.76625	9/16	1.91650	4.90625	9/16	5.15463	8.04625	9/16	9.96275	11.18625
19/32	0.27674	1.86438	19/32	1.99393	5.00438	19/32	5.28112	8.14438	19/32	10.13831	11.28438
5/8	0.30664	1.96250	5/8	2.07289	5.10250	5/8	5.40914	8.24250	5/8	10.31539	11.38250
21/32	0.33807	2.06063	21/32	2.15338	5.20063	21/32	5.53870	8.34063	21/32	10.49401	11.48063
11/16	0.37104	2.15875	11/16	2.23541	5.29875	11/16	5.66979	8.43875	11/16	10.67416	11.57875
23/32	0.40553	2.25688	23/32	2.31897	5.39688	23/32	5.80241	8.53688	23/32	10.85584	11.67688
3/4	0.44156	2.35500	3/4	2.40406	5.49500	3/4	5.93656	8.63500	3/4	11.03906	11.77500
25/32	0.47913	2.45313	25/32	2.49069	5.59313	25/32	6.07225	8.73313	25/32	11.22381	11.87313
13/16	0.51822	2.55125	13/16	2.57885	5.69125	13/16	6.20947	8.83125	13/16	11.41010	11.97125
27/32	0.55885	2.64938	27/32	2.66854	5.78938	27/32	6.34823	8.92938	27/32	11.59792	12.06938
7/8	0.60102	2.74750	7/8	2.75977	5.88750	7/8	6.48852	9.02750	7/8	11.78727	12.16750
29/32	0.64471	2.84563	29/32	2.85252	5.98563	29/32	6.63034	9.12563	29/32	11.97815	12.26563
15/16	0.68994	2.94375	15/16	2.94682	6.08375	15/16	6.77369	9.22375	15/16	12.17057	12.36375
31/32	0.73670	3.04188	31/32	3.04264	6.18188	31/32	6.91858	9.32188	31/32	12.36452	12.46188

Area and Circumference of Circles for Given Circle Diameters cont.

Dia. (inches)	Area (sq. inches)	Circum. (inches)	Dia. (inches)	Area (sq. inches)	Circum. (inches)	Dia. (inches)	Area (sq. inches)	Circum. (inches)	Dia. (inches)	Area (sq. inches)	Circum. (inches)
4	12.56000	12.56000	5	19.62500	15.70000	6	28.26000	18.84000	7	38.46500	21.98000
1/32	12.75702	12.65813	1/32	19.87108	15.79813	1/32	28.55514	18.93813	1/32	38.80920	22.07813
1/16	12.95557	12.75625	1/16	20.11869	15.89625	1/16	28.85182	19.03625	1/16	39.15494	22.17625
3/32	13.15565	12.85438	3/32	20.36784	15.99438	3/32	29.15002	19.13438	3/32	39.50221	22.27438
1/8	13.35727	12.95250	1/8	20.61852	16.09250	1/8	29.44977	19.23250	1/8	39.85102	22.37250
5/32	13.56042	13.05063	5/32	20.87073	16.19063	5/32	29.75104	19.33063	5/32	40.20135	22.47063
3/16	13.76510	13.14875	3/16	21.12447	16.28875	3/16	30.05385	19.42875	3/16	40.55322	22.56875
7/32	13.97131	13.24688	7/32	21.37975	16.38688	7/32	30.35819	19.52688	7/32	40.90663	22.66688
1/4	14.17906	13.34500	1/4	21.63656	16.48500	1/4	30.66406	19.62500	1/4	41.26156	22.76500
9/32	14.38834	13.44313	9/32	21.89491	16.58313	9/32	30.97147	19.72313	9/32	41.61803	22.86313
5/16	14.59916	13.54125	5/16	22.15479	16.68125	5/16	31.28041	19.82125	5/16	41.97604	22.96125
11/32	14.81151	13.63938	11/32	22.41620	16.77938	11/32	31.59088	19.91938	11/32	42.33557	23.05938
3/8	15.02539	13.73750	3/8	22.67914	16.87750	3/8	31.90289	20.01750	3/8	42.69664	23.15750
13/32	15.24081	13.83563	13/32	22.94362	16.97563	13/32	32.21643	20.11563	13/32	43.05924	23.25563
7/16	15.45775	13.93375	7/16	23.20963	17.07375	7/16	32.53150	20.21375	7/16	43.42338	23.35375
15/32	15.67624	14.03188	15/32	23.47717	17.17188	15/32	32.84811	20.31188	15/32	43.78905	23.45188
1/2	15.89625	14.13000	1/2	23.74625	17.27000	1/2	33.16625	20.41000	1/2	44.15625	23.55000
17/32	16.11780	14.22813	17/32	24.01686	17.36813	17/32	33.48592	20.50813	17/32	44.52499	23.64813
9/16	16.34088	14.32625	9/16	24.28900	17.46625	9/16	33.80713	20.60625	9/16	44.89525	23.74625
19/32	16.56549	14.42438	19/32	24.56268	17.56438	19/32	34.12987	20.70438	19/32	45.26706	23.84438
5/8	16.79164	14.52250	5/8	24.83789	17.66250	5/8	34.45414	20.80250	5/8	45.64039	23.94250
21/32	17.01932	14.62063	21/32	25.11463	17.76063	21/32	34.77995	20.90063	21/32	46.01526	24.04063
11/16	17.24854	14.71875	11/16	25.39291	17.85875	11/16	35.10729	20.99875	11/16	46.39166	24.13875
23/32	17.47928	14.81688	23/32	25.67272	17.95688	23/32	35.43616	21.09688	23/32	46.76959	24.23688
3/4	17.71156	14.91500	3/4	25.95406	18.05500	3/4	35.76656	21.19500	3/4	47.14906	24.33500
25/32	17.94538	15.01313	25/32	26.23694	18.15313	25/32	36.09850	21.29313	25/32	47.53006	24.43313
13/16	18.18072	15.11125	13/16	26.52135	18.25125	13/16	36.43197	21.39125	13/16	47.91260	24.53125
27/32	18.41760	15.20938	27/32	26.80729	18.34938	27/32	36.76698	21.48938	27/32	48.29667	24.62938
7/8	18.65602	15.30750	7/8	27.09477	18.44750	7/8	37.10352	21.58750	7/8	48.68227	24.72750
29/32	18.89596	15.40563	29/32	27.38377	18.54563	29/32	37.44159	21.68563	29/32	49.06940	24.82563
15/16	19.13744	15.50375	15/16	27.67432	18.64375	15/16	37.78119	21.78375	15/16	49.45807	24.92375
31/32	19.38045	15.60188	31/32	27.96639	18.74188	31/32	38.12233	21.88188	31/32	49.84827	25.02188
									8	50.24000	25.12000

Inches Fractions	Decimals	MM
–	.0004	.0100
–	.0040	.1000
–	.0100	.2500
1/64	.0156	.3970
–	.0197	.5000
–	.0295	.7500
1/32	.0313	.7940
–	.0394	1.0000
3/64	.0469	1.1910
–	.0590	1.5000
1/16	.0620	1.5880
5/64	.0781	1.9840
–	.0787	2.0000
3/32	.0940	2.3810
–	.0984	2.5000
7/64	.1090	2.7780
–	.1181	3.0000
1/8	.1250	3.1750
–	.1378	3.5000
9/64	.1410	3.5720
5/32	.1560	3.9690
–	.1575	4.0000
11/64	.1720	4.3660
–	.1770	4.5000
3/16	.1875	4.7630
–	.1969	5.0000
13/64	.2030	5.1590
–	.2165	5.5000
7/32	.2190	5.5560
15/64	.2340	5.9530
–	.2362	6.0000
1/4	.2500	6.3500
–	.2559	6.5000
17/64	.2656	6.7470
–	.2756	7.0000
9/32	.2810	7.1440
–	.2953	7.5000
19/64	.2970	7.5410
5/16	.3120	7.9380
–	.3150	8.0000
21/64	.3280	8.3340
–	.3350	8.5000
11/32	.3440	8.7310
–	.3543	9.0000
23/64	.3590	9.1280
–	.3740	9.5000
3/8	.3750	9.5250
25/64	.3910	9.9220

Inches Fractions	Decimals	MM
–	.3937	10.0000
13/32	.4060	10.3190
–	.4130	10.5000
27/64	.4220	10.7160
–	.4331	11.0000
7/16	.4380	11.1130
29/64	.4530	11.5090
15/32	.4690	11.9060
–	.4724	12.0000
31/64	.4840	12.3030
–	.4920	12.5000
1/2	.5000	12.7000
–	.5118	13.0000
33/64	.5156	13.0970
17/32	.5310	13.4940
35/64	.5470	13.8910
–	.5512	14.0000
9/16	.5630	14.2880
–	.5710	14.5000
37/64	.5790	14.6840
–	.5906	15.0000
19/32	.5940	15.0810
39/64	.6090	15.4780
5/8	.6250	15.8750
–	.6299	16.0000
41/64	.6406	16.2720
–	.6496	16.5000
21/32	.6560	16.6690
–	.6693	17.0000
43/64	.6720	17.0660
11/16	.6875	17.4630
45/64	.7030	17.8590
–	.7087	18.0000
23/32	.7190	18.2560
–	.7283	18.5000
47/64	.7340	18.6530
–	.7480	19.0000
3/4	.7500	19.0500
49/64	.7656	19.4470
25/32	.7810	19.8440
–	.7874	20.0000
51/64	.7970	20.2410
13/16	.8125	20.6380
–	.8268	21.0000
53/64	.8280	21.0340
27/32	.8440	21.4310
55/64	.8590	21.8280
–	.8662	22.0000

Inches Fractions	Decimals	MM
7/8	.8750	22.2250
57/64	.8906	22.6220
–	.9055	23.0000
29/32	.9062	23.0190
59/64	.9220	23.4160
15/16	.9375	23.8130
–	.9449	24.0000
61/64	.9530	24.2090
31/32	.9690	24.6060
–	.9843	25.0000
63/64	.9844	25.0030
1	1.0000	25.4000
–	1.0236	26.0000
1-1/32	1.0312	26.1940
1-1/16	1.0620	26.9880
–	1.0630	27.0000
1-3/32	1.0940	27.7810
–	1.1024	28.0000
1-1/8	1.1250	28.5750
–	1.1417	29.0000
1-5/32	1.1560	29.3690
–	1.1811	30.0000
1-3/16	1.1875	31.1630
1-7/32	1.2190	30.9560
–	1.2205	31.0000
1-1/4	1.2500	31.7500
–	1.2598	32.0000
1-9/32	1.2810	32.5440
–	1.2992	33.0000
1-5/16	1.3120	33.3380
–	1.3386	34.0000
1-11/32	1.3440	34.1310
1-3/8	1.3750	34.9250
–	1.3779	35.0000
1-13/32	1.4060	35.7190
–	1.4173	36.0000
1-7/16	1.4380	36.5130
–	1.4567	37.0000
1-15/32	1.4690	37.3060
–	1.4961	38.0000
1-1/2	1.5000	38.1000
1-17/32	1.5310	38.8940
–	1.5354	39.0000
1-9/16	1.5620	39.6880
–	1.5748	40.0000
1-19/32	1.5940	40.4810
–	1.6142	41.0000
1-5/8	1.6250	41.2750

Inches Fractions	Decimals	MM
–	1.6535	42.0000
1-31/32	1.6562	42.0690
1-11/16	1.6875	42.8630
–	1.6929	43.0000
1-23/32	1.7190	43.6560
–	1.7323	44.0000
1-3/4	1.7500	44.4500
–	1.7717	45.0000
1-25/32	1.7810	45.2440
–	1.8110	46.0000
1-13/16	1.8125	46.0380
1-27/32	1.8440	46.8310
–	1.8504	47.0000
1-7/8	1.8750	47.6250
–	1.8898	48.0000
1-29/32	1.9062	48.4190
–	1.9291	49.0000
1-15/16	1.9375	49.2130
–	1.9685	50.0000
1-31/32	1.9690	50.0060
2	2.0000	50.8000
–	2.0079	51.0000
2-1/32	2.0313	51.5940
–	2.0472	52.0000
2-1/16	2.0620	52.3880
–	2.0866	53.0000
2-3/32	2.0940	53.1810
2-1/8	2.1250	53.9750
–	2.1260	54.0000
2-5/32	2.1560	54.7690
–	2.1650	55.0000
2-3/16	2.1875	55.5630
–	2.2047	56.0000
2-7/32	2.2190	56.3560
–	2.2440	57.0000
2-1/4	2.2500	57.1500
2-9/32	2.2810	57.9440
–	2.2835	58.0000
2-5/16	2.3120	58.7380
–	2.3228	59.0000
2-11/32	2.3440	59.5310
–	2.3622	60.0000
2-3/8	2.3750	60.3250
–	2.4016	61.0000

Inches Fractions	Decimals	MM	Inches Fractions	Decimals	MM	Inches Fractions	Decimals	MM	Inches Fractions	Decimals	MM
2-13/32	2.4060	61.1190	3-1/4	3.2500	82.5500	4-1/4	4.2500	107.9500	1/4	.2500	6.3500
2-7/16	2.4380	61.9130	–	3.2677	83.0000	4-5/16	4.3120	109.5380	–	.2559	6.5000
–	2.4409	62.0000	3-9/32	3.2810	83.3440	–	4.3307	110.0000	17/64	.2656	6.7470
2-15/32	2.4690	62.7060	–	3.3071	84.0000	4-3/8	4.3750	111.1250	–	.2756	7.0000
–	2.4803	63.0000	3-5/16	3.3120	84.1377	4-7/16	4.4380	112.7130	9/32	.2810	7.1440
2-1/2	2.5000	63.5000	3-11/32	3.3440	84.9314	4-1/2	4.5000	114.3000	–	.2953	7.5000
–	2.5197	64.0000	–	3.3464	85.0000	–	4.5275	115.0000	19/64	.2970	7.5410
2-17/32	2.5310	64.2940	3-3/8	3.3750	85.7250	4-9/16	4.5620	115.8880	5/16	.3120	7.9380
–	2.5590	65.0000	–	3.3858	86.0000	4-5/8	4.6250	117.4750	–	.3150	8.0000
2-9/16	2.5620	65.0880	3-13/32	3.4060	86.5190	4-11/16	4.6875	119.0630	21/64	.3280	8.3340
2-19/32	2.5940	65.8810	–	3.4252	87.0000	–	4.7244	120.0000	–	.3350	8.5000
–	2.5984	66.0000	3-7/16	3.4380	87.3130	4-3/4	4.7500	120.6500	11/32	.3440	8.7310
2-5/8	2.6250	66.6750	–	3.4646	88.0000	4-13/16	4.8125	122.2380	–	.3543	9.0000
–	2.6380	67.0000	3-15/32	3.4690	88.1060	4-7/8	4.8750	123.8250	23/64	.3590	9.1280
2-21/32	2.6560	67.4690	3-1/2	3.5000	88.9000	–	4.9212	125.0000	–	.3740	9.5000
–	2.6772	68.0000	–	3.5039	89.0000	4-15/16	4.9375	125.4130	3/8	.3750	9.5250
2-11/16	2.6875	68.2630	3-17/32	3.5310	89.6940	5	5.0000	127.0000	25/64	.3910	9.9220
–	2.7165	69.0000	–	3.5433	90.0000	–	.0004	.0100	–	.3937	10.0000
2-23/32	2.7190	69.0560	3-9/16	3.5620	90.4877	–	.0100	.2500	13/32	.4060	10.3190
2-3/4	2.7500	69.8500	–	3.5827	91.0000	1/64	.0156	.3970	–	.4130	10.5000
–	2.7559	70.0000	3-19/32	3.5940	91.2810	–	.0197	.5000	27/64	.4220	10.7160
2-25/32	2.7810	70.6439	–	3.6220	92.0000	–	.0295	.7500	–	.4331	11.0000
–	2.7953	71.0000	3-5/8	3.6250	92.0750	–	.0040	.1000	7/16	.4380	11.1130
2-13/16	2.8125	71.4376	3-21/32	3.6560	92.8960	1/32	.0313	.7940	29/64	.4530	11.5090
–	2.8346	72.0000	–	3.6614	93.0000	–	.0394	1.0000	15/32	.4690	11.9060
2-27/32	2.8440	72.2314	3-11/16	3.6875	93.6630	3/64	.0469	1.1910	–	.4724	12.0000
–	2.8740	73.0000	–	3.7008	94.0000	–	.0590	1.5000	31/64	.4840	12.3030
2-7/8	2.8750	73.0250	3-23/32	3.7190	94.4560	1/16	.0620	1.5880	–	.4920	12.5000
2-29/32	2.9062	73.8190	–	3.7401	95.0000	5/64	.0781	1.9840	1/2	.5000	12.7000
–	2.9134	74.0000	3-3/4	3.7500	92.2500	–	.0787	2.0000	–	.5118	13.0000
2-15/16	2.9375	74.6130	–	3.7795	96.0000	3/32	.0940	2.3810	33/64	.5156	13.0970
–	2.9527	75.0000	3-25/32	3.7810	96.0440	–	.0984	2.5000	17/32	.5310	13.4940
2-31/32	2.9690	75.4060	3-13/16	3.8125	96.8380	7.64	.1090	2.7780	35/64	.5470	13.8910
–	2.9921	76.0000	–	3.8189	97.0000	–	.1181	3.0000	–	.5512	14.0000
3	3.0000	76.2000	3-26/32	3.8440	97.6310	1/8	.1250	3.1750	9/16	.5630	14.2880
3-1/32	3.0312	76.9940	–	3.8583	98.0000	–	.1378	3.5000	–	.5710	14.5000
–	3.0315	77.0000	3-7/8	3.8750	98.4250	9/64	.1410	3.5720	37/64	.5790	14.6840
3-1/16	3.0620	77.7880	–	3.8976	99.0000	5/32	.1560	3.9690	–	.5906	15.0000
–	3.0709	78.0000	3-29/32	3.9062	99.2190	–	.1575	4.0000	19/32	.5940	15.0810
3-3/32	3.0940	78.5810	–	3.9370	100.0000	11/64	.1720	4.3660	39/64	.6090	15.4780
–	3.1102	79.0000	3-15/16	3.9375	100.0130	–	.1770	4.5000	5/8	.6250	15.8750
3-1/8	3.1250	79.3750	3-31/32	3.9690	100.8060	3/16	.1875	4.7630	–	.6299	16.0000
–	3.1496	80.0000	–	3.9764	101.0000	–	.1969	5.0000	41/64	.6406	16.2720
3-5/32	3.1560	80.1690	4	4.0000	101.6000	13/64	.2030	5.1590	–	.6496	16.5000
3/16	3.1875	80.9630	4-1/16	4.0620	103.1880	–	.2165	5.5000	21/32	.6560	16.6690
–	3.1890	81.0000	4-1/8	4.1250	104.7750	7/32	.2190	5.5560			
3-7/32	3.2190	81.7560	–	4.1338	105.0000	15/64	.2340	5.9530			
–	3.2283	82.0000	4-3/16	4.1875	106.3630	–	.2362	6.0000			

**SAE 37° and 45° Flare Fittings
For Zinc Plated Steel without Thread Sealant or Lubrication**

Size	Fraction	Decimal	Inch-Pounds	Foot-Pounds	Meter-Newtons	Additional Turns of Hex-Flats**
- 04	1/4"	0.250	130-150	11-12	15-17	2
- 05	5/16"	0.312	165-195	14-16	19-22	2
- 06	3/8"	0.375	235-265	20-22	27-30	1-1/4
- 08	1/2"	0.500	525-575	44-48	59-65	1
- 10	5/8"	0.625	600-700	50-58	68-79	1
- 12	3/4"	0.750	950-1050	79-88	107-119	1
- 16	1"	1.000	1,400-1500	117-125	158-170	1
- 20	1-1/4"	1.250	1,900-2100	158-175	215-237	1
- 24	1-1/2"	1.500	2,250-2550	188-213	254-288	1
- 32	2"	2.000	3,000-3400	250-283	339-384	1

**Additional Turns of Hex-Flats required after finger tightening.

THIS IS THE RECOMMENDED METHOD OF TIGHTENING BOTH 37° SWIVELS & 45° FLARE FITTINGS.

**Straight Thread O-Ring Fittings
For Zinc Plated Steel without Sealant or Lubrication**

Size	Fraction	Decimal	Inch-Pounds	Foot-Pounds	Meter-Newtons
- 04	1/4"	0.250	156-180	13-15	18-20
- 05	5/16"	0.312	204-228	17-19	23-26
- 06	3/8"	0.375	264-288	22-24	30-33
- 08	1/2"	0.500	480-516	40-43	54-58
- 10	5/8"	0.625	516-576	43-48	58-65
- 12	3/4"	0.750	816-900	68-75	92-102
- 16	1"	1.000	1,344-1,476	112-123	152-167
- 20	1-1/4"	1.250	1,752-1,932	146-161	198-218
- 24	1-1/2"	1.500	1,848-2,040	154-170	209-231
- 32	2"	2.000	2,616-2,880	218-240	296-325

**FOR-SEAL® Fittings
For Zinc Plated Steel without Thread Sealant or Lubrication**

			FOR-SEAL Swivel Nut Fitting			O-Ring Boss Straight Thread O-Ring Locknut		
Size	Fraction	Decimal	Inch-Pounds	Foot-Pounds	Meter-Newtons	Inch-Pounds	Foot-Pounds	Meter-Newtons
- 04	1/4"	0.250	120-144	10-12	14-16	168-192	14-16	19-22
- 06	3/8"	0.375	216-240	18-20	24-27	288-312	24-26	33-35
- 08	1/2"	0.500	384-420	32-35	43-48	600-720	50-60	68-81
- 10	5/8"	0.625	552-600	46-50	62-68	864-960	72-80	98-109
- 12	3/4"	0.750	780-840	65-70	88-95	1,500-1,620	125-135	170-183
- 16	1"	1.000	1,104-1,200	92-100	125-136	2,400-2,640	200-220	271-298
- 20	1-1/4"	1.250	1,500-1,680	125-140	170-190	2,520-3,360	210-280	285-380
- 24	1-1/2"	1.500	1,800-1,980	150-165	203-224	3,240-4,320	270-360	366-488

Torque Value Conversion Chart

Inch - Pounds	=	0.0833 Foot - Pounds	Foot - Pound	=	12 Inch - Pounds
Inch - Pounds	=	0.1131 Meter - Newtons	Foot - Pounds	=	1.357 Meter - Newtons
Meter - Newtons	=	8.8430 Inch - Pounds	Meter - Newtons	=	0.7369 Foot - Pounds

NOTE: Please consult Eaton for other material torque ratings.

Compatible Thread				
Threads	System Name	Seal Method	Female	Male
IPT	Iron Pipe Thread. The generic name for all pipe threads	—	—	—
NPT	American Standard “tapered” pipe thread	Thread fit (with sealer)	NPT	NPT NPTF
NPTF*	American Standard tapered “dryseal” pipe thread	Thread fit	NPTF	NPT
		Thread fit (with sealer)	NPTF	NPTF
NPSM	American Standard “straight” pipe thread for mechanical joints	Washer	NPSM	NPSM NPT NPTF
		Mechanical (metal to metal)	NPSM	NPSM NPT NPTF
NPSH	American Standard “straight” pipe thread for hose coupling and nipples	Washer	NPSH	NPSH

**When NPTF threads are once used, they require sealing compound for future use.*

Canadian agencies and organization

CGA	Canadian Gas Association
CGSB	Canadian Government Specifications Board
RAC	Rubber Association of Canada

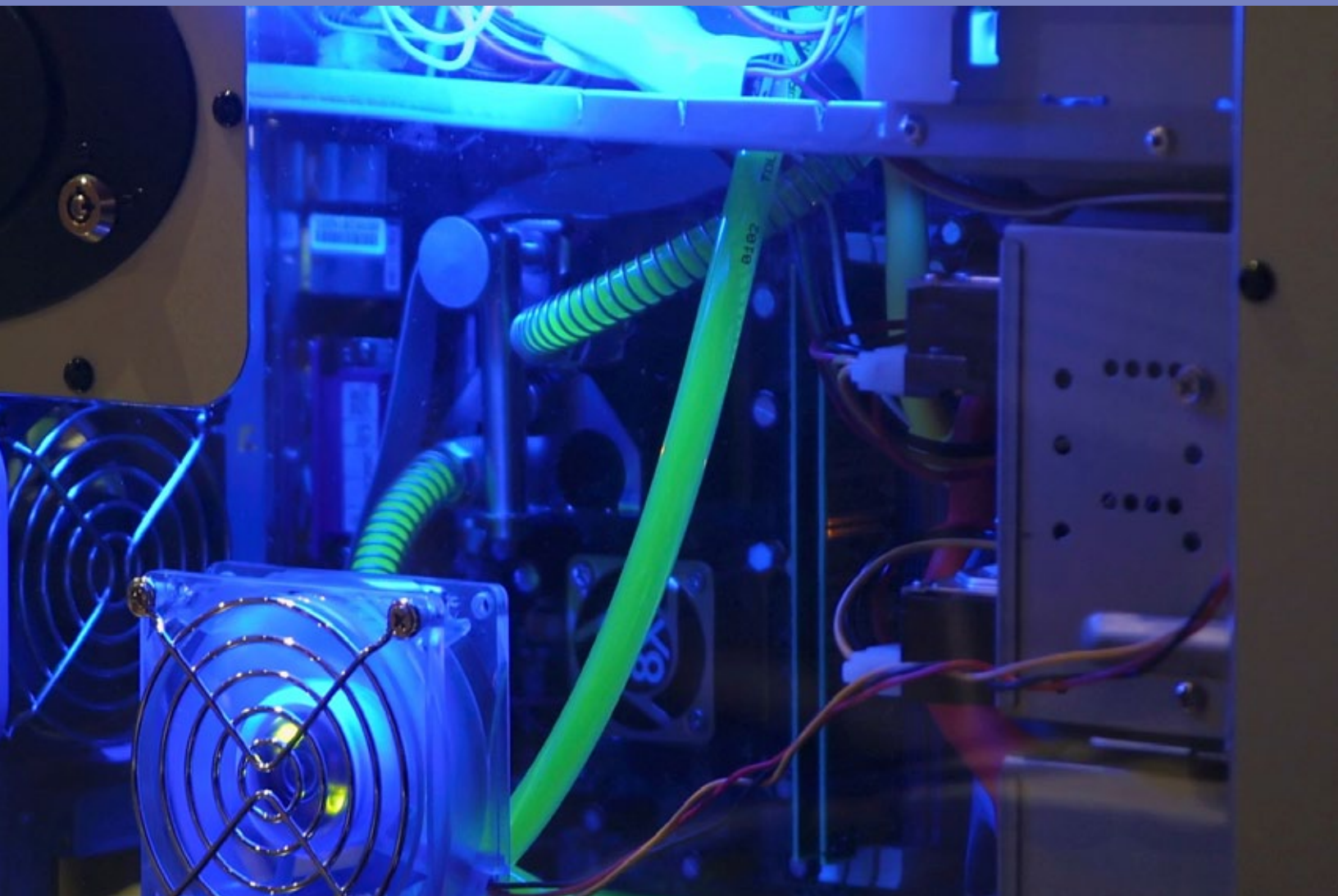
U.S. Government agencies

DOD	Department of Defense
DOT	Department of Transportation
FDA	Food and Drug Administration
MSHA	Mine Safety and Health Administration
NHTSA	National Highway Traffic Safety Administration
OSHA	Occupational Safety and Health Administration
PHA	Public Health Administration
USCG	U.S. Coast Guard
USDA	U.S. Department of Agriculture

Other organizations

ABS	American Bureau of Shipping
ANSI	American National Standards Institute
API	American Petroleum Institute
ASTM	American Society for Testing and Materials
BIA	Boating Industry Association
BSI	British Standards Institute
CGA	Compressed Gas Association
DIN	Deutsches Institut for Normung - German Standards
DNV	Det Norske Veritas
EN	European Norms
FM	Factory Mutual Research
FPS	Fluid Power Society
ISO	International Organization for Standardization
JIC	Joint Industrial Council (defunct)
JIS	Japanese Industrial Standards
NAHAD	National Association of Hose and Accessories Distributors
NFPA	National Fire Protection Association
NSF	National Sanitation Foundation National Fluid Power Association
RMA	Rubber Manufacturers Association
SAE	Society of Automotive Engineers
TFI	The Fertilizer Institute
UL	Underwriters Laboratories

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Hose & Tubing

How to Order

Low Pressure Industrial
Hose and Tubing

B

Part Numbering System

All products are identified by an eight digit part number

X	X	X	X	X	X	X	X
1	2	3	4	5	6	7	8

- The first two digits (1,2) identify the product type
i.e. Type 10 = Clear Tubing
Type 20 = Clear Braided Hose or Clear Core Tube
- The 3rd and 4th digits can identify the I.D. of the product measured in a 16th of an inch.
i.e. $20 - \frac{08}{16} = \frac{1}{2}$ " Clear Braided Hose
- The 5th and 6th digit can identify a variety of items.
A: When shown on any **tubing order**, the 5th and 6th digits identify the product O.D. in 16ths of an inch.
i.e. $10 - \frac{06}{16} \frac{08}{16} = \frac{3}{8} \times \frac{1}{2}$ " Clear Tubing
B: When shown on **hose orders** it can identify specific reels, colors, customer printing, and a host of other custom details.
- The 7th and 8th digits, again, identify specific variances of that particular hose or tube from standard item.

Note: the first 4 digits of our part number system are the ones you should attempt to familiarize yourself with. The other 4 digits will eventually fall into place.

Minimum Order Information

For the purposes of plant efficiency and reasonable costing, the following is the minimum quantities that are run by the plant. These are general guidelines. Some exceptions may be allowed depending on price and circumstances.

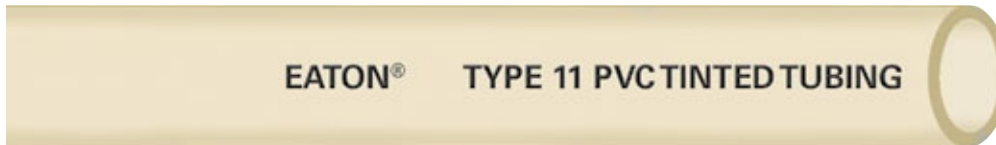
ID	Tube	Hose	Suction Hose
1/4	10,000	10,000	N/A
5/16, 3/8	10,000	8,000	N/A
1/2	8,000	6,000	3,000
5/8	6,000	5,000	3,000
3/4	5,000	3,500	3,000
1	3,000	2,500	2,000

Bundles

Insulated	1,200 feet
Non Insulated	1,000 feet
Twin-welds	5,000 feet (1/4") 3,000 feet (1/2", 3/4")

ID	Tube	Hose	Suction Hose
1-1/4	2,000	2,000	2,000
1-1/2	1,500	1,500	1,000
1-5/8	1,500	1,500	1,000
2	1,500	1,500	1,000
3	N/A	N/A	1,000

TYPE 11 PVC Tinted Tubing



Tube: PVC

Color: Any Tint

Temperature Range: +25°F to +150°F

Type Of Branding: Ink Jet

Working Pressure: 30-55 psi

Features:

- Tinted poly vinyl chloride tubing

Advantages:

- Lightweight
- Non-marking
- Flexible
- 75 durometer

Markets:

- Industrial
- Manufacturing

Applications:

- Drain lines
- Identification Lines
- Air lines
- Sight glass

Product Number	Nominal I.D. (in.)	(mm)	Nominal O.D. (in.)	(mm)	Working Pressure @ 68°F	Approx. lbs. Weight Per 100 Ft.	Standard Length (Ft.)	Package
11-0406*	1/4	6.4	3/8	9.5	55	3.2	100	Box
11-0608*	3/8	9.5	1/2	12.7	45	4.5	100	Box
11-0810*	1/2	12.7	5/8	15.9	30	5.7	100	Box

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. Contact Eaton for further information.

** MTO - Made to Order - Contact Eaton at 877-662-8823 for availability, minimum run quantity, and ordering information.*

TYPE 12 PVC Colored Tubing



Tube: PVC

Color: Any

Temperature Range: +25°F to +150°F

Type Of Branding: Ink Jet

Working Pressure: 30-55 psi

Features:

- Colored poly vinyl Chloride tubing
- Non-marking

Advantages:

- Lightweight
- Non-marking
- Flexible
- 75 durometer

Markets:

- Industrial
- Manufacturing

Applications:

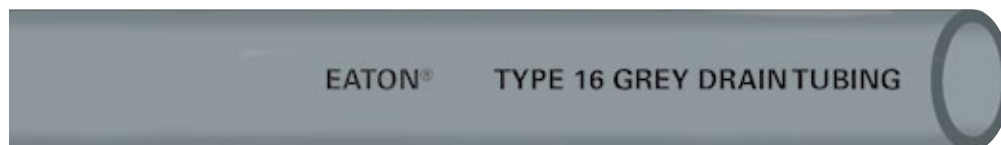
- Drain lines
- Identification lines
- Air lines

Product Number	Nominal I.D. (in.)	(mm)	Nominal O.D. (in.)	(mm)	Working Pressure @ 68°F	Approx. lbs. Weight Per 100 Ft.	Standard Length (Ft.)	Package
12-0406*	1/4	6.4	3/8	9.5	55	3.2	100	Box
12-0608*	3/8	9.5	1/2	12.7	45	4.5	100	Box
12-0810*	1/2	12.7	5/8	15.9	30	5.7	100	Box

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. Contact Eaton for further information.

** MTO - Made to Order - Contact Eaton at 877-662-8823 for availability, minimum run quantity, and ordering information.*

TYPE 16 Grey Drain Tubing



Tube: PVC

Color: Grey

Temperature Range: +25°F to +150°F

Type Of Branding: Ink Jet

Working Pressure: 25-45 psi

Features:

- Grey PVC industrial grade materials
- Other colors available

Advantages:

- Lightweight, non-marking
- Flexible
- 70 durometer

Markets:

- Soda fountain systems
- Ice machines

Applications:

- Drain lines
- Water transfer line
- Conduit
- Identification line

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Nominal O.D. (in.)	Nominal O.D. (mm)	Working Pressure @ 68°F	Approx. lbs. Weight Per 100 Ft.	Standard Length (Ft.)	Package
16-0812-03	1/2	12.7	3/4	19.1	45	14.07	100	Coil
16-1014-03	5/8	15.9	7/8	22.2	40	16.65	100	Coil
16-1216-03	3/4	19.1	1	25.4	35	19.57	100	Coil
16-1620-03	1	25.4	1-1/4	31.8	25	25.61	100	Coil

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. Contact Eaton for further information.

TYPE CD Drain-FLO Drain Tubing



Tube: PVC

Color: Grey

Temperature Range: +25°F to +150°F

Features:

- Rigid exoskeleton provides for virtual crush proof feature. Always stays open.
- Small bend radius for tight turns

Advantages:

- Extremely tough abrasion resistance
- Extremely flexible

Markets:

- Soda fountain systems
- Landscaping
- Ponds

Applications:

- Drain lines
- Water transfer line
- Conduit
- Identification line

Product Number	Nominal I.D. (in.)	(mm)	Nominal O.D. (in.)	(mm)	Bend Radius Standard (in.)	(mm)	Package (Ft.)
CD-1200-03	3/4	19.1	1.080	27.4	1	25.4	100 Boxed
CD-16*	1	25.4	1.300	33.0	1-1/2	38.1	100 Boxed

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. Contact Eaton for further information.

** MTO - Made to Order - Contact Eaton at 877-662-8823 for availability, minimum run quantity, and ordering information.*

TYPE 17 Co-Extruded Urethane Tubing



Tube: Urethane

Color: Clear

Temperature Range: +40°F to +150°F

Type Of Branding: Ink Jet

Working Pressure: 40-55 psi

Features:

- Urethane core liner with PVC cover
- Ether grade urethane

Advantages:

- Good chemical resistance
- Excellent abrasion resistance
- RoHS compliant

Markets:

- Landscaping
- Weed spray
- Air tools

Applications:

- Chemical transfer
- Powder transfer
- Petroleum transfer

Product Number	Nominal I.D. (in.) (mm)		Nominal O.D. (in.) (mm)		Working Pressure @ 68°F	Approx. lbs. Weight per 100 Ft.	Standard Length (Ft.)	Package
17-0406*	1/4	6.4	3/8	9.5	55	3.5	100	Coil/Box
17-0608*	3/8	9.5	1/2	12.7	50	4.7	100	Coil/Box
17-0810*	1/2	12.7	5/8	15.9	40	6.0	100	Coil/Box

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. Contact Eaton for further information.

** MTO - Made to Order - Contact Eaton at 877-662-8823 for availability, minimum run quantity, and ordering information.*

TYPE 18 Urethane Tubing



Tube: Urethane

Color: Clear

Temperature Range: -40°F to +165°F

Type Of Branding: Ink Jet

Working Pressure: 35-85 psi

Features:

- Ether grade urethane
- Ester available
- Fuel resistant

Advantages:

- Clear
- Flexible
- Excellent abrasion & tear resistance
- 87 shore a durometer
- RoHS compliant

Markets:

- Weed spray
- Air tools

Applications:

- Fuel lines
- Chemical transfer
- Powder transfer
- Petroleum transfer
- Air transfer
- Abrasive fluid transfer

Product Number	Nominal I.D.		Nominal O.D.		Working Pressure @ 68°F	Approx. lbs. Weight Per 100 Ft.	Standard Length (Ft.)	Package
(in.)	(mm)	(in.)	(mm)					
18-0204*	1/8	3.2	1/4	6.4	85	2.0	100	Coil/Box
18-0305*	3/16	4.8	5/16	7.9	65	2.6	100	Coil/Box
18-0406*	1/4	6.4	3/8	9.5	50	3.1	100	Coil/Box
18-0608*	3/8	9.5	1/2	12.7	40	4.3	100	Coil/Box
18-0810*	1/2	12.7	5/8	15.9	35	5.7	100	Coil/Box

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. Contact Eaton for further information.

** MTO - Made to Order - Contact Eaton at 877-662-8823 for availability, minimum run quantity, and ordering information.*

TYPE 40 KYNAR (PVDF) Tubing



Tube: KYNAR (PVDF)

Color: Blue

Temperature Range: -40°F to +260°F

Type Of Branding: Ink Jet

Working Pressure: 150-200 psi

Features:

- UV resistance
- Abrasion resistance
- Great barrier properties

Advantages:

- Lightweight
- Radiation resistance
- General chemical resistance
- Low permeation
- Ultra pure
- RoHS compliant

SUPER FLEXIBLE ALSO AVAILABLE

Markets:

- Marine
- Food and beverage
- Fuel/Small engine

Applications:

- Pulp & paper
- Nuclear
- Mining
- Pharmaceutical
- Water, beverage, alcohol transfer
- Fuel transfer
- Oil transfer

Product Number	Nominal I.D. (in.)	(mm)	Nominal O.D. (in.)	(mm)	Working Pressure @ 68°F	Approx. lbs. Weight Per 100 Ft.	Standard Length (Ft.)	Package
40-0304*	11/64	4.37	1/4	6.4	200	4.9	50	Box
40-0406*	1/4	6.4	3/8	9.5	200	5.0	50	Box
40-0608*	3/8	9.5	1/2	12.7	180	7.0	50	Box
40-0810*	1/2	12.7	5/8	15.9	150	9.0	50	Box

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. Contact Eaton for further information.

** MTO - Made to Order - Contact Eaton at 877-662-8823 for availability, minimum run quantity, and ordering information.*

TYPE 57 Nylon 12 Tubing



Tube: Nylon

Color: Natural

Temperature Range: +40°F to +180°F

Type Of Branding: Ink Jet

Working Pressure: 225-325 psi

Features:

- Natural nylon 12

Advantages:

- Excellent abrasion resistance
- Good chemical resistance
- RoHS compliant

Markets:

- Landscape
- Weed spray
- Industrial

Applications:

- Light chemical transfer
- Weed spray
- Paint transfer
- Environmental cleanup

Product Number	Nominal I.D. (in.)	(mm)	Nominal O.D. (in.)	(mm)	Working Pressure @ 68°F	Approx. lbs. Weight Per 100 Ft.	Standard Length (Ft.)	Package
57-06*	3/8	9.5	.525	13.3	325	3.35	500	Reel
57-08*	1/2	12.7	.650	16.5	225	6.50	500	Reel

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. Contact Eaton for further information.

** MTO - Made to Order - Contact Eaton at 877-662-8823 for availability, minimum run quantity, and ordering information.*

TYPE 50 LLDPE Polyethylene Tubing



Tube: Polyethylene

Color: Natural

Temperature Range: +25°F to +150°F

Type Of Branding: Ink Jet

Working Pressure: 40-140 psi

Features:

- Natural linear low density polyethylene tube
- Natural type 50
- Natural type 51 (NSF certified available)
- Colored type 52 (available)
- Black type 53 (available)

Advantages:

- Materials comply with FDA specifications
- RoHS compliant
- Good solvent Resistance
- Good stress crack resistance

Markets:

- Industrial
- Food and beverage (type 51 material)
- Pneumatics

Applications:

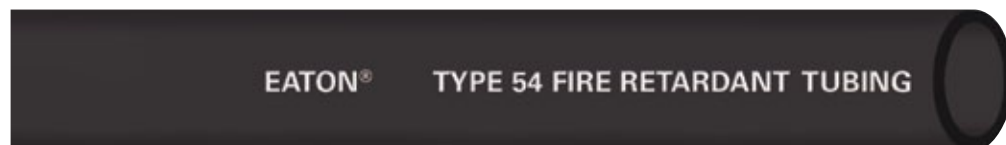
- Air & water transfer
- Light vacuum line
- Conduit
- Drain lines

Product Number	Nominal I.D. (in.)	(mm)	Nominal O.D. (in.)	(mm)	Working Pressure @ 68°F	Approx. lbs. Weight Per 100 Ft.	Standard Length (Ft.)	Package
50-0204-00	1/8	3.2	1/4	6.4	140	1.6	2000	Spool/Box
50-0205-00*	5/32	4.0	5/16	7.9	140	2.5	1500	Spool/Box
50-0304-00	11/64	4.7	1/4	6.4	140	1.1	2000	Spool/Box
50-0305-00	3/16	4.8	5/16	7.9	140	2.1	1500	Spool/Box
50-0406-00*	1/4	6.4	3/8	9.5	125	2.6	1000	Spool/Box
50-0406-50	1/4	6.4	3/8	9.5	125	2.6	500	Spool/Box
50-0608-00	3/8	9.5	1/2	12.7	100	3.6	500	Spool/Box
50-0810-00	1/2	12.7	5/8	15.9	75	4.7	500	Coil
50-1012-00*	5/8	15.9	3/4	19.1	60	5.8	500	Coil
50-1216-00*	3/4	19.1	1	25.4	50	14.5	100	Coil
50-1620-00*	1	25.4	1-1/4	31.8	40	19.2	100	Coil

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. Contact Eaton for further information.

** MTO - Made to Order - Contact Eaton at 877-662-8823 for availability, minimum run quantity, and ordering information.*

TYPE 54 Fire Retardant Tubing



Tube: Polyethylene

Color: Black

Temperature Range: -50°F to +150°F

Type Of Branding: Ink Jet

Working Pressure: 100-140 psi

Features:

- Linear low density fire retardant materials
- UL94 V2 flammability Rating

Advantages:

- Tight tolerances
- Tensile strength: 4685 P.S.I. (ASTM D-882)
- Elongation: 780% (ASTM D-882)
- 1% secant modulus 31380 psi (ASTM D-882)
- RoHS compliant

Markets:

- Pneumatic thermostats

Applications:

- Pneumatic control tubing
- Wire jacketing
- Fluid & instrumentation

Product Number	Nominal I.D. (in.)	(mm)	Nominal O.D. (in.)	(mm)	Working Pressure @ 68°F	Approx. lbs. Weight Per 100 Ft.	Standard Length	Package
54-0203*	3/32	2.4	5/32	4.0	140	.6	300 meters	Spool/Box
54-0304*	.168	4.3	1/4	6.4	140	1.1	150 meters	Spool/Box
54-0406*	1/4	6.4	3/8	9.5	125	2.6	150 meters	Spool/Box
54-0608*	3/8	9.5	1/2	12.7	100	3.6	150 meters	Spool/Box

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. Contact Eaton for further information.

** MTO - Made to Order - Contact Eaton at 877-662-8823 for availability, minimum run quantity, and ordering information.*

TYPE 59 High Density Polyethylene Tubing

EATON® TYPE 59 HIGH DENSITY POLYETHYLENE TUBING

Tube: Polyethylene

Color: Clear

Temperature Range: -50°F to +150°F

Type Of Branding: Ink Jet

Working Pressure: 100-140 psi

Features:

- Food grade high density polyethylene

Advantages:

- Complies with FDA specifications
- Good solvent resistance
- Excellent ESCR

Markets:

- Food and beverage
- Industrial
- Mining

Applications:

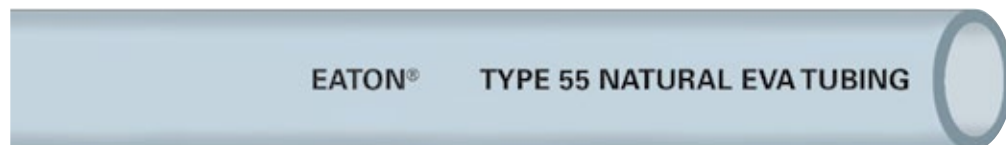
- Air transfer
- Light vacuum line
- Conduit
- Grout tubing

Product Number	Nominal I.D. (in.)	(mm)	Nominal O.D. (in.)	(mm)	Working Pressure @ 68°F	Approx. lbs. Weight Per 100 Ft.	Standard Length (Ft.)	Package
59-0304*	11/64	4.4	1/4	6.4	200	2.0	1,000	Reel
59-0406*	1/4	6.4	3/8	9.5	200	2.7	1,000	Reel
59-0608*	3/8	9.5	1/2	12.7	150	3.8	500	Coil
59-0810*	1/2	12.7	5/8	15.9	125	4.8	500	Coil
59-1216*	3/4	19.1	1	25.4	100	15.0	100	Coil
59-1418*	7/8	22.2	1-1/8	28.6	85	17.0	100	Coil

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. Contact Eaton for further information.

** MTO - Made to Order - Contact Eaton at 877-662-8823 for availability, minimum run quantity, and ordering information.*

TYPE 55 Natural EVA Tubing



Tube: EVA

Color: Clear

Temperature Range: -50°F to +125°F

Type Of Branding: Ink Jet

Working Pressure: 75-125 psi

Features:

- General purpose EVA materials
- Available in translucent
- Available in colors
- Available in prime FDA material

Advantages:

- Good chemical and weather resistance
- RoHS compliant

Markets:

- Agricultural Implements
 - Air drill
 - Boom spray

Applications:

- Agricultural, lawn and chemical transfer
- Air/Water transfer, conduit paint fluid, light vacuum
- Seeder tubing

Product Number	Nominal I.D. (in.)	(mm)	Nominal O.D. (in.)	(mm)	Working Pressure @ 68°F	Approx. lbs. Weight Per 100 Ft.	Standard Length (Ft.)	Package
55-0608*	3/8	9.5	1/2	12.7	75	3.7	300	Coil
55-0610*	3/8	9.5	5/8	15.9	125	8.3	300	Coil
55-0810*	1/2	12.7	5/8	15.9	75	4.9	300	Coil
55-0812*	1/2	12.7	3/4	19.1	125	10.7	300	Coil
55-1216*	3/4	19.1	1	25.4	125	13.4	300	Coil
55-1620*	1	25.4	1-1/4	31.8	75	19.6	200	Coil

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. Contact Eaton for further information.

** MTO - Made to Order - Contact Eaton at 877-662-8823 for availability, minimum run quantity, and ordering information.*

Air and Multipurpose Hose

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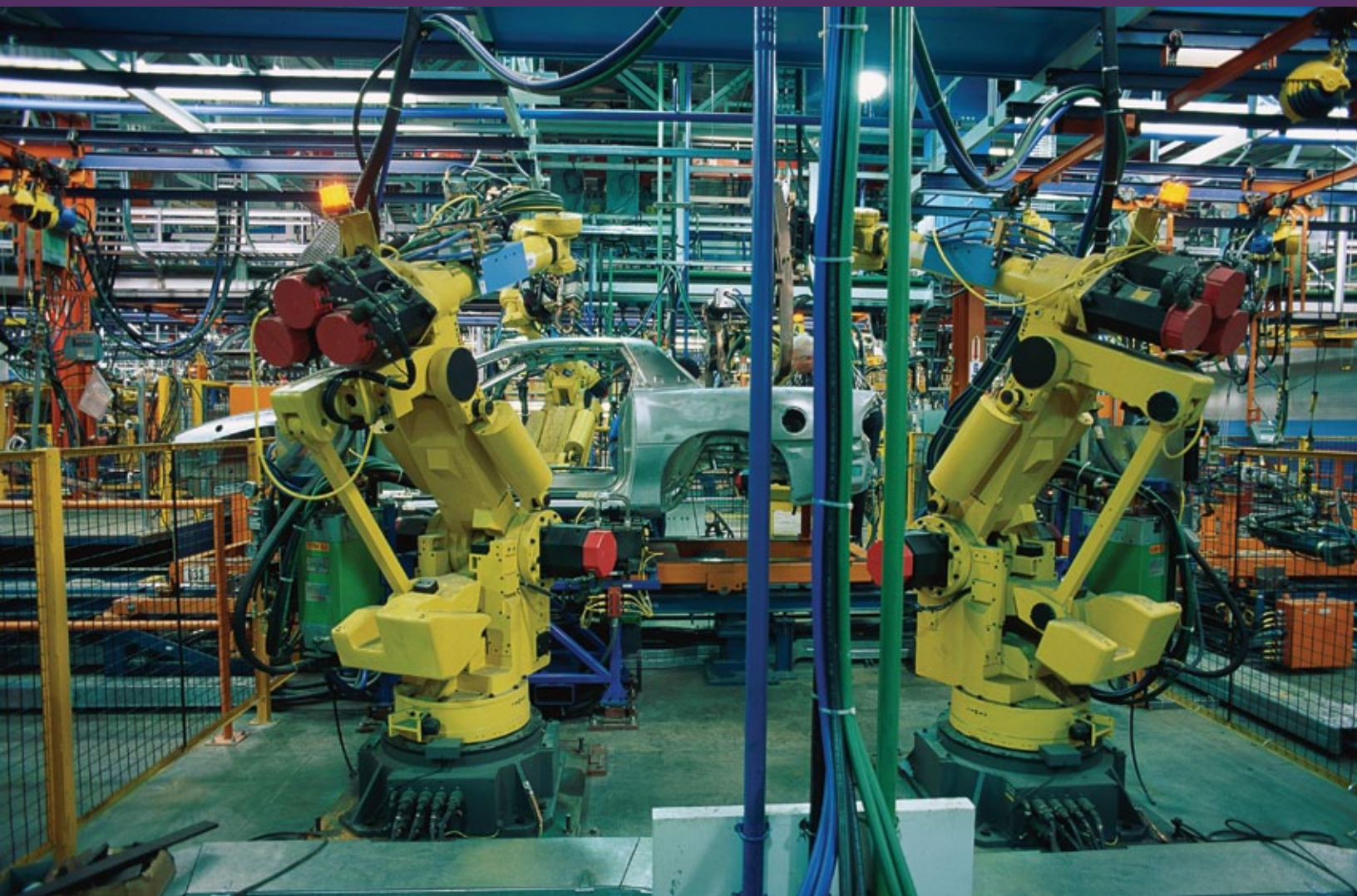
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Air and Multipurpose Hose

Intro

C

Important Air & Multi-Purpose Hose Safety Information!

 **WARNING:** Testing can be dangerous and should be done only by trained personnel using proper tools and procedures. Failure to follow such procedures might result in serious injury, death, or damage to property.

 **WARNING:** Failure to properly follow the manufacturer's recommended procedures for the care, maintenance, and storage of a particular hose may result in its failure to perform in the manner intended and may result in serious injury, death, or damage to property.

 **WARNING:** Consult with the Coupling Manufacturer to make sure you choose the correct coupling and proper assembly for the application. Such matching of hose and couplings, and assembling of couplings, should be performed only by trained personnel using proper tools and procedures. Failure to follow manufacturer's instructions or failure to use trained personnel may result in serious bodily injury and/or property damage.

 **WARNING:** Never use a hose to transfer material it is not specifically meant to transfer. Doing so could deteriorate the hose and result in leaking, hose bursting, or end blow-offs. This could lead to serious personal injury or death.

Always transfer material in a hose that is designed specifically to transfer that material. This information is listed in this catalog.

 **WARNING:** Consider both working pressure and pressure surges when determining "maximum" pressure. Failure to select a hose that meets both these requirements could lead to end blow-offs, hose leakage, and hose bursting. The result could be serious injury or death. The Eaton hose you choose must meet or exceed the required working pressure, and must have a safety factor to allow for surge pressure.

 **WARNING:** Be aware that if you replace a hose with one having a different I.D. than the original hose, material velocity could increase or decrease, possibly creating static electricity. This could lead to an explosion causing serious injury or death.

 **WARNING:** Selection of the proper hose for the application is essential to the proper operation and safe use of the hose and related equipment. Inadequate attention to selection of hose for the application can result in serious bodily injury or property damage. In order to avoid serious bodily injury or property damage resulting from selection of the wrong hose, you should carefully review the information in this catalog.

AIR & MULTI-PURPOSE HOSE BENEFITS

4:1 Safety Factor (Burst: Working Pressure)

- Safer operation.
- Longer hose life.
- Full range of sizes and styles.
- Eaton multi-purpose hoses are designed to match capability with the job you need to do. Eaton brand products offer a well-rounded choice of hose styles for services ranging from high pressure use in heavy construction to economical hose for light duty agricultural and industrial applications.

Every Hose is Easily Identified

- Every foot of hose is easily identified by means of permanent branding. This makes hose selection on the job quicker, easier and safer, and buying hose is easier too—because you can tell at a glance that you're getting exactly the hose you ordered.

Multi-Purpose Hose for Specialized Uses

- Eaton calls them "MULTI-PURPOSE" hoses, meaning they'll do a tremendous variety of jobs. In many cases one Eaton hose can replace several different "special purpose" styles. This helps keep expenses low.

Brand Name Identity (and the quality that goes behind it)

- With the Eaton brand name on the hose you buy, you are assured maximum value and consistent quality. With over 100 years worth of reputation at stake, we wouldn't have it any other way.

TYPE 24 Low Temperature PVC Air Hose



Tube: PVC-Low Temperature

Reinforcement: Fiber 2 Spiral

Cover: PVC

Color: Sky Blue

Temperature Range: -28°F to +150°F

Type Of Branding: Ink Jet

Working Pressure: 250-300 psi

Type Of Coupling: Barbed Inserts, Quick Acting, Short or Long Shank. Clamps—Bolt, Brass Collar, or Band.

Do not use internal expanded couplings.

Features:

- Good abrasion resistance
- Lightweight, non-marking & flexible
- Coupled units available
- RoHS compliant

Advantages:

- Special cold temp. materials
- Good resistance to oil, ozone & U.V.
- Good flexibility in cold temperatures

Markets:

- Construction
- Equipment rentals

Applications:

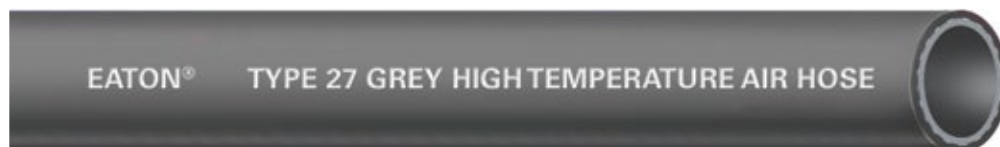
- Air & water transfer
- Pneumatic tools, service center air lines
- Good outdoor use hose

Product Number	Nominal I.D. (in.)	(mm)	Nominal O.D. (in.)	(mm)	Working Pressure @ 68°F	Approx. lbs. Weight Per 100 Ft.	Standard Length (Ft.)	Package
24-04*	1/4	6.4	1/2	12.7	300	9.4	500	Reel
24-06*	3/8	9.5	5/8	15.9	300	12.8	500	Reel
24-08*	1/2	12.7	3/4	19.1	300	14.7	500	Reel
24-12*	3/4	19.1	1.030	26.2	250	23.1	300	Coil

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. See chart on page A-12 showing the relationship between working pressure and temperature for reinforced PVC hose.

** MTQ - Made to Order - Contact Eaton at 877-662-8823 for availability, minimum run quantity, and ordering information.*

C TYPE 27 Grey High Temperature Air Hose



Tube: Urethane/PVC Blend

Reinforcement: Fiber 2 Spiral

Cover: PVC

Color: Grey

Temperature Range: +7°F to + 180°F

Type Of Branding: Ink Jet

Working Pressure: 250 psi

Type Of Coupling: Barbed Inserts, Quick Acting, Short or Long Shank. Clamps—Bolt, Brass Collar, or Band.

Do not use internal expanded couplings.

Features:

- Polyurethane/PVC blended black core and grey cover
- Polyester reinforcement
- Good resistance to oil, ozone & U.V.
- Higher temperature resistance

Advantages:

- Non-marking, flexible
- Good abrasion resistance
- RoHS compliant
- Lightweight

Markets:

- Construction
- Equipment rentals

Applications:

- Air & water transfer
- Pneumatic tools, light vacuum line, wire conduit
- Steam cleaning equipment

Product Number	Nominal I.D. (in.) (mm)		Nominal O.D. (in.) (mm)		Working Pressure @ 68°F	Approx. lbs. Weight Per 100 Ft.	Standard Length (Ft.)	Package
27-04*	1/4	6.4	.460	11.7	250	6.9	600	Reel
27-06*	3/8	9.5	5/8	15.9	250	11.8	600	Reel
27-08*	1/2	12.7	3/4	19.1	250	14.4	500	Reel

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. See chart on page A-12 showing the relationship between working pressure and temperature for reinforced PVC hose.

** MTO - Made to Order - Contact Eaton at 877-662-8823 for availability, minimum run quantity, and ordering information.*

Type 38 Medical Conductive Air Hose



Tube: PVC

Reinforcement: Fiber 2 Spiral

Cover: PVC

Colors: Green, White, Yellow

Temperature Range: +25°F to +150°F

Type Of Branding: Ink Jet

Working Pressure: 250 psi

Type Of Coupling: Barbed Inserts, Quick Acting, Short or Long Shank. Clamps—Bolt, Brass Collar, or Band.

Do not use internal expanded couplings.

Features:

- Black core
- Colored cover: green, white, yellow
- Conductive: volume resistivity (OHM-CM3) of 7-8
- RoHS compliant

Advantages:

- Easy identification
- Lightweight
- Custom packaging

Markets:

- Medical

Applications:

- Medical conductive hose
- Air hose
- Powdered material transfer

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Nominal O.D. (in.)	Nominal O.D. (mm)	Working Pressure @ 68°F	Approx. lbs. Weight Per 100 Ft.	Standard Length (Ft.)	Package
38-0400*	1/4	6.4	.490	12.4	250	7.6	500	Spool/Box
38-0500*	5/16	7.9	.570	14.5	250	9.0	500	Spool/Box
38-0600*	3/8	9.5	.625	15.9	250	11.8	300	Coil

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. See chart on page A-12 showing the relationship between working pressure and temperature for reinforced PVC hose.

** MTO - Made to Order - Contact Eaton at 877-662-8823 for availability, minimum run quantity, and ordering information.*

Air and Multipurpose Hose

Low Working Pressure

 Refer to warnings and safety information on pages A-1 thru A-2 and page C-2.

C

Polyforce II



Tube: PVC

Reinforcement: Fiber, 2 Spiral

Cover: PVC/Pinpricked

Color: Red (RD), Blue (BU), Yellow (YW)

Temperature Range: -10°F To +150°F

Type Of Branding: Ink Print

Working Pressure: 125-250 psi

Type Of Coupling: 'E' Series, 265 'P' Series, 'Z' Series, TTC, Barbed Inserts, Quick Acting or Long Shank. Clamps—Single Bolt, Brass Collar or Band.

Do not use internal expanded couplings.

Features:

- Lightweight
- Flexible
- PVC tube
- PVC cover
- 95% one piece reels and coils
- Continuous permanent brand
- Factory tested to exceed minimum electrical resistivity of one megohm per inch at 1000 volts D.C.

Advantages:

- Easy to handle
- Easy to route
- Moderate oil resistance
- Abrasion, age, ozone & moderate oil resistance
- Economical; less waste
- Easy identification

Markets:

- Assembly/Manufacturers
- Light chemical processing
- Construction
- Food processing
- Metal working
- Mining
- Oil industry
- Paper/Pulp processing
- Plywood/Chip board manufacturing
- Ship building

Applications:

- Transfer air and water
- Air tools
- Water supply
- Robotics
- Water washdown
- Lubricated air

Product Number	Nominal I.D. (in.)	(mm)	Reinf.	Nominal O.D. (in.)	(mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Standard Length (Ft)
H27503-600R*	3/16	4.8	2 Sp	27/64	10.7	6	250	600*(RD)
H27504*	1/4	6.4	2 Sp	1/2	12.7	7	250	50*(RD)
H27504-600R								600(RD,BU,YW)
H27505-600R*	5/16	7.9	2 Sp	33/64	13.1	8	250	600*(RD)
H27506	3/8	9.5	2 Sp	5/8	15.9	12	250	50(RD)
H27506-600R*								600(RD,BU*,YW)
H27508	1/2	12.7	2 Sp	3/4	19.1	15	250	50(RD)
H27508-500R								500(RD,BU,YW)
H27510-500R	5/8	15.9	2 Sp	57/64	22.6	21	250	500(RD)
H27512*	3/4	19.1	2 Sp	1-1/32	26.2	23	250	50(RD*)
H27512-500R								500(RD)
H27516*	1	25.4	2 Sp	1-5/16	33.3	34	200	50(RD)*
H27516-200R								200(RD)
H27520-100	1-1/4	31.8	2 Sp	1-11/16	42.9	52	200	100(RD)
H27524-100	1-1/2	38.1	2 Sp	1-15/16	49.2	61	200	100(RD)
H27532-100	2	50.9	2 Sp	2-1/2	63.5	91	125	100(RD)

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. See chart on page A-12 showing the relationship between working pressure and temperature for reinforced PVC hose.

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

Air and Multipurpose Hose

Low Working Pressure

 Refer to warnings and safety information on pages A-1 thru A-2 and page C-2.

**Assemblies
Available**

C

Ultraforce



Tube: Modified Vinyl

Reinforcement: Fiber, 2 Spiral

Cover: Rubber Modified, Non-Marking
Thermoplastic/Pinpricked

Color: Blue (BU) & Red (RD)
(Other colors made on a Made To Order basis)

Temperature Range: -20°F To +180°F

Type Of Branding: Ink Print

Working Pressure: 125-350 psi

Type Of Coupling: 'E' Series, 265 'P' Series, 'Z' Series,
TTC, Barbed Inserts, Quick Acting,
Short or Long Shank. Clamps—Bolt,
Brass Collar, or Band.

Do not use internal expanded couplings.

Features:

- Lightweight
- Flexible
- Modified vinyl tube
- Rubber modified thermoplastic cover
- 95% one piece reels and coils
- Continuous permanent brand
- Factory tested to exceed minimum electrical resistivity of one megaohm per inch at 1000 volts D.C.

Advantages:

- Easy to handle
- Easy to route
- Medium-high oil resistance
- Abrasion, age, ozone & moderate oil resistance
- Economical; less waste
- Easy identification
- Safety

Markets:

- Assembly/Manufacturers
- Light chemical processing
- Construction
- Food processing
- Metal working
- Mining
- Oil industry
- Paper/Pulp processing
- Plywood/Chip board manufacturing
- Ship building

Applications:

- Transfer air and water
- Air tools
- Water supply
- Robotics
- Water washdown

Product Number	Nominal I.D. (in.) (mm)		Reinf.	Nominal O.D. (in.) (mm)		Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Standard Reels (Ft)	Minimum Bend Radius (in.)
H26504-600R	1/4	6.4	2 Sp	1/2	12.7	9	350	600(BU,RD)	3/4
H26506	3/8	9.5	2 Sp	41/64	16.3	12	350	50(BU)	1-1/4
H26506-600R								600(BU,RD)	
H26508	1/2	12.7	2 Sp	25/32	19.8	17	300	50(BU)	2
H26508-500R								500(BU,RD)	
H26510-500R*	5/8	15.9	2 Sp	7/8	22.2	20	250	500(BU)	
H26512	3/4	19.1	2 Sp	1-1/16	26.9	26	250	50(BU)	2-1/2
H26512-500R*								500(BU,RD*)	
H26516	1	25.4	2 Sp	1-5/16	33.3	35	200	50(BU)	
H26516-200R*								200(BU,RD*)	
H26520-100*	1-1/4	31.8	2 Sp	1-11/16	42.9	61	150	100(BU,RD*)	
H26524-100*	1-1/2	38.1	2 Sp	1-15/16	49.2	73	150	100(BU*,RD*)	
H26532-100	2	50.8	2 Sp	2-1/2	63.5	105	125	100(BU,RD)	

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. See chart on page A-12 showing the relationship between working pressure and temperature for reinforced PVC hose.

** MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.*

Air and Multipurpose Hose

Low Working Pressure

 Refer to warnings and safety information on pages A-1 thru A-2 and page C-2.

C

Boston Marathoner



Tube: Blended Nitrile

Reinforcement: Fiber, 2 or 4 Spiral

Cover: Neoprene/Pinpricked

Color: Red (RD), Green (GN), Yellow (YW), Black (BK)

Temperature Range: -40°F To +180°F

Type Of Branding: Ink Print

Working Pressure: 200-300 psi

Type Of Coupling: 'U' Series, TTC, 'Z' Series, Barbed Inserts, Quick Acting or Long Shank. Clamps—Bolt, Band or Wire.

Features:

- Neoprene cover
- Blended nitrile tube
- Continuous permanent brand
- Longer lengths
- Each reel factory tested to exceed minimum electrical resistivity of one megaohm per inch at 1000 volts D.C.

Advantages:

- Abrasion, oil, and water resistant
- Medium oil resistant
- Easy identification
- Economical; less waste

Markets:

- Assembly/Manufacturers
- Lumber/Woodworking
- Plywood mfg.
- Paper/Pulp processing
- Metal working

Applications:

- Pneumatic tools on production line
- Transfer air and water

Product Number	Nominal I.D. (in.) (mm)		Reinf.	Nominal O.D. (in.) (mm)		Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Standard Reels (Ft)
H198104-600R	1/4	6.3	2 Sp	1/2	12.7	10	200	600(RD)
H198204-600R	1/4	6.3	4 Sp	5/8	15.9	13	300	600(RD)
H198105-600R	5/16	7.9	2 Sp	5/8	15.9	12	200	600(RD)
H198205-600R	5/16	7.9	4 Sp	11/16	17.3	13	300	600(RD)
H198106-600R	3/8	9.5	2 Sp	11/16	17.3	15	200	600(RD)
H198206-600R	3/8	9.5	4 Sp	3/4	18.3	18	300	600(RD, GN, BK)
H198108-600R	1/2	12.7	2 Sp	13/16	20.6	19	200	600(RD)
H198208-600R	1/2	12.7	4 Sp	7/8	25.4	23	300	600(RD, YW, GN, BK)
H198210-600R	5/8	15.9	4 Sp	1-1/32	26.2	25	300	600(RD)
H198112-250	3/4	19.1	4 Sp	1-3/16	30.2	37	225	5-50's(RD)
H198112-600R	3/4	19.1	4 Sp	1-3/16	30.2	37	225	600(RD)
H198212-250	3/4	19.1	4 Sp	1-3/16	30.2	37	300	5-50's(RD, BU)
H198212-600R	3/4	19.1	4 Sp	1-3/16	30.2	37	300	600(RD, YW, GN, BK)
H198216-400R	1	25.4	4 Sp	1-7/16	36.5	64	300	400(RD, GN)

Air and Multipurpose Hose

Low Working Pressure

 Refer to warnings and safety information on pages A-1 thru A-2 and page C-2.

C

Performer II



Tube: Nitrile

Reinforcement: Fiber, 1 or 2 Braid

Cover: Vinyl Nitrile

Color: Red

Temperature Range: -40°F To +180°F

Type Of Branding: Ink Print

Working Pressure: 225-300 psi

Type Of Coupling: 'U' Series, 430 'U', TTC, 'Z' Series, Barbed Inserts, Quick Acting, Long Shank, Series or Steel Nipple. Clamps—Interlocking, Bolt, Band or Wire.

Features:

- Vinyl nitrile cover
- Nitrile tube (RMA class B)
- Continuous permanent brand
- Multi-purpose hose
- High working pressure
- Braided reinforcement

Advantages:

- Abrasion, oil, and weather resistant
- High oil resistance
- Easy identification
- For many applications
- Better coupling retention for impulse applications

Markets:

- Assembly/Manufacturers
- Construction industry
- Forest industry
- Metal working
- Mining
- Ship building
- Plastic molding

Applications:

- Pneumatic tools on production line
- Provide power to air operated equipment
- Convey air and water

Product Number	Nominal I.D. (in.) (mm)		Reinf.	Nominal O.D. (in.) (mm)		Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Standard Reels (Ft)
H11604-550R	1/4	6.3	1 Br	1/2	12.7	10	225	550
H11504	1/4	6.3	2 Br	19/32	15.1	15	300	50
H11504-550R								550
H11605-550R	5/16	7.9	1 Br	5/8	15.9	14	225	550
H11505	5/16	7.9	2 Br	21/32	15.9	14	300	50
H11505-550R								550
H11606-550R	3/8	9.5	1 Br	21/32	16.7	15	225	550
H11506	3/8	9.5	2 Br	3/32	18.3	19	300	50
H11506-550R								550
H11608-550R	1/2	12.7	1 Br	13/16	20.6	21	225	550
H11508	1/2	12.7	2 Br	7/8	22.2	27	300	50
H11508-550R								550
H11512	3/4	19.1	2 Br	1-5/32	29.4	41	300	50
H11512-550R								550
H11516	1	25.4	2 Br	1-7/16	36.5	46	250	50
H11516-300R								300
H11520	1-1/4	31.8	2 Br	1-3/4	44.5	65	225	50
H11520-300R								300
H11524	1-1/2	38.1	2 Br	2	50.8	82	225	50
H11524-300R								300

Air and Multipurpose Hose

Low Working Pressure

 Refer to warnings and safety information on pages A-1 thru A-2 and page C-2.

C

Easy Couple



Tube: Vinyl Nitrile (RMA Class A)

Reinforcement: Fiber, 1 Braid

Cover: Neoprene MSHA approved (BK), Vinyl Nitrile (BU,GY,RD,YW,GN)

Color: Black (BK), Gray (GY), Blue (BU), Red (RD), Green (GN) & Yellow (YW)

Temperature Range: -40°F To +200°F

Type Of Branding: Ink Print

Working Pressure: 300 psi

Type Of Coupling: 100 'B' Series, Aeroquip Socketless, Barbed Inserts, Quick Acting, Long Shank, or Push on Couplings (clamps not required). Clamps—Interlocking, Bolt, or Band.

Features:

- Neoprene cover
Vinyl nitrile cover
- Nitrile tube
(RMA class A)
- Continuous permanent brand
- Six colors
- Lightweight & flexible
- Easily coupled
- Braid reinforcement

Advantages:

- Abrasion, oil, and weather resistant
- Good oil resistance
- Easy identification
- Color code air systems
- Easy to handle
- Use push-on couplings; no need for clamps
- Better coupling retention for impulse applications

Markets:

- Assembly/Manufacturers
- Mining
- Construction industry
- Plastic molding

Applications:

- Pneumatic tools on production line; convey air, water, oils, etc.; transfer lubricated air to valves and cylinders; low pressure hydraulics
- Black hose cover only has been accepted by MSHA (2G-13C) for underground use in lube oil lines, pneumatic, and low pressure hydraulics

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Reinf.	Nominal O.D. (in.)	Nominal O.D. (mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Min. Bend Radius (in.)	Standard Length (Ft)
H20104	1/4	6.3	1 Br	1/2	12.7	8	300	3	50 (GY,BU,RD,GN,YW,BK)
H20104-250R									250 (GY,BU,RD,GN,YW,BK)
H20104-500R									500 (GY,BU,RD,GN,YW,BK)
H20106	3/8	9.5	1 Br	21/32	16.7	13	300	3	50 (GY,BU,RD,GN,YW,BK)
H20106-250R									250 (GY,BU,RD,GN,YW,BK)
H20106-500R									500 (GY,BU,RD,GN,YW,BK)
H20108	1/2	12.7	1 Br	3/4	19.1	15	300	5	50 (GY,BU,RD,GN,YW,BK)
H20108-250R									250 (GY,BU,RD,GN,YW,BK)
H20108-500R									500 (GY,BU,RD,GN,YW,BK)
H20110-250R	5/8	15.9	1 Br	15/16	23.8	20	300	6	250 (GY,BU,RD,GN,YW,BK)
H20112-250R	3/4	19.1	1 Br	1-1/16	27.0	26	300	7	250 (GY,BU,RD,GN,YW,BK)

Air and Multipurpose Hose

Low Working Pressure

 Refer to warnings and safety information on pages A-1 thru A-2 and page C-2.

C

Shock-Safe



Tube: Nitrile (non-conductive)

Reinforcement: Fiber, 2 Braid

Cover: Vinyl Nitrile (non-conductive)

Color: Red

Temperature Range: -40°F To +180°F

Type Of Branding: Ink Print

Working Pressure: 275 psi

Type Of Coupling: 'U' Series, TTC, 'Z' Series, Barbed Inserts, Quick Acting, Long Shank, or Steel Nipple. Clamps—Brass Collar, Interlocking, Single Bolt, Band or Wire.

Features:

- Vinyl nitrile cover
- Nitrile tube
- Continuous permanent brand
- Non-conductive
- Each reel factory tested to exceed minimum electrical resistivity of one megaohm per inch at 1000 volts D.C.

Advantages:

- Abrasion, oil, and weather resistant
- Medium oil resistance
- Easy identification
- Suitable for use around electrical equipment
- Safety

Markets:

- Metal working
- Utility company
- Aluminum industry

Applications:

- Use as general purpose air/water hose where hoses must be non-conductive

Product Number	Nominal I.D. (in.) (mm)		Reinf.	Nominal O.D. (in.) (mm)		Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Standard Reels (Ft)
H994904-500R	1/4	6.3	2 Br	19/32	15.1	15	275	500
H994906-500R	3/8	9.5	2 Br	23/32	18.3	19	275	500
H994908-500R	1/2	12.7	2 Br	7/8	22.2	27	275	500
H994912-500R	3/4	19.1	2 Br	1-5/32	29.4	41	275	500
H994916-300R	1	25.4	2 Br	1-7/16	36.5	64	275	300

Air and Multipurpose Hose

Low Working Pressure

 Refer to warnings and safety information on pages A-1 thru A-2 and page C-2.

C

Perfection 300



Tube: Nitrile (RMA Class A)

Reinforcement: Fiber, 1 or 2 Braid

Cover: Vinyl Nitrile

Color: Red

Temperature Range: -40°F To +180°F

Type Of Branding: Ink Print

Working Pressure: 325 psi

Type Of Coupling: 'U' Series or 430 'U' Series, TTC, 'Z' Series, Long Shank, Standard Serrated Nipple or Steel Nipple. Clamps —Interlocking or Bands.

Features:

- Vinyl nitrile cover
- Nitrile tube (RMA class A)
- Continuous permanent brand
- Multi-purpose hose
- High working pressure
- Braided reinforcement

Advantages:

- Abrasion, oil, and weather resistant
- Good oil resistance
- Easy identification
- Wide variety of applications
- Rugged; long life
- Better coupling retention for impulse applications

Markets:

- Assembly/Manufacturers
- Construction industry
- Forest industry
- Metal working
- Mining
- Ship building

Applications:

- Pneumatic tools on production line; convey air and water
- Provide power to air operated equipment
- Convey air and water

Product Number	Nominal I.D. (in.) (mm)		Reinf.	Nominal O.D. (in.) (mm)		Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Standard Length (Ft)
H177704-500R	1/4	6.3	1 Br	1/2	12.7	11	325	500
H177604-500R	1/4	6.3	2 Br	19/32	15.1	15	325	500
H177705-500R	5/16	7.9	1 Br	5/8	15.9	17	325	500
H177706-500R	3/8	9.5	1 Br	21/32	16.7	17	325	500
H177606-500R	3/8	9.5	2 Br	23/32	18.3	20	325	500
H177708-500R	1/2	12.7	1 Br	13/16	20.6	24	325	500
H177608-500R	1/2	12.7	2 Br	7/8	22.2	31	325	500
H177610-500R	5/8	15.9	2 Br	1	25.4	36	325	500
H177612-500R	3/4	19.1	2 Br	1-5/32	29.4	44	325	500
H177616-300R	1	25.4	2 Br	1-7/16	36.5	46	325	300
H177620-300R	1-1/4	31.8	2 Br	1-3/4	44.5	65	325	300
H177624-300R	1-1/2	38.1	2 Br	2	50.8	82	325	300

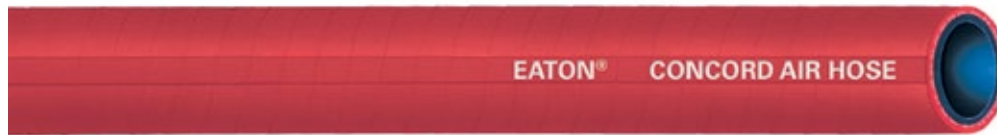
Air and Multipurpose Hose

Medium Working Pressure

 Refer to warnings and safety information on pages A-1 thru A-2 and page C-2.

C

Concord Air



Tube: Nitrile

Reinforcement: Fiber, 2 Braid or 2 Ply

Cover: Neoprene 1/2", 3/4" & 1" Pinpricked
Vinyl Nitrile 1-1/4", 1-1/2", 2" & 3" Pinpricked

Color: Red

Temperature Range: -40°F To +212°F

Type Of Branding: Embossed

Working Pressure: 200-400 psi

Type Of Coupling: 'U' Series or 430 'U' Series, TTC, 'Z' Series, Interlocking, Non-Reattachable (Swaged), Quick Acting, Long Shank, Steel Nipple. Clamps — Interlocking or Bands.

Features:

- Neoprene cover
- Nitrile tube
- Continuous permanent brand
- Two textile braids or ply

Advantages:

- Abrasion, oil, and weather resistant
- Good oil resistance
- Easy identification
- Easy to handle
- Kink resistant

Markets:

- Construction industry
- Forest industry
- Metal working
- Mining

Applications:

- Provide power to air-operated construction equipment
- Transfer air and water
- Power air-operated drills, boring, and mining equipment

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Reinf.	Nominal O.D. (in.)	Nominal O.D. (mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Standard Length (Ft)
H600208	1/2	12.7	2 Br	29/32	23.0	31	400	50
H600208-100								100
H600208-150								150
H600212	3/4	19.1	2 Br	1-3/16	30.2	46	400	50
H600212-100								100
H600212-150								150
H600216	1	25.4	2 Br	1-1/2	38.1	67	400	50
H600216-100								100
H600216-150								150
H600220	1-1/4	31.8	2 Ply	1-13/16	46.0	86	400	50
H600220-100								100
H600220-150								150
H600224	1-1/2	38.1	2 Ply	2-1/16	52.4	99	400	50
H600224-100								100
H600224-150								150
H600232	2	50.8	2 Ply	2-5/8	66.7	127	300	50
H600232-100								100
H600232-150								150
H600248*	3	76.2	2 Ply	3-9/16	90.49	192	200	50
H600248-100*								100
H600248-150*								150

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

Air and Multipurpose Hose

Medium Working Pressure

 Refer to warnings and safety information on pages A-1 thru A-2 and page C-2.

C

Mineforce



Tube: Modified Vinyl

Reinforcement: Fiber, 4 Spiral

Cover: PVC/Nitrile Blend Wrapped Impression Finish

Color: Yellow

Temperature Range: -20°F To +150°F

Type Of Branding: Ink Print

Working Pressure: 400 psi

Type Of Coupling: 'U' Series, 'Z' Series, TTC with 3/4", Interlocking, Non-Reattachable Quick Acting, Long Shank, or Steel Nipple. Clamps —Interlocking, (Swaged).

Do not use internal expanded couplings.

Features:

- Lightweight
- Flexible
- Bright yellow cover
- Modified vinyl tube
- Rubber modified thermoplastic cover
- Packaged in 50 & 100 foot lengths
- Factory tested to exceed minimum electrical resistivity of one megohm per inch at 1000 volts D.C.

Advantages:

- Easy to handle
- Easy to route
- Very visible; safety
- Moderate oil resistance
- Abrasion, age, ozone & moderate oil resistance
- Exact lengths; no waste

Markets:

- Mining
- Construction
- Ship building
- Paper/Pulp processing
- Food processing

Applications:

- High pressure air tools
- Transfer air and water
- Water supply
- Water washdown

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Reinf.	Nominal O.D. (in.)	Nominal O.D. (mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Standard Length (Ft)
H157108-100*	1/2	12.7	4 Sp	5/16	7.9	30	400	100
H157112	3/4	19.1	4 Sp	1-3/16	30.2	40	400	50
H157112-100								100
H157116*	1	25.4	4 Sp	1-15/32	37.3	55	400	50
H157116-100								100

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. See chart on page A-12 showing the relationship between working pressure and temperature for reinforced PVC hose.

** MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.*

Air and Multipurpose Hose

High Working Pressure

 Refer to warnings and safety information on pages A-1 thru A-2 and page C-2.

C

Concord Yellow Jack



Tube: Nitrile (RMA Class A)

Reinforcement: Wire, 1, 2, or 3 Braid

Cover: Neoprene/Pinpricked MSHA Approved

Color: Yellow

Temperature Range: -40°F To +212°F

Type Of Branding: Embossed

Working Pressure: 400-1500 psi

Type Of Coupling: 430 'U' Series, TTC, 'Z' Series, TTC12 (3/4" ID only), Swaged/Crimped, Interlocking, or Steel Nipple. Clamps —Interlocking.

Branding: Eaton Concord Yellow Jack Air

Features:

- Neoprene cover
- Nitrile tube (RMA class A)
- Continuous permanent brand
- Wide range of sizes

Advantages:

- Abrasion, oil, and weather resistant
- Good oil resistance
- Easy identification
- Many applications

Markets:

- Construction industry
- Oil field equipment
- Drilling equipment
- Mining

Applications:

- Provide power to air-operated construction equipment. (Bull lines, jackhammer, etc.)
- Power air-operated drills, boring, and mining equipment

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Reinf.	Nominal O.D. (in.)	Nominal O.D. (mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Standard Length (Ft)
H600808	1/2	12.7	1 Br	31/32	24.6	40	1,500	50
H600812	3/4	19.1	1 Br	1-1/4	31.8	62	1,200	50
H600812-100								100
H600812-150								150
H600816	1	25.4	1 Br	1-1/2	38.1	80	1,000	50
H600816-100								100
H600816-150								150
H600820	1-1/4	31.8	1 Br					100
H600820-150								150
H600824	1-1/2	38.1	2 Br	2-1/8	53.9	143	600	50
H600824-100								100
H600824-150								150
H600832	2	50.8	2 Br	2-21/32	67.4	216	600	50
H600832-100								100
H600832-150								150
H600840	2-1/2	63.5	2 Br	3-5/32	80.1	240	400	50
H600840-100								100
H600840-150								150
H600848	3	76.2	2 Br	3-23/32	94.4	310	400	50
H600848-100								100
H600848-150								150
H600864*	4	101.6	3 Br	5	127.0	579	400	50
H600864-100*								100
H600864-150*								150

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

Air and Multipurpose Hose

High Working Pressure

 Refer to warnings and safety information on pages A-1 thru A-2 and page C-2.

C

Contractors Air



Tube: Nitrile (RMA Class A)

Reinforcement: Wire, 1 or 2 Braid

Cover: Neoprene/Pinpricked

Color: Yellow

Temperature Range: -40°F To +212°F

Type Of Branding: Ink Print

Working Pressure: 500-1000 psi

Type Of Coupling: 430 'U' Series, TTC, 'Z' Series, TTC12 with 1/2", Non-Reattachable (Swaged), Interlocking, or Steel Nipple. Clamps —Interlocking.

Features:

- Neoprene cover
- Nitrile tube (RMA class A)
- Continuous permanent brand
- Wide range of sizes

Advantages:

- Abrasion, oil, and weather resistant
- Good oil resistance
- Easy identification
- Many applications

Markets:

- Construction industry
- Oil Field equipment
- Drilling equipment
- Mining

Applications:

- Provide power to air-operated construction equipment. (Bull lines, jackhammer, etc.)
- Power air-operated drills, boring, and mining equipment

Product Number	Nominal I.D. (in.)	(mm)	Reinf.	Nominal O.D. (in.)	(mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Standard Length (Ft)
H962208	1/2	12.7	1 Br	15/16	23.8	34	1,000	50
H962208-100								100
H962208-150								150
H962212	3/4	19.1	1 Br	1-3/16	30.2	44	1,000	50
H962212-100								100
H962212-150								150
H962216	1	25.4	1 Br	1-1/2	38.1	61	850	50
H962216-100								100
H962216-150								150
H962220	1-1/4	31.8	1 Br	1-23/32	43.7	81	500	50
H962220-100								100
H962220-150								150
H962224	1-1/2	38.1	2 Br	2-1/8	53.9	150	500	50
H962224-100								100
H962224-150								150
H962232	2	50.8	2 Br	2-21/32	67.4	204	500	50
H962232-100								100
H962232-150								150

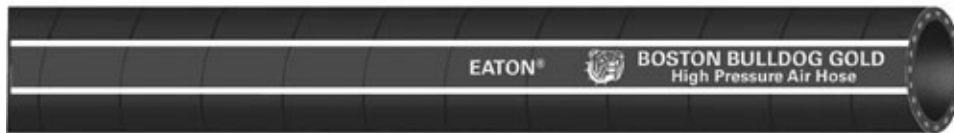
Air and Multipurpose Hose

High Working Pressure

 Refer to warnings and safety information on pages A-1 thru A-2 and page C-2.

C

Boston Bulldog Gold



Tube: Nitrile (RMA Class A)

Reinforcement: Wire, 1, 2, or 3 Braid

Cover: Carboxylated Nitrile/Pinpricked

Color: Black

Temperature Range: -40°F To +250°F

Type Of Branding: Printed Strip

Working Pressure: 500-1200 psi

Type Of Coupling: TTC, 'Z' Series, 430 'U' Series, Non-Reattachable (Swaged), Interlocking, or Steel Nipple. Clamps —Interlocking.

Features:

- Carboxylated nitrile cover
- Nitrile tube (RMA class A)
- Continuous permanent brand

Advantages:

- Excellent abrasion, oil, and weather resistant
- Excellent lube oil resistance and high temperature resistance
- Easy identification

Markets:

- Construction industry
- Oil field equipment
- Drilling equipment
- Mining
- All markets

Applications:

- Provide power to air-operated construction equipment. (Bull lines, jackhammer, etc.)
- Power air-operated drills, boring, and mining equipment
- Use when you need a reinforced hose for extremely abusive applications

Product Number	Nominal I.D. (in.) (mm)		Reinf.	Nominal O.D. (in.) (mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Standard Length (Ft)
H600916*	1	25.4	1 Br	1-1/2	38.1	80	50
H600916-100							100
H600916-150							150
H600920*	1-1/4	31.8	1 Br	1-13/16	46.0	120	50
H600920-100						800	100
H600920-150							150
H600924	1-1/2	38.1	2 Br	2-1/8	53.9	134	50
H600924-100						600	100
H600924-150							150
H600932	2	50.8	2 Br	2-21/32	67.4	197	50
H600932-100						600	100
H600932-150							150
H600940	2-1/2	63.5	2 Br	3-5/32	80.1	250	50
H600940-100						600	100
H600940-150							150
H600948	3	76.2	2 Br	3-23/32	94.4	315	50
H600948-100						600	100
H600948-150							150
H600964	4	101.6	3 Br	5	127.0	532	50
H600964-100						500	100
H600964-150							150

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

Air and Multipurpose Hose

Notes

C

General Purpose Hose

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General Purpose Hose

General Air & Water

 Refer to warnings and safety information on pages A-1 thru A-2.

Bosflex A/W



D

Tube: EPDM

Reinforcement: Fiber, 2 or 4 Spiral, or 2 Braid

Cover: EPDM/Pinpricked

Color: Red (RD), Black (BK)

Temperature Range: -40°F To +180°F

Type Of Branding: Ink Print

Working Pressure: 200-300 psi

Type Of Coupling: 'U' Series, Barbed Inserts, Quick Acting, Short or Long Shank. Clamps—Interlocking, Bolt, Band or Wire.

Features:

- EPDM cover
- EPDM tube
- Continuous permanent brand
- Longer lengths

Advantages:

- Abrasion, age, and water resistant
- Heat resistant
- Easy identification
- Economical; less waste

Markets:

- Agriculture
- Assembly/Manufacturers
- Construction
- Food industry
- Metal working
- Mining
- Oil industry
- Paper/Pulp
- Ship building

Applications:

- Spraying and conveying water based liquid fertilizers and pesticides
- Transfer air and water

Product Number	Nominal I.D. (in.)	(mm)	Reinf.	Nominal O.D. (in.)	(mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Standard Reels (Ft)
H010604-600R	1/4	6.3	2 Sp	1/2	12.7	10	200	600(BK,RD)
H010504	1/4	6.3	4 Sp	5/8	15.9	14	300	50(RD)
H010504-600R								600 (RD)
H010605-600R*	5/16	7.9	2 Sp	19/32	15.1	13	200	600(BK)
H010606	3/8	9.5	2 Sp	11/16	17.5	15	200	50(RD)
H010606-600R								600(BK,RD)
H010506	3/8	9.5	4 Sp	3/4	19.1	18	300	50(RD)
H010506-600R								600 (RD)
H010608	1/2	12.7	2 Sp	13/16	20.6	19	200	50(RD)
H010608-600R								600(BK,RD)
H010508	1/2	12.7	4 Sp	7/8	22.2	23	300	50(RD)
H010508-600R								600(RD)
H010610-600R	5/8	15.9	2 Sp	31/32	24.6	28	200	600(BK)
H010510-600R	5/8	15.9	4 Sp	1-1/32	26.2	30	300	600(RD)
H010612-250	3/4	19.1	4 Sp	1-3/16	30.2	40	300	5-50'S(RD)
H010612-600R								600 (RD)
H010512	3/4	19.1	4 Sp	1-3/16	30.2	37	225	50(BK,RD)
H010512-250								5-50's(BK,RD)
H010512-600R								600(BK,RD)
H010516	1	25.4	4 Sp	1-7/16	36.5	60	200	50(BK,RD)
H010516-400R								400(RD)
H010516-600R								400(BK)
H010520-300R	1-1/4	31.8	2 Br	1-3/4	44.5	65	200	300(BK)
H010524-300R	1-1/2	38.1	2 Br	2	50.8	82	200	300(BK)

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

Industrial A/W



D

Tube: EPDM

Reinforcement: Fiber, 2 Braid

Cover: EPDM

Color: Red

Temperature Range: -40°F To +180°F

Type Of Branding: Ink Print

Working Pressure: 250-275 psi

Type Of Coupling: 'U' Series, 430 'U', TTC, 'Z' Series, Barbed Inserts, Quick Acting, Long Shank, Series or Steel Nipple. Clamps— Interlocking, Bolt, Band or Wire.

Features:

- EPDM cover
- EPDM tube
- Braided reinforcement
- Continuous permanent brand
- Wide range of sizes

Advantages:

- Age, heat, and ozone resistant
- Heat resistant (limited oil resistance)
- Excellent coupling retention for impulse applications
- Easy identification
- For many applications

Markets:

- Agriculture
- Assembly/Manufacturers
- Construction
- Food industry
- Metal working
- Mining
- Oil industry
- Paper/Pulp industry
- Ship building

Applications:

- Spraying and conveying water based liquid fertilizers and pesticides
- Transfer air and water; pneumatic tools

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Reinf.	Nominal O.D. (in.)	Nominal O.D. (mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Standard Reels (Ft)
H181204-500R*	1/4	6.3	2 Br	19/32	15.1	16	275	500
H181206-500R	3/8	9.5	2 Br	23/32	18.3	19	275	500
H181208-500R	1/2	12.7	2 Br	7/8	22.2	27	250	500
H181210-500R	5/8	15.9	2 Br	1	25.4	36	250	500
H181212-500R	3/4	19.1	2 Br	1-5/32	29.4	41	250	500
H181216-300R	1	25.4	2 Br	1-7/16	36.5	46	250	300
H181220-300R	1-1/4	31.8	2 Br	1-3/4	44.5	65	250	300
H181224-300R	1-1/2	38.1	2 Br	2	50.8	82	250	300

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

Contrac-Force



Tube: Polyvinyl Chloride (PVC)

Reinforcement: Fiber, 2 Spiral

Cover: Polyvinyl Chloride (PVC)

Color: Black

Temperature Range: -15°F To +150°F

Type Of Branding: Ink Print

Working Pressure: 150 psi
3:1 Safety Factor

Type Of Coupling: Machined brass hex head GHT.

Features:

- Lightweight & flexible
- PVC tube and cover
- Continuous permanent brand
- Factory tested to exceed minimum electrical resistivity of one megohm per inch at 1000 volts D.C.

Advantages:

- Easy to handle and route
- Abrasion, age and ozone resistant
- Easy Identification

Markets:

- Construction

Applications:

- Water transfer and washdown

Product Number	Nominal I.D. (in.) (mm)		Reinf.	Nominal O.D. (in.) (mm)		Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Standard Length (Ft)
H171910-50C*	5/8	15.9	2 Sp	53/64	21.0	18	150	5-50's
H171912-50C	3/4	19.1	2 Sp	1-3/64	26.6	24	150	5-50's

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. See chart on page A-12 showing the relationship between working pressure and temperature for reinforced PVC hose.

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

Contractors Water



Tube: EPDM

Reinforcement: Fiber, 2 Spiral

Cover: EPDM/Pinpricked

Color: Black

Temperature Range: -30°F To +160°F

Type Of Branding: Ink Print

Working Pressure: 150 psi
3:1 Safety Factor

Type Of Coupling: Machined brass hex head GHT. Short Shank or Barbed Inserts. Clamps—Brass Collar, Single Bolt or Band.

Features:

- EPDM cover
- EPDM tube
- Continuous permanent brand

Advantages:

- Abrasion, age, heat, and weather resistant
- Heat resistant
- Easy identification

Markets:

- Construction

Applications:

- Water transfer and washdown

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Reinf.	Nominal O.D. (in.)	Nominal O.D. (mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Standard Length (Ft)
H198710	5/8	15.9	2 Sp	15/16	24.6	23	150	50
H198710-600R							150	600
H198712	3/4	19.1	2 Sp	1-3/32	28.6	30	150	50
H198712-600R							150	600
H198710-25C*	5/8	15.9	2 Sp	15/16	24.6	23	150	10-25's
H198710-50C*	5/8	15.9	2 Sp	15/16	24.6	23	150	5-50's
H198712-50C*	3/4	19.1	2 Sp	1-3/32	28.6	30	150	5-50's

*C-coupled

TYPE 65 Natural EVA Hose



Tube: EVA (Ethyl Vinyl Acetate)

Reinforcement: Fiber 2 Spiral

Cover: EVA

Color: Natural or colored

Temperature Range: -50°F to +125°F

Type Of Branding: Ink Jet

Working Pressure: 150-250 psi

Type Of Coupling: Barbed Inserts, Quick Acting, Short or Long Shank. Clamps—Bolt, Brass Collar, or Band.

Do not use internal expanded couplings.

Features:

- General purpose EVA materials
- Good chemical and weather resistance

Advantages:

- Available in translucent
- Available in colors
- Available in prime FDA material
- RoHS compliant

Markets:

- Agricultural

Applications:

- Agricultural, lawn and chemical transfer
- Air/Water transfer, conduit, paint fluid, light vacuum
- Seeder tubing

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Nominal O.D. (in.)	Nominal O.D. (mm)	Working Pressure @ 68°F	Approx. lbs. Weight Per 100 Ft.	Standard Length (Ft.)	Package
65-04*	1/4	6.4	.385	9.8	250	3.0	600	Reel
65-06*	3/8	9.5	.593	15.1	250	10.1	500	Reel
65-08*	1/2	12.7	.720	18.3	250	12.3	500	Reel
65-12*	3/4	19.1	1.000	25.4	150	16.1	300	Coil
65-16*	1	25.4	1.312	33.3	150	24.7	200	Coil

* MTO - Made to Order - Contact Eaton at 877-662-8823 for availability, minimum run quantity, and ordering information.

TYPE 67 Urethane Hose



Tube: Urethane

Reinforcement: Fiber 2 Spiral

Cover: Urethane

Color: Clear

Temperature Range: +40°F to +165°F

Type Of Branding: Ink Jet

Working Pressure: 250 psi

Type Of Coupling: Barbed Inserts, Quick Acting, Short or Long Shank. Clamps—Bolt, Brass Collar, or Band.

Do not use internal expanded couplings.

Features:

- Clear urethane core and cover
- Polyester reinforcement
- Good resistance to chemicals & petroleum based liquids

Advantages:

- Excellent cut & abrasion resistance
- Lightweight
- Flexible
- Colors available

Markets:

- Construction

Applications:

- Light chemical transfer
- Petroleum transfer
- Air tools

Product Number	Nominal I.D. (in.)	(mm)	Nominal O.D. (in.)	(mm)	Working Pressure @ 68°F	Approx. lbs. Weight Per 100 Ft.	Standard Length (Ft.)	Package
67-04*	1/4	6.4	.400	10.2	250	4.3	300	Box
67-06*	3/8	9.5	.540	13.7	250	6.2	300	Box
67-08*	1/2	12.7	.690	17.5	250	9.25	300	Box

* MTO - Made to Order - Contact Eaton at 877-662-8823 for availability, minimum run quantity, and ordering information.

D

TYPE 88 Polyurethane Self-Store



Tube: Polyurethane

Color: Blue or Clear

Temperature Range: -68°F to +140°F

Type Of Branding: Ink Jet

Working Pressure: 140 psi

Type Of Coupling: Pre-assembled 1 swivel and
1 stationary reusable couplings

Features:

- Non-marking and Non-kinking
- Assemblies offer one swivel fitting on the 20" pigtail and a stationary fitting on the 4" pigtail
- Fittings are reusable
- RoHS compliant

Advantages:

- Extremely lightweight and flexible
- High abrasion and cut resistance

Markets:

- In-plant general purpose
- Pneumatics
- Hand tools

Applications:

- Assembly line air tools
- Automotive shop (not brake fluid transfer)
- Car wash dispensing
- Transfer of air, water or chemical

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Nominal O.D. (in.)	Nominal O.D. (mm)	Working Pressure @ 68°F	Approx. lbs. Weight Per 100 Ft.	Standard Length (Ft.)	Color	Standard Package
88-0410-00	1/4	6.4	3/8	9.5	140	8	10	Clear	15
88-0410-06	1/4	6.4	3/8	9.5	140	8	10	Blue	15
88-0415-00*	1/4	6.4	3/8	9.5	140	12	15	Clear	15
88-0415-06	1/4	6.4	3/8	9.5	140	12	15	Blue	15
88-0420-00*	1/4	6.4	3/8	9.5	140	16	20	Clear	15
88-0420-06*	1/4	6.4	3/8	9.5	140	16	20	Blue	15
88-0425-00	1/4	6.4	3/8	9.5	140	20	25	Clear	10
88-0425-06	1/4	6.4	3/8	9.5	140	20	25	Blue	10
88-0450-00*	1/4	6.4	3/8	9.5	140	40	50	Clear	5
88-0450-06*	1/4	6.4	3/8	9.5	140	40	50	Blue	5
88-0610-00*	3/8	9.5	9/16	14.3	140	8	10	Clear	15
88-0610-06*	3/8	9.5	9/16	14.3	140	8	10	Blue	15
88-0615-00*	3/8	9.5	9/16	14.3	140	12	15	Clear	15
88-0615-06*	3/8	9.5	9/16	14.3	140	12	15	Blue	15
88-0620-00*	3/8	9.5	9/16	14.3	140	16	20	Clear	15
88-0620-06	3/8	9.5	9/16	14.3	140	16	20	Blue	15
88-0625-00	3/8	9.5	9/16	14.3	140	20	25	Clear	10
88-0625-06	3/8	9.5	9/16	14.3	140	20	25	Blue	10
88-0650-00*	3/8	9.5	9/16	14.3	140	40	50	Clear	5
88-0650-06*	3/8	9.5	9/16	14.3	140	40	50	Blue	5

* MTO - Made to Order - Contact Eaton at 877-662-8823 for availability, minimum run quantity, and ordering information.

TYPE 21 Marine Water Hose



Tube: PVC

Reinforcement: Fiber 2 Spiral

Cover: PVC

Color: Clear with Blue Tint

Temperature Range: +25°F to +150°F

Type Of Branding: Ink Jet

Working Pressure: 115-150 psi

Type Of Coupling: Barbed Inserts, Quick Acting, Short or Long Shank. Clamps—Bolt, Brass Collar, or Band.

Do not use internal expanded couplings.

Features:

- NSF Certified under Standard NSF-51
- Clear PVC tube with clear PVC cover (blue tint)
- Polyester reinforcement with colored tracer (red/blue)
- Materials comply with FDA specifications

Advantages:

- Lightweight, non-marking, flexible
- Light wall construction
- RoHS compliant
- Economical

Markets:

- Marine
- Recreational vehicles

Applications:

- Air & water transfer
- Marine & cold water Transfer
- Water fill lines

Product Number	Nominal I.D. (in.)	(mm)	Nominal O.D. (in.)	(mm)	Working Pressure @ 68°F	Approx. lbs. Weight Per 100 Ft.	Standard Length (Ft.)	Package
21-0800*	1/2	12.7	.725	18.4	150	11.8	250	Coil
21-1000*	5/8	15.9	.855	21.7	125	14.3	250	Coil
21-1200*	3/4	19.1	.980	24.9	115	16.7	250	Coil

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. See chart on page A-12 showing the relationship between working pressure and temperature for reinforced PVC hose.

** MTO - Made to Order - Contact Eaton at 877-662-8823 for availability, minimum run quantity, and ordering information.*

TYPE 21 Heavy Duty Clearbraid



Tube: PVC

Reinforcement: Fiber 2 Spiral

Cover: PVC

Color: Clear with Blue Tint

Temperature Range: +25°F to +150°F

Type Of Branding: Ink Jet

Working Pressure: 175-275 psi

Type Of Coupling: Barbed Inserts, Quick Acting, Short or Long Shank. Clamps—Bolt, Brass Collar, or Band.

Do not use internal expanded couplings.

Features:

- NSF certified under standard NSF-51
- Materials comply with FDA specifications
- Clear PVC tube with clear PVC cover (blue tint)
- Polyester reinforcement

Advantages:

- Lightweight, Non-marking, flexible
- RoHS compliant
- High abrasion resistance

Markets:

- Marine
- Recreational vehicles
- General purpose air and water

Applications:

- Air & water transfer
- Light vacuum lines
- Wire conduit

Product Number	Nominal I.D. (in.)	(mm)	Nominal O.D. (in.)	(mm)	Working Pressure @ 68°F	Approx. lbs. Weight Per 100 Ft.	Standard Length (Ft.)	Package
21-0408*	1/4	6.4	1/2	12.7	275	8.1	300	Coil
21-0509*	5/16	7.9	9/16	14.3	275	9.4	300	Coil
21-0610*	3/8	9.5	5/8	15.9	250	10.8	300	Coil
21-0813*	1/2	12.7	13/16	20.6	250	17.7	300	Coil
21-1218*	3/4	19.1	1-1/8	28.6	175	29.6	300	Coil

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. See chart on page A-12 showing the relationship between working pressure and temperature for reinforced PVC hose.

** MTO - Made to Order - Contact Eaton at 877-662-8823 for availability, minimum run quantity, and ordering information.*

Green Garden Hose



D

Tube: Synthetic Rubber

Reinforcement: Fiber, 2 Spiral

Cover: Synthetic Rubber

Color: Green

Temperature Range: -30°F To +160°F

Working Pressure: 100 psi
3:1 safety factor

Type Of Coupling: Machined brass hex head with garden hose thread (GHT).

Features:

- Lightweight & flexible
- Synthetic rubber tube and cover

Advantages:

- Easy to handle
- Cut and gouge resistant

Markets:

- All

Applications:

- Low pressure water transfer

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Reinf.	Nominal O.D. (in.)	Nominal O.D. (mm)	Lbs. Weight Per 100 Ft.	Max. Working Press. (psi)	Standard Length (Ft)
H867910-600R	5/8	15.9	2 Sp	29/32	23.0	19	100	600
H867910-50C	5/8	15.9	2 Sp	29/32	23.0	19	100	5-50's

TYPE 25 Standard Duty Garden Hose



Tube: PVC

Reinforcement: Fiber 2 Spiral

Cover: PVC

Color: Green

Temperature Range: -25°F to +150°F

Type Of Branding: Ink Jet

Working Pressure: 100-125 psi

Type Of Coupling: Barb Insert, GHT Clamp, Brass Collar

Features:

- Black PVC core, Green PVC cover
- Polyester reinforcement
- Lightweight, non-marking, and flexible

Advantages:

- Lightweight
- Non-marking
- Coupled units available
- RoHS compliant
- Abrasion resistance

Markets:

- Retail hardware
- Green house
- Lawn care & Landscaping
- Construction

Applications:

- Garden & lawn watering
- Light duty water supply line
- Construction water service

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Nominal O.D. (in.)	Nominal O.D. (mm)	Working Pressure @ 68°F	Approx. lbs. Weight Per 100 Ft.	Standard Length (Ft.)	Package
25-08*	1/2	12.7	.700	17.8	125	10.5	500	Reel
25-12*	3/4	19.1	1.025	26.0	100	17.7	300	Coil

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. See chart on page A-12 showing the relationship between working pressure and temperature for reinforced PVC hose.

* MTO - Made to Order - Contact Eaton at 877-662-8823 for availability, minimum run quantity, and ordering information.

TYPE 26 Heavy Duty Golf Course Hose



Tube: PVC

Reinforcement: Fiber 2 Spiral

Cover: PVC

Color: Forest Green Tint

Temperature Range: -25°F to +150°F

Type Of Branding: Ink Jet

Working Pressure: 125 psi

Type Of Coupling: Barb Insert, GHT Clamp, Brass Collar

Features:

- Black PVC core, translucent green cover
- Polyester reinforcement
- Good abrasion resistance
- Lightweight, non-marking, and flexible

Advantages:

- Heavy duty abrasion resistance
- Economical
- Coupled units available
- RoHS compliant

Markets:

- Landscape
- Municipal parks
- Golf course
- Schools

Applications:

- Parks & municipal service
- Golf course watering
- Construction water lines
- Commercial irrigation

Product Number	Nominal I.D. (in.)	(mm)	Nominal O.D. (in.)	(mm)	Working Pressure @ 68°F	Approx. lbs. Weight Per 100 Ft.	Standard Length (Ft.)	Package
26-12*	3/4	19.1	1.025	26.0	125	21.2	300	Coil
26-16*	1	25.4	1.312	33.3	125	30.4	200	Coil

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. See chart on page A-12 showing the relationship between working pressure and temperature for reinforced PVC hose.

* MTO - Made to Order - Contact Eaton at 877-662-8823 for availability, minimum run quantity, and ordering information.

General Purpose Hose

Notes

D

Chemical Service Hose

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Important Chemical Service Hose Safety Information!

WARNING: A failure of chemical hose in service can result in serious injury, death, or damage to property. All chemical hose manufacturers recommend specific hose constructions to handle various chemicals. IF AFTER CAREFUL REVIEW OF THE CHEMICAL RESISTANCE CHART FOUND IN THIS CATALOG, YOU HAVE ANY QUESTIONS ABOUT PROPER SELECTION OF THE HOSE, DO NOT USE OR RECOMMEND THE HOSE WITHOUT FIRST CONSULTING EATON FOR TECHNICAL ASSISTANCE. IF YOU DO NOT HAVE A MOST RECENT COPY, CONTACT CUSTOMER SUPPORT AT 1-888-258-0222.

The chemical resistance chart lists the more commonly used materials, chemicals, solvents, oils, etc. The recommendations are based on room temperature and pressure conditions normally recommended for the particular type of hose being used. Where conditions beyond this can be met readily, they have been so indicated; where conditions are not normal and cannot be readily met, Eaton should always be consulted. The chart does not imply conformance to the Food & Drug Administration requirements or Federal or State Laws when handling food products.

The list of chemicals is offered as a guide to the chemical resistance properties of the tube material of the hoses shown. It should be used as a guide only, as the degree of resistance of any elastomer with a particular fluid depends upon such variables as temperature, concentration, pressure conditions, velocity of flow, duration of exposure, aeration, stability of the fluid, etc. Therefore, when in doubt, it is advisable not to use the hose and you should contact your Eaton representative for assistance.

Do not use chemical hose at temperatures or pressures above those recommended by the manufacturer. All operators must be thoroughly trained in the care and use of this hose and must at all times wear protective clothing. A hose or system failure could cause the release of a poisonous, corrosive or flammable material.

WARNING: If cover blisters exist, be careful not to pop them. If the hose was damaged in such a way that material was allowed to leak between the cover and inner tube, the blisters may contain this material. If the material is hazardous and splatters when the blisters are popped, it could cause serious physical injury.

WARNING: Failure to properly follow the manufacturer's recommended procedures for the care, maintenance, and storage of a particular hose may result in its failure to perform in the manner intended and may result in serious injury, death, or damage to property.

WARNING: Testing can be dangerous and should be done only by trained personnel using proper tools and procedures. Failure to follow such procedures might result in serious injury, death, or damage to property.

Chemical Hose Benefits

4:1 Safety Factor (Burst: Working Pressure)

- Safer operation
- Longer hose life

Remove the Guesswork from Selecting, Buying and Using Critical Application Hose

- When you're handling easily contaminated or hazardous material it is critical to select the proper hose. The high visibility branding and color coding removes the guess work for hose selection.

Environmental Resistance

- The tube and cover materials of Eaton Industrial hose products are designed to assure maximum hose life at a superior value to the

customer. Specialty service Eaton hoses are sophisticated transfer products for demanding jobs. Exceptional aging, weathering and heat resistant properties keep the hose flexible and easy to use.

Built to Make Work Faster, Easier and Safer

- Moving and connecting hose several times a day isn't easy work. Each of the "Big Cats" is designed to be easy to handle as safety and job performance will allow.

Honest Value

- There is only one way to make hose cost less—build it cheaper. You won't find compromises in the "Big Cats." That's why we put the Eaton brand name on them.

Common Hose Cover Colors for Fluid Transfer:

Yellow	Hazardous (Chemical/Acid)
Black/Orange	Petroleum Transfer
Green	Multi-Chemical
Purple	Multi-Chemical (Europe/Asia)
Brown	Hot Air
White/Grey	FDA Approved

Chemical Service Hose Maintenance, Testing and Inspection

Foreword

The object of the following procedures is to detect any weakness in a hose assembly before the weakness causes failure of a hose in service. While these testing and inspection procedures may be applied to any hose, the periodic testing and inspection procedures outlined herein are mandatory for all hoses.

Rules for proper selection, handling, use and storage of hose are to be carefully followed. It is imperative that hose, while in storage or in service, not be subjected to any form of abuse such as kinking, exposure to an environment involving extremes of temperature, corrosive or oxidizing fumes or liquids, oils and solvents, ozone, etc. The procedures outlined in the RMA Hose Handbook, Chapter IX, Care, Maintenance and Storage of Hose should be followed carefully.

Scope

This procedure is intended as a guide for the inspection, maintenance, and testing of chemical hose. It covers hose containing carcass reinforcements of woven fiber fabric; fiber cords; fiber or wire braids; flat, oval or round wire helix; spiral wire or cable; or any combinations of these reinforcements. Chemical hose is available with various types of ends or, where specified, suitable metal fittings.

Handling

Crushing or kinking of the hose can cause severe damage to the reinforcement. Care should be exercised to prevent mishandling.

Do not drag the hose or lift large bore hose from the middle of its length with the ends hanging down. Limit the curvature of the hose to the bend radius recommended by the manufacturer and avoid sharp bends at the end fittings and at manifold connections.

Operation

Important: Personnel involved in an operation using chemical hose must use safety precautions such as wearing eye or face protection, rubber gloves, boots, and other types of protective clothing.

Pressures and temperatures are to be monitored to see that the hose is not exposed to conditions above specified limits. Exceeding specified limits could injure the hose and result in damage to property and serious bodily harm.

Never allow chemicals to drip on the exterior of a hose or allow hose to lay in a pool of chemicals since the hose cover may not have the chemical resistance of the tube. Should a corrosive material come in contact with the reinforcing material, early failure could result.

If kinking or crushing occurs, examine the hose carefully, and, if the outside diameter is reduced 5% to 20%, the hose must be immediately subjected to the Hydrostatic Pressure

Test and Examination. If the reduction in diameter is more than 20%, retire the hose from service.

Care must be taken when different chemicals are conveyed in the same hose; the chemicals may react and shorten the service life of the hose. When it is impractical to disconnect the hose line after use, drain any remaining chemical from the hose.

Storage

Before placing chemical hose in storage, the hose must be completely drained and any potentially explosive vapors or corrosive residues flushed out.

 **WARNING:** EXTREME CARE MUST BE TAKEN WHEN FLUSHING OUT A CHEMICAL HOSE WITH WATER; SOME CHEMICALS, SUCH AS CONCENTRATED ACIDS, MAY REACT WITH WATER AND CAUSE SPATTERING WHICH COULD RESULT IN SERIOUS INJURY TO EYES OR OTHER AREAS OF THE BODY.

When flushing a hose, disposal of the effluent must be made in such a manner that environmental problems are not created.

Chemical hose should be stored so that air can circulate through it. This procedure helps extend the life of the hose. Hose should be stored in a cool, dark, dry place at a temperature less than 100°F (38°C).

Frequency of Inspection and Pressure Testing

When chemical hose is used in bulk transfer ser-

vice, it shall be visually inspected daily and hydrostatically tested every 90 days. The details of the examination and testing are listed in this catalog. An inspection card and recording system should be adopted for chemical hose used in dock applications.

 **WARNING:** Consult with the coupling manufacturer to make sure you choose the correct coupling and proper assembly for the application. Such matching of hose and couplings, and assembling of couplings, should be performed only by trained personnel using proper tools and procedures. Failure to follow manufacturer's instructions or failure to use trained personnel may result in serious bodily injury and/or property damage.

 **WARNING:** Never use a hose to transfer material it is not specifically meant to transfer. Doing so could deteriorate the hose and result in leaking, hose bursting, or end blow-offs. This could lead to serious personal injury or death. Always transfer material in a hose that is designed specifically to transfer that material. This information is listed in this catalog.

 **WARNING:** Kinks can cause hose to burst, leading to bodily harm.

This information taken from the Rubber Manufacturers Association, Hose Technical Information Sub Committee, IP-11-7 Chemical Hose, Copyright 1979, Revised 1987. (202) 682-1338

Tiger Acid Suction



Tube: EPDM

Reinforcement: Fiber, 2 Ply or 4 Ply and Helical Wire

Cover: EPDM

Color: Yellow

Temperature Range: -45°F to +180°F

Type Of Branding: Printed Strip

Suction: Full Vacuum

Working Pressure: 150 psi (Depending on coupling)

Type Of Coupling: Cam and Groove or Swaged/Crimped. Clamps—Interlocking or Band.

Features:

- EPDM cover
- EPDM tube
- Continuous printed brand
- Yellow cover
- Flexible

Advantages:

- Chemical and ozone resistant; longer hose life.
- Acid and chemical resistant
- Easy identification
- Color coded for flexible pipe systems
- Easy to handle

Markets:

- Chemical industry
- Mining industry
- Foundries
- Lumber/Woodworking
- Plywood mfg.
- Pulp/Paper processing
- Food processing
- Tank truck
- Railroad tank car
- Metal working

Applications:

- Transfer of acids and chemicals through pumping, suction, and discharge.
- Transfer of chemicals and acids for processing products.
- Loading and unloading, pumping, suction, or gravity flow discharge
- Etching; cleaning.

Product Number	Nominal I.D. (in.)	I.D. (mm)	Reinf.	Nominal O.D. (in.)	O.D. (mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Minimum Bend Radius (in.)	Standard (mm)	Length (Ft)
H034524-100*	1-1/2	38.1	2 Ply	2-1/8	60.3	155	150	4	101.6	100
H034532-100	2	50.8	2 Ply	2-5/8	73.0	192	150	5	127.0	100
H034548-150	3	76.2	2 Ply	3-5/8	100.0	286	150	9	228.6	150
H034564-150	4	101.6	2 Ply	4-43/64	125.4	369	150	11	279.4	150
H034596-150	6	152.4	4 Ply	7-7/32	183.4	782	150	30	762.0	150

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

Cheetah Acid Suction



Tube: Hypalon®*

Reinforcement: Fiber, 2 Ply and Helical Wire

Cover: Neoprene

Color: Yellow

Temperature Range: -40°F to +200°F

Type Of Branding: Printed Strip

Suction: Full Vacuum

Working Pressure: 150 psi (Depending on coupling)

Type Of Coupling: Cam and Groove or Swaged/Crimped. Clamps—Interlocking or Band.

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Features:

- Neoprene cover
- Hypalon tube
- Continuous printed brand
- Yellow cover
- Flexible
- Transfer of acids and chemicals

Advantages:

- Age, chemical and ozone resistant; longer hose life.
- Acid and chemical resistant
- Easy identification
- Meets OSHA color requirements for flexible pipe systems
- Easy to handle
- Flexibility of applications

Markets:

- Chemical industry
- Lumber/Woodworking
- Plywood mfg.
- Pulp processing
- Tank truck
- Railroad tank car
- Metal working

Applications:

- Transfer of acids and chemicals through pumping, suction, and discharge.
- Transfer of chemicals for processing products.
- Loading and unloading, pumping, or gravity flow discharge
- Etching; cleaning.

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Reinf.	Nominal O.D. (in.)	Nominal O.D. (mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Minimum Bend Radius (in.)	Minimum Bend Radius (mm)	Standard Length (Ft)
H042332-150	2	50.8	2 Ply	2-7/8	73.0	192	150	9	228.6	150
H042348-150*	3	76.2	2 Ply	3-15/16	100.0	286	150	20	508.0	150
H042364-150*	4	101.6	2 Ply	4-15/16	125.4	369	150	30	762.0	150

* Hypalon® is a registered trademark of DuPont Dow Elastomers.

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

Leopard Acid Discharge



Tube: EPDM

Reinforcement: Fiber, 2 Ply

Cover: EPDM

Color: Yellow

Temperature Range: -45°F to +180°F

Type Of Branding: Printed Strip

Working Pressure: 100-150 psi (Depending on coupling)

Type Of Coupling: Cam and Groove or Swaged/
Crimped. Clamps—Interlocking
or Band

Features:

- EPDM cover
- EPDM tube
- Continuous printed brand
- Yellow cover
- Flexible

Advantages:

- Chemical and ozone resistant; longer hose life.
- Acid and chemical resistant
- Easy identification
- Color coded for flexible pipe systems
- Easy to handle
- Meets OSHA color requirements for flexible pipe systems

Markets:

- Chemical industry
- Mining industry
- Foundries
- Lumber/Woodworking
- Plywood mfg.
- Pulp/Paper processing
- Food processing
- Tank truck
- Railroad tank car
- Metal Working

Applications:

- Transfer of acids and chemicals through pumping and discharge
- Transfer of chemicals and acids for processing products
- Loading and unloading, pumping, or gravity flow discharge
- Etching; cleaning

Product Number	Nominal I.D. (in.)	I.D. (mm)	Reinf.	Nominal O.D. (in.)	O.D. (mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Minimum Bend Radius (in.)	Radius (mm)	Standard Length (Ft)
H034624-100*	1-1/2	38.1	2 Ply	2-17/64	57.4	120	150	6	152.4	100
H034632-100	2	50.8	2 Ply	2-3/4	69.9	150	150	9	228.6	100
H034648-100*	3	76.2	2 Ply	3-3/4	98.0	210	100	20	508.0	100
H034664 *	4	101.6	2 Ply	4-55/64	123.4	260	100	30	762.0	50

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

Alleycat



Tube: Synthetic Rubber Specially Compounded for High Temperature Applications

Reinforcement: Wire Braid, 2 Stainless Steel Static Wires (1-1/2" and 2"). 2 Steel Helical Wires (3").

Cover: EPDM

Color: Yellow

Temperature Range: -40°F to +300°F

Type Of Branding: Printed Strip

Suction: Full Vacuum

Working Pressure: 500 psi
(Depending on coupling and clamp)

Type Of Coupling: Interlocking, Cam and Groove or Swaged/Crimped. Clamps—Interlocking, Swaged/Crimp Ferrule or Band.

Features:

- Wire braid
- Dual stainless steel static
- EPDM cover
- Specially compounded tube

Advantages:

- Permanent crush-resistant
- 500 psi in all sizes
- Abrasion, age- and ozone-resistant cover
- Handles up to 300°F
- May be cleaned with steam, open end discharge only
- Safe transfer of hot cleaning solution

Markets:

- Pulp and paper industry
- Industrial cleaning

Applications:

- In-plant transfer of liquors and cleaning solutions
- Tank spinner
- Hot caustics

Product Number	Nominal I.D. (in.)	(mm)	Reinf.	Nominal O.D. (in.)	(mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Minimum Bend Radius (In.)	Standard Length (Ft)
H969924	1-1/2	38.1	2 Br	2-3/16	55.6	150	500	8	50
H969924-150*									150
H969932	2	50.8	2 Br	2-11/16	68.3	177	500	16	50
H969932-150*									150

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

Green Cross-Linked



Tube: Clear Cross-Linked Polyethylene (XLPE)
Reinforcement: Fiber, 2 Braid or 2 Ply and Helical Wire
Cover: EPDM
Color: Green
Temperature Range: -45°F to +150°F
Type Of Branding: Embossed

Suction: Full Vacuum

Working Pressure: 150-200 psi (Depending on coupling)

Type Of Coupling: 'U' Series with 1" & 1-1/4",
Cam and Groove or Swaged/Crimped.
Clamps—Interlocking or Band.

Features:

- EPDM cover
- Clear cross-linked polyethylene tube
- Continuous embossed brand
- Green cover
- Smooth bore
- Serialized lengths

Advantages:

- Chemical and ozone resistant; longer hose life.
- Chemical, petroleum, and solvent resistant; won't contaminate, or discolor fluids
- Easy identification
- Rapid fluid flow
- Easy to clean
- Safety and maintenance records

Markets:

- Chemical/Petroleum industry
- Lumber/Woodworking
- Plywood mfg.
- Pulp/Paper processing
- Tank truck
- Railroad tank car
- Waste hauling

Applications:

- Transfer of acids, chemicals, solvents, and petroleum products.
- Transfer of chemicals and solvents for processing products.
- Loading and unloading, pumping, suction, or gravity flow discharge

Product Number	Nominal I.D. (in.)	(mm)	Reinf.	Nominal O.D. (in.)	(mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Minimum Bend Radius (in.)	(mm)	Standard Length (Ft)
H037816-150	1	25.4	2 Br	1-17/32	38.9	72	200	5	127.0	150
H037820-150*	1-1/4	31.8	2 Ply	1-7/8	47.6	86	200	8	203.2	150
H037824-150	1-1/2	38.1	2 Ply	2-1/8	54.0	89	200	8	203.2	150
H037832-150	2	50.8	2 Ply	2-5/8	66.7	113	200	9	228.6	150
H037848-150	3	76.2	2 Ply	3-5/8	92.1	164	150	16	406.4	150
H037864-150*	4	101.6	2 Ply	4-11/16	119.1	239	150	21	533.4	150

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

Green Cross-Link Corrugated



Tube: Clear Cross-Linked Polyethylene (XLPE)

Reinforcement: Fiber, Ply and Helical Wire

Cover: EPDM

Color: Green

Temperature Range: -45°F to +150°

Type Of Branding: Embossed

Suction: Full Vacuum

Working Pressure: 150-200 psi (Depending on coupling)

Type Of Coupling: Cam and Groove or Swaged/Crimped. Clamps—Interlocking or Band.

Features:

- EPDM cover
- Clear cross-linked polyethylene tube
- Continuous embossed brand
- Green cover
- Smooth bore
- Serialized lengths

Advantages:

- Chemical and ozone resistant; longer hose life.
- Chemical, petroleum, and solvent resistant; won't contaminate, or discolor fluids
- Easy identification
- Rapid fluid flow
- Easy to clean
- Safety and maintenance records

Markets:

- Chemical/Petroleum industry
- Lumber/Woodworking
- Plywood mfg.
- Pulp/Paper processing
- Tank truck
- Railroad tank car
- Waste hauling

Applications:

- Transfer of acids, chemicals, solvents, and petroleum products.
- Transfer of chemicals and solvents for processing products.
- Loading and unloading, pumping, suction, or gravity flow discharge

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Reinf.	Nominal O.D. (in.)	Nominal O.D. (mm)	Approx. lbs. Weight Per 100 Ft	Maximum Working Press. (psi)	Minimum Bend Radius (in.)	Minimum Bend Radius (mm)	Standard Length (Ft)
H061532-150*	2	50.8	2 Ply	2-5/8	66.7	113	200	7	152.4	150
H061548-150*	3	76.2	2 Ply	3-5/8	92.1	164	150	12	304.8	150

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

Chemcat Petrochemical



Tube: Ultra High Molecular Weight Polyethylene (U.H.M.W.) FDA Approved Materials

Reinforcement: Fiber, 2 Ply or 4 Ply and Helical Wire

Cover: EPDM

Color: Purple (PR), Green (GN), Blue (BU)

Temperature Range: -45°F to +250°F† **WARNING****

Type Of Branding: Printed Strip

Suction: Full Vacuum

Working Pressure: 150-200 psi (Depending on coupling)

Type Of Coupling: 'U' Series with 3/4", Cam and Groove or Swaged/Crimped. Clamps—Interlocking or Band.

Features:

- EPDM cover
- Clear U.H.M.W. polyethylene tube (FDA approved materials)
- Easy to maintain
- Continuous brand
- Ultra smooth tube
- Available in colors

Advantages:

- Abrasion, chemical and ozone resistant; longer hose life.
- Chemical, petroleum, and solvent resistant; won't contaminate, or discolor fluids
- May be cleaned with steam, open end discharge only
- Easy identification

Markets:

- Chemical/Petroleum industry
- In-plant transfer
- Mixing operations
- Forest products
- Plywood mfg.
- Pulp processing
- Bulk hauling
- Tank trucks
- Railroad tank car

Applications:

- Transfer of acids, chemicals, solvents, and petroleum products.
- Transfer of chemicals and solvents for processing wood products.
- Loading and unloading, pumping, suction, or gravity flow discharge
- Food transfer

Product Number	Nominal I.D. (in.)	(mm)	Reinf.	Nominal O.D. (in.)	(mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Minimum Bend Radius (in.)	(mm)	Standard Length (Ft)
H052312-150	3/4	19.1	2 Ply	1-13/64	30.6	31	200	4	101.6	150(PR & GN)
H052316-150	1	25.4	2 Ply	1-17/32	38.9	55	200	5-1/2	139.7	150(PR & GN)
H052320-150	1-1/4	31.8	2 Ply	1-7/8	47.6	67	200	6	152.4	150(PR & GN)
H052324-150	1-1/2	38.1	2 Ply	2-1/8	54.0	89	200	7-1/2	190.5	150(PR & GN)
H052332-150*	2	50.8	2 Ply	2-5/8	67.0	116	200	8	203.2	150(PR,GN*,&BU*)
H052340-150	2-1/2	63.5	2 Ply	3-1/8	79.4	142	200	8	203.2	150(PR & GN)
H052348-150*	3	76.2	2 Ply	3-5/8	92.2	168	200	9	229.0	150(PR,GN*,&BU*)
H052364-150*	4	101.6	2 Ply	4-43/64	118.7	226	150	15	381.0	150(PR & GN)
H052396-150*	6	152.4	4 Ply	7	177.8	721	150	30	762.0	150(PR & GN)

† Contact Eaton Technical Support at 1-888-258-0222 for higher temperature applications.

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

**** WARNING** – Elevated temperatures can change chemical resistance rating for Chemcat H0523 hose. Please refer to the Chemical Compatibility information in Section A. This information provides guidelines for the safe use of Eaton Industrial Hose and Tubing. The information shown was gathered through testing, and is accurate for controlled conditions (at 70°F unless otherwise noted). Factors such as concentration, fluid contamination, and extreme temperatures may affect these performance specifications. Contact Eaton for recommendation and assistance. It is the users responsibility to determine if the hose is compatible with the application.

Chemcat Petrochemical Corrugated



Tube: Ultra High Molecular Weight Polyethylene (U.H.M.W.) FDA Approved Materials

Reinforcement: Fiber, 2 Ply and Helical Wire

Cover: EPDM

Color: Purple

Temperature Range: -45°F to +250°F† **WARNING****

Type Of Branding: Printed Strip

Suction: Full Vacuum

Working Pressure: 150-200 psi (Depending on coupling)

Type Of Coupling: Cam and Groove or Swaged/Crimped. Clamps—Interlocking or Band.

Features:

- EPDM cover
- Clear U.H.M.W. polyethylene tube (FDA approved materials)
- Easy to maintain
- Continuous printed brand
- Ultra smooth tube
- Corrugated cover

Advantages:

- Abrasion, chemical and ozone resistant; longer hose life.
- Chemical, petroleum, and solvent resistant; won't contaminate, or discolor fluids;
- May be cleaned with steam, open end discharge only
- Easy identification
- Increased flexibility; lightweight

Markets:

- Chemical/Petroleum industry
- In-plant transfer
- Mixing operations
- Forest products
- Plywood mfg.
- Pulp processing
- Bulk hauling
- Tank trucks
- Railroad tank car

Applications:

- Transfer of acids, chemicals, solvents, and petroleum products.
- Transfer of chemicals and solvents for processing wood products.
- Loading and unloading, pumping, suction, or gravity flow discharge
- Food transfer

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Reinf.	Nominal O.D. (in.)	Nominal O.D. (mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Minimum Bend Radius (in.)	Minimum Bend Radius (mm)	Standard Length (Ft)
H059916-150*	1	25.4	2 Ply	1-17/32	38.9	55	200	3.0	76.2	150
H059920-150*	1-1/4	31.8	2 Ply	1-7/8	47.6	67	200	4.0	101.6	150
H059924-150	1-1/2	38.1	2 Ply	2-1/8	54.0	89	200	4.0	101.6	150
H059932-150	2	50.8	2 Ply	2-5/8	67.0	116	200	5.0	127.0	150
H059948-150	3	76.2	2 Ply	3-5/8	92.2	168	200	6.5	165.1	150
H059964-150	4	101.6	2 Ply	4-43/64	118.7	226	150	9.5	241.3	150

† Contact Eaton Technical Support at 1-888-258-0222 for higher temperature applications.

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

**** WARNING** – Elevated temperatures can change chemical resistance rating for Chemcat H0599 hose. Please refer to the Chemical Compatibility information in Section A. This information provides guidelines for the safe use of Eaton Industrial Hose and Tubing. The information shown was gathered through testing, and is accurate for controlled conditions (at 70°F unless otherwise noted). Factors such as concentration, fluid contamination, and extreme temperatures may affect these performance specifications. Contact Eaton for recommendation and assistance. It is the users responsibility to determine if the hose is compatible with the application.

Cougar CPE Corrugated



Tube: Chlorinated Polyethylene (CPE)

Reinforcement: Fiber, 2 Ply Helical Wires

Cover: Corrugated EPDM

Color: Brown

Temperature Range: -45°F to +275°F

Type Of Branding: Printed Strip

Suction: Full Vacuum

Working Pressure: 150 psi (Depending on coupling)

Type Of Coupling: Swaged/Crimped, Cam and Groove. Clamps—Ferrule or Band.

Features:

- EPDM cover
- CPE tube
- Continuous printed brand
- Brown cover

Advantages:

- Abrasion, chemical, and ozone resistant. Longer hose life.
- Chemical, petroleum, acid and alcohol resistant. Heat resistant.
- Easy identification
- Color coded hose systems.

Markets:

- Chemical/Petroleum Industry
- In-plant transfer
- Mixing operations
- Forest products
- Lumber/Woodworking
- Plywood manufacturing
- Pulp processing
- Bulk hauling
- Barges
- Tank trucks
- Railroad tank cars

Applications:

- Transfer of acids, chemicals, alcohols and petroleum products.
- Transfer of chemicals, and acids for processing wood products.
- Loading and unloading, pumping, suction, or gravity flow discharge

Catalog Number	Nominal I.D. (in.)	(mm)	Braid	Nominal O.D. (in.)	(mm)	Approx. lbs. Weight per 100 ft	Maximum Working Press. (psi)	Minimum Bend Radius (in.)	(mm)	Standard Lengths (Ft)
H066124-150*	1-1/2	38.1	2	2-1/8	54.0	89	150	6	152.4	150
H066132-150	2	50.8	2	2-5/8	67.0	116	150	6	152.4	150
H066148-150	3	76.2	2	3-5/8	92.2	168	150	9	229.0	150

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

Panther Chemical Transfer



Tube: Clear Cross-Linked Polyethylene (XLPE)
Reinforcement: Fiber, 2 Braid or 2 Ply and Helical Wire
Cover: EPDM
Color: Yellow
Temperature Range: -45°F to +150°F
Type Of Branding: Printed Strip

Suction: Full Vacuum
Working Pressure: 150-200 psi (Depending on coupling)
Type Of Coupling: Cam and Groove or Swaged/Crimped. Clamps—Interlocking or Band.

E

Features:

- EPDM cover
- Clear cross-linked polyethylene tube
- Printed strip brand and caution label every ten feet
- Smooth bore
- Every length serialized

Advantages:

- Chemical and ozone resistant; longer hose life.
- Chemical, petroleum, and solvent resistant; won't contaminate, or discolor fluids
- Easy identification
- Safety
- High visibility
- Rapid fluid flow
- Easy to clean
- Safety and maintenance records

Markets:

- Chemical/Petroleum industry
- Lumber/Woodworking
- Plywood mfg.
- Pulp/Paper processing
- Tank truck
- Railroad tank car

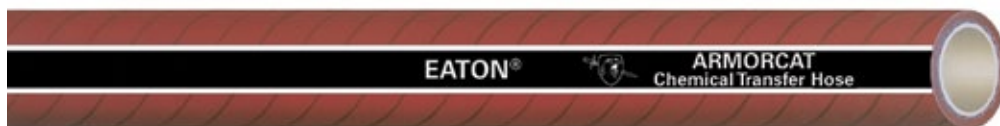
Applications:

- Transfer of acids, chemicals, solvents, and petroleum products.
- Transfer of chemicals and solvents for processing products.
- Loading and unloading, pumping, suction, or gravity flow discharge

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Reinf.	Nominal O.D. (in.)	Nominal O.D. (mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Minimum Bend Radius (in.)	Minimum Bend Radius (mm)	Standard Length (Ft)
H835916-150*	1	25.4	2 Br	1-17/32	38.9	72	200	5	127.0	150
H835920-150*	1-1/4	31.8	2 Ply	1-7/8	47.6	86	200	8	203.2	150
H835924-100*	1-1/2	38.1	2 Ply	2-1/8	54.0	89	200	8	203.2	100
H835932-150*	2	50.8	2 Ply	2-5/8	66.7	113	200	9	228.6	150
H835940-150*	2-1/2	63.5	2 Ply	3-1/8	79.4	140	150	12	304.8	150
H835948-150*	3	76.2	2 Ply	3-5/8	92.1	164	150	16	406.4	150
H835964-150*	4	101.6	2 Ply	4-11/16	119.1	239	150	21	533.4	150

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

Armorcat Petrochemical



Tube: Ultra High Molecular Weight Polyethylene (U.H.M.W.) FDA Approved Materials

Reinforcement: Wire, 2 Braid, 2 Stainless Steel Static Wires in 1", 1-1/2" and 2". 3" & 4" has Helical Wires.

Cover: EPDM

Color: Red

Temperature Range: -45°F to +250°F[†] **WARNING****

Type Of Branding: Printed Strip

Suction: Full Vacuum

Working Pressure: 300 psi (Depending on coupling)

Type Of Coupling: Cam and Groove or Swaged/Crimped. Clamps—Interlocking or Band.

Features:

- Two wire braids
- EPDM cover
- Clear U.H.M.W. polyethylene tube (FDA Approved Materials)
- Easy to maintain
- Dual stainless steel ground wires
- Ultra smooth tube

Advantages:

- Resistant to permanent crushing
- Abrasion, chemical and ozone resistant; longer hose life.
- Chemical, petroleum, and solvent resistant; won't contaminate, or discolor fluids
- May be cleaned with steam, open end discharge only
- Static dissipating for a safe connection
- Easy to clean

Markets:

- Chemical/Petroleum industry
- In-plant transfer
- Transportation hoses
- Mixing operations
- Chemical handling
- Forest products
- Lumber/woodworking
- Plywood mfg.
- Pulp processing
- Bulk hauling
- Barges
- Tank trucks
- Railroad tank cars

Applications:

- Transfer of acids, chemicals, solvents, and petroleum products.
- Transfer of chemicals and solvents for processing wood products.
- Loading and unloading, pumping, suction, or gravity flow discharge

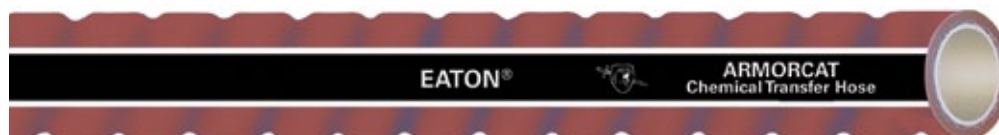
Product Number	Nominal I.D. (in.)	(mm)	Reinf.	Nominal O.D. (in.)	(mm)	Approx. Lbs. Wght Per 100 Ft.	Maximum Working Press. (psi)	Inches Mercury Vacuum	Minimum Bend Radius (in.)	(mm)	Standard Length (Ft)
H055416-150*	1	25.4	2 Br	1-17/32	38.9	55	300	25	6	152.4	150
H055424-150	1-1/2	38.1	2 Br	2-1/16	52.4	97	300	25	8	203.2	150
H055432-100	2	50.8	2 Br	2-19/32	65.9	155	300	25	14	355.6	100
H055432-150	2	50.8	2 Br	2-19/32	65.9	155	300	25	14	355.6	150
H055448-150	3	76.2	2 Br	3-5/8	92.1	231	300	25	22	558.8	150
H055464-150	4	101.6	2 Br	4-43/64	118.7	422	300	25	22	—	150

[†]Contact Eaton Technical Support at 1-888-258-0222 for higher temperature applications.

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

**** WARNING** – Elevated temperatures can change chemical resistance rating for Armorcat H0554 hose. Please refer to the Chemical Compatibility information in Section A. This information provides guidelines for the safe use of Eaton Industrial Hose and Tubing. The information shown was gathered through testing, and is accurate for controlled conditions (at 70°F unless otherwise noted). Factors such as concentration, fluid contamination, and extreme temperatures may affect these performance specifications. Contact Eaton for recommendation and assistance. It is the users responsibility to determine if the hose is compatible with the application.

Armorcat Petrochemical Corrugated



Tube: Ultra High Molecular Weight Polyethylene (U.H.M.W.) FDA Approved Materials

Reinforcement: Wire, 2 Braid,
2 Stainless Steel Static Wires

Cover: EPDM

Color: Red

Temperature Range: -45°F to +250°F[†] **WARNING****

Type Of Branding: Printed Strip

Suction: Full Vacuum

Working Pressure: 300 psi (Depending on coupling)

Type Of Coupling: Cam and Groove or Swaged/Crimped.
Clamps—Interlocking or Band.

Features:

- Two wire braids
- EPDM cover
- Clear U.H.M.W. polyethylene tube (FDA Approved Materials)
- Easy to maintain
- Dual stainless steel ground wires
- Ultra smooth tube

Advantages:

- Resistant to permanent crushing
- Abrasion, chemical and ozone resistant; longer hose life.
- Chemical, petroleum, and solvent resistant; won't contaminate, or discolor fluids
- May be cleaned with steam, open end discharge only
- Static dissipating for a safe connection
- Easy to clean

Markets:

- Chemical/Petroleum industry
- In-plant transfer
- Transportation hoses
- Mixing operations
- Chemical handling
- Forest products
- Lumber/Woodworking
- Plywood mfg.
- Pulp processing
- Bulk hauling
- Barges
- Tank trucks
- Railroad tank cars

Applications:

- Transfer of acids, chemicals, solvents, and petroleum products.
- Transfer of chemicals and solvents for processing wood products.
- Loading and unloading, pumping, suction, or gravity flow discharge

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Reinf.	Nominal O.D. (in.)	Nominal O.D. (mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Inches Mercury Vacuum	Minimum Bend Radius (in.)	Minimum Bend Radius (mm)	Standard Length (Ft)
H006032-150*	2	50.8	2 Br	2-19/32	65.9	155	300	25	12	304.8	150

[†]Contact Eaton Technical Support at 1-888-258-0222 for higher temperature applications.

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

**** WARNING** – Elevated temperatures can change chemical resistance rating for Armorcat H0060 hose. Please refer to the Chemical Compatibility information in Section A. This information provides guidelines for the safe use of Eaton Industrial Hose and Tubing. The information shown was gathered through testing, and is accurate for controlled conditions (at 70°F unless otherwise noted). Factors such as concentration, fluid contamination, and extreme temperatures may affect these performance specifications. Contact Eaton for recommendation and assistance. It is the users responsibility to determine if the hose is compatible with the application.

Chemical Service Hose

Notes

E

Specialty Service Hose

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Specialty Service Hose

Intro

Important Specialty Service Hose Safety Information!

WARNING: Testing can be dangerous and should be done only by trained personnel using proper tools and procedures. Failure to follow such procedures might result in serious injury, death, or damage to property.

WARNING: Failure to properly follow the manufacturer's recommended procedures for the care, maintenance, and storage of a particular hose may result in its failure to perform in the manner intended and may result in serious injury, death, or damage to property.

WARNING: Do not use chemical hose at temperatures or pressures above those recommended by the manufacturer. All operators must be thoroughly trained in the care and use of this hose and must at all times wear protective clothing. A hose or system failure could cause the release of a poisonous, corrosive or flammable material.

WARNING: Consult with the Coupling Manufacturer to make sure you choose the correct coupling and proper assembly for the application. Such matching of hose and couplings, and assembling of couplings, should be performed only by trained personnel using proper tools and procedures. Failure to follow manufacturer's instructions or failure to use trained personnel may result in serious bodily injury and/or property damage.

WARNING: Never use a hose to transfer material it is not specifically meant to transfer. Doing so could deteriorate the hose and result in leaking, hose bursting, or end blow-offs. This could lead to serious personal injury or death. Always transfer material in a hose that is designed specifically to transfer that material. This information is listed in this catalog.

WARNING: Consider both working pressure and pressure surges when determining "maximum" pressure. Failure to select a hose that meets both these requirements could lead to end blow-offs, hose leakage, and hose bursting. The result could be serious injury or death. The Eaton industrial hose you choose must meet or exceed the required working pressure, and must have a safety factor to allow for surge pressure.

WARNING: Do not use hose at temperatures that exceed the hose temperature rating. Doing so could deteriorate the hose, leading to leaks, hose bursting, and end blow-offs. This could result in serious personal injury or death.

WARNING: Selection of the proper hose for the application is essential to the proper operation and safe use of the hose and related equipment. Inadequate attention to selection of hose for the application can result in serious bodily injury or property damage. In order to avoid serious bodily injury or property damage resulting from selection of the wrong hose, you should carefully review the information in this catalog.

Specialty Services Hose Benefits

4:1 Safety Factor (Burst: Working Pressure)

- Safer operation. Longer hose life

Remove the Guesswork from Selecting, Buying and Using Critical Application Hose

- When you're handling easily contaminated or hazardous material, it is critical to select the proper hose. The high visibility branding and color coding of Eaton removes the guesswork for hose selection.

Environmental Resistance

- The tube and cover materials of Eaton industrial hose products are designed to assure maximum hose life at a superior value to the customer. Specialty service Eaton hoses are sophisticated transfer products for demanding jobs. Exceptional aging, weathering and heat resistant properties keep the hose flexible and easy to use.

Permanent Branding for Easy Identification

- The name of the hose and the working pressure are molded into the hose cover...can't rub off. This makes hose selection on the job quicker, easier and safer.

The Eaton Reputation for Quality

- Your assurance of dependable performance.

Hot Tar Pumping



Tube: Nitrile (RMA Class A)
Reinforcement: Wire, 2 Braid
Cover: CPE/Pinpricked
Color: Black
Temperature Range: +350°F

Type Of Branding: Embossed
Working Pressure: 250 psi
Type Of Coupling: Wolf Permanent Crimp Couplings, 430 'U' Series, Interlocking or Steel Nipple. Clamps—Interlocking

Features:

- CPE cover
- Nitrile tube
- Continuous permanent brand/black cover

Advantages:

- Abrasion, oil, heat, and weather resistant
- Oil and heat resistant; handles intermittent temperatures of hot tar up to 400°F
- Easy identification
- Assures proper use

Markets:

- Road construction
- Roof construction

Applications:

- Convey hot tar in road projects
- Convey hot tar

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Reinf.	Nominal O.D. (in.)	Nominal O.D. (mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Minimum Bend Radius (in.)	Minimum Bend Radius (mm)	Standard Length (Ft)
H960316	1	25.4	2 Br	19/16	39.7	90	250	12	304.8	50
H960316-100										100
H960316-150										150

Blackcat Hot Tar & Asphalt



Tube: Nitrile

Reinforcement: 2 Fiberglass Plys and Helical Wire

Cover: Neoprene

Color: Black

Temperature Range: +350°F

Type Of Branding: Printed Strip

Suction: Full Vacuum

Working Pressure: 200 psi (Depending on Coupling)*

**Please contact Eaton Technical Support for applications at continuous elevated temperatures above 250°F.*

Type Of Coupling: Cam and Groove or Swaged/Crimped. Clamps—Interlocking or Band (only for pressures up to 50 psi).

Features:

- Neoprene cover
- Nitrile tube
- Continuous printed brand and caution label every ten feet
- Fiberglass braid

Advantages:

- Abrasion, oil and weather resistant
- Heat and oil resistant
- Handles intermittent temperatures of hot tar up to +400°F
- Lightweight
- Easy to handle
- Longer life
- Easy identification
- Assures proper use

Markets:

- Tank trucks
- Construction
- Oil field
- Manufacturing plants

Applications:

- Loading or unloading, pumping, suction, or gravity flow discharge; transfer of hot tar
- Transfer of asphalt in roofing shingle plant

Product Number	Nominal I.D. (in.)	(mm)	Reinf.	Nominal O.D. (in.)	(mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Minimum Bend Radius (in.)	(mm)	Standard Length (Ft)
H037232-150	2	50.8	2 Ply	2-15/16	74.6	234	200	7	177.8	150
H037240-150	2-1/2	63.5	2 Ply	3-7/16	87.3	285	200	10	254.0	150
H037248-150	3	76.2	2 Ply	3-15/16	97.6	333	200	10	254.0	150
H037264-150*	4	101.6	2 Ply	4-31/32	126.2	453	200	12	304.8	150

Handles intermittent temperature of hot tar and asphalt up to +400°F.

** MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.*

Blackcat Hot Tar & Asphalt Corrugated



Tube: Nitrile

Reinforcement: 2 Fiberglass Plys and Helical Wire

Cover: Neoprene

Color: Black

Temperature Range: +350°F

Type Of Branding: Printed Strip

Suction: Full Vacuum

Working Pressure: 200 psi (Depending on Coupling)*

**Please contact Eaton Technical Support for applications at continuous elevated temperatures above 250°F.*

Type Of Coupling: Cam and Groove, Combination Nipple, or Swaged/Crimped. Clamps—Interlocking or Band (only for pressures up to 50 psi).

F

Features:

- Neoprene cover
- Nitrile tube
- Continuous printed brand and caution label every ten feet
- Fiberglass braid

Advantages:

- Abrasion, oil and weather resistant
- Heat and oil resistant
- Handles intermittent temperatures of hot tar up to +400°F
- Lightweight
- Easy to handle
- Longer life
- Easy identification
- Assures proper use

Markets:

- Tank trucks
- Construction
- Oil field
- Manufacturing plants

Applications:

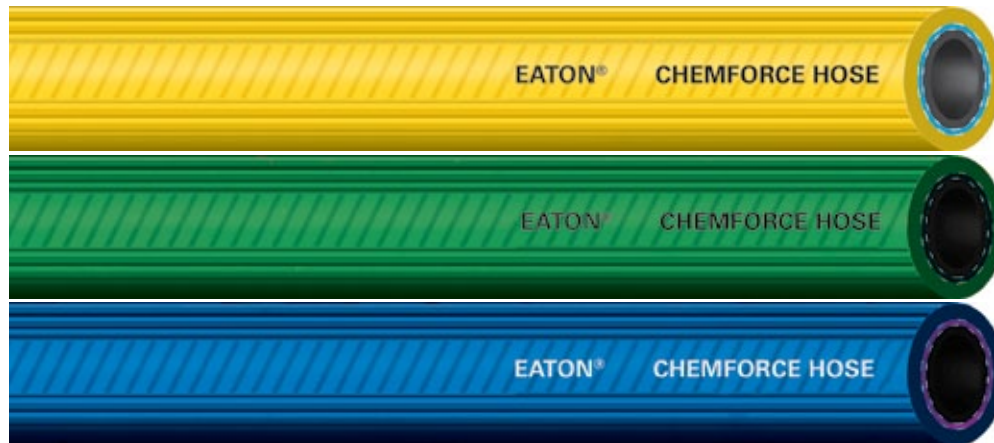
- Loading or unloading, pumping, suction, or gravity flow discharge; transfer of hot tar
- Transfer of asphalt in roofing shingle plant

Product Number	Nominal I.D. (in.) (mm)	Reinf.	Nominal O.D. (in.) (mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Minimum Bend Radius (in.) (mm)	Standard Length (Ft)
H061632*	2	50.8	2 Ply 3	76.2 234	200	5 127	50
H061632-100*							100
H061632-150*							150

Handles intermittent temperature of hot tar and asphalt up to +400°F.

** MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.*

Chemforce



F

Tube: PVC/Polyurethane Blend

Reinforcement: Fiber, 2 or 4 Spiral

Cover: PVC

Color: Yellow (YW), Green (GN) or Blue (BU)

Temperature Range: +15°F to +160°F

Type Of Branding: Embossed

Working Pressure: 250, 600, 800 psi

Type Of Coupling: Barbed Inserts. Clamps—Brass Collar. **Do not use internal expanded couplings.**

Features:

- Polyurethane/PVC blend tube
- Durable non-marking PVC cover
- Lightweight
- Color availability
- Non-conductive
- Factory tested to exceed minimum electrical resistivity of one megohm per inch at 1000 volts D.C.

Advantages:

- Compatible with hydrocarbon based aromatic chemicals for pest control
- Excellent abrasion resistance
- Good ozone resistance
- Easy to handle and store
- Easy identification for color coded applications

Markets:

- Agriculture
- Nursery
- Orchard
- Landscape
- Lawn care services

Applications:

- Weed and pest control spraying; suitable for use with aromatic based hydrocarbons

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Reinf.	Nominal O.D. (in.)	Nominal O.D. (mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Standard Coils (Ft)
H156006-300R*	3/8	9.5	2 Sp	5/8	15.9	12	250	300(GN)
H156008-300R*	1/2	12.7	2 Sp	21/25	21.3	17	250	300(GN)
H156012-300R*	3/4	19.1	2 Sp	1-1/8	28.6	26.3	250	300(GN)
H156106-300R	3/8	9.5	4 Sp	13/20	16.5	13	600	300(YW)
H156108-300R	1/2	12.7	4 Sp	21/25	21.3	17	600	300(YW)
H156110-300R*	5/8	15.9	4 Sp	39/40	24.8	27	600	300(YW)
H156112-300R*	3/4	19.1	4 Sp	1-7/50	29.0	35	600	300(YW)
H156206-300R*	3/8	9.5	4 Sp	13/20	16.5	14	800	300(BU)
H156208-300R*	1/2	12.7	4 Sp	21/25	21.3	21	800	300(BU)
H156212-300R*	3/4	19.1	4 Sp	1-7/50	29.0	36	800	300(BU)

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. See chart on page A-12 showing the relationship between working pressure and temperature for reinforced PVC hose.

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

TYPE 35 Lightweight Chemical-Spray Hose



Tube: PVC/Polyurethane Blend

Reinforcement: Fiber 2 Spiral

Cover: PVC

Color: Yellow

Temperature Range: +25°F to +150°F

Type Of Branding: Embossed

Working Pressure: 600 psi

Type Of Coupling: Barb Inserts, Clamps, Brass Collar. Do not use internally expanded coupling.

Features:

- Lightweight
- Easy identification
- Easy coiling and abrasion resistant

Advantages:

- White polyurethane/PVC Alloy core compound
- Polyester reinforcement 1 pass
- Corrugated yellow PVC cover
- Lightweight, non-marking & flexible
- Corrugated jacket for easy coiling & abrasion resistance
- Acceptable with aromatic hydrocarbon based chemical spraying when mixed according to MFG instructions
- 3:1 safety
- RoHS compliant

Markets:

- Agricultural
- Nursery
- Weed & pest control
- Orchard
- Landscape

Applications:

- Lawn spray
- Orchard, nursery
- Weed and pest control spraying; suitable for use with aromatic-based hydrocarbons

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Nominal O.D. (in.)	Pressure (mm)	Working lbs. Weight @ 68°F	Approx. Standard Per 100 Ft.	Length (Ft.)	Package
35-06*	3/8	9.5	.640	16.3	600	12.3	300/ 400	Coil
35-08*	1/2	12.7	.770	19.6	600	16.8	300/ 400	Coil

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. See chart on page A-12 showing the relationship between working pressure and temperature for reinforced PVC hose.

** MTO - Made to Order - Contact Eaton at 877-662-8823 for availability, minimum run quantity, and ordering information.*

TYPE 30 2 Pass



Tube: PVC

Reinforcement: Fiber 4 Spiral

Cover: PVC

Color: Yellow

Temperature Range: +25°F to +150°F

Type Of Branding: Embossed

Working Pressure: 600 psi

Type Of Coupling: Barb Inserts, Clamps, Brass Collar.
Do not use internally expanded coupling.

F

Features:

- All PVC compounds used on core & cover
- Lightweight, non-marking & flexible
- Not for use with aromatic hydrocarbons such as xylene
- RoHS compliant

Advantages:

- Easy identification
- Non-marking
- Abrasion resistant
- Easy coiling

Markets:

- Weed and pest control
- Lawn care, golf course, agricultural, boom truck, and nursery spraying
- Landscape
- Agriculture

Applications:

- Lawn spray
- Orchard spray
- Vineyards and nurseries
- Wettable powder chemicals (water soluble)

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Nominal O.D. (in.)	Nominal O.D. (mm)	Working Pressure @ 68°F	Approx. lbs. weight Per 100 ft.	Standard Length	Package
30-0600*	3/8	9.5	.650	16.5	600	13.4	300	Coil
30-0640*	3/8	9.5	.650	16.5	600	13.4	400	Coil
30-0800*	1/2	12.7	.815	20.7	600	17.6	300	Coil
30-0840*	1/2	12.7	.815	20.7	600	17.6	400	Coil

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. See chart on page A-12 showing the relationship between working pressure and temperature for reinforced PVC hose.

* MTO - Made to Order - Contact Eaton at 877-662-8823 for availability, minimum run quantity, and ordering information.

TYPE 34 1 Pass



Tube: PVC

Reinforcement: Fiber 2 Spiral

Cover: PVC

Color: Yellow

Temperature Range: +25°F to +150°F

Type Of Branding: Embossed

Working Pressure: 600 psi[†]

Type Of Coupling: Barb Inserts, Clamps, Brass Collar.
Do not use internally expanded coupling.

Features:

- All PVC compounds used on core & cover
- Non-marking & flexible
- Corrugated jacket for easy coiling and abrasion resistance
- Not for use with Aromatic hydrocarbons such as xylene

Advantages:

- Lightweight
- Easy identification
- Easy coiling
- Abrasion resistant

Markets:

- Weed and lawn spraying
- Nurseries, agricultural, and orchard spraying
- Landscape
- Lawn care services

Applications:

- Lawn spray
- Orchard spray
- Vineyards and nurseries
- Wettable powder chemicals (water soluble)

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Nominal O.D. (in.)	Nominal O.D. (mm)	Working Pressure @ 68°F	Approx. lbs. Weight Per 100 Ft.	Standard Length (Ft.)	Package
34-0600*	3/8	9.5	.640	16.3	600*	12.2	300	Coil
34-0640*	3/8	9.5	.640	16.3	600*	12.2	400	Coil
34-0800*	1/2	12.7	.770	19.6	600*	16.8	300	Coil
34-0840*	1/2	12.7	.770	19.6	600*	16.8	400	Coil

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. See chart on page A-12 showing the relationship between working pressure and temperature for reinforced PVC hose.

* MTO - Made to Order - Contact Eaton at 877-662-8823 for availability, minimum run quantity, and ordering information.

†3:1 Safety Factor

Specialty Service Hose

Hydrocarbon Drain

 Refer to warnings and safety information on pages A-1 thru A-2 and page F-2.

Hydrocarbon Drain



Tube: Nitrile (RMA Class A)

Reinforcement: Wire, 2 Braid

Cover: Chlorinated Polyethylene (CPE)/Pinpricked

Color: Blue

Temperature Range: +350°F

Type Of Branding: Printed Strip

Working Pressure: 300 psi

Type Of Coupling: Wolf Permanent Crimp Couplings or Interlocking. Clamps—Interlocking.

F

Features:

- CPE cover
- Nitrile tube
- Blue cover

Advantages:

- Temperature, oil, and abrasion resistant
- Oil resistant
- Easy identification in color code systems

Markets:

- Petroleum

Applications:

- Hydrocarbon drain service

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Braid	Nominal O.D. (in.)	Nominal O.D. (mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Standard Length (Ft)
H969012	3/4	19.1	2	1-5/16	34.1	60	300	50

Nitrogen Service



Tube: Nitrile

Reinforcement: Fiber, 4 Spiral

Cover: Neoprene/Pinpricked

Color: Yellow (YW), Blue (BU)

Temperature Range: Ambient (70°F)

Type Of Branding: Ink Print

Working Pressure: 300 psi

Type Of Coupling: 'U' Series, Barbed Inserts, Long Shank. Clamps—Interlocking, Band.

Features:

- Neoprene cover
- Nitrile tube
- Continuous permanent band
- Flexible

Advantages:

- Abrasion, age, and oil resistant
- Abrasion and oil resistant
- Easy identification
- Easy to handle

Markets:

- Chemical/Petroleum industry

Applications:

- Transfer of nitrogen at ambient temperatures

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Spiral	Nominal O.D. (in.)	Nominal O.D. (mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Standard Length (Ft)
H881112-250*	3/4	19.1	4	1-3/16	30.2	38	300	5-50's (YW, BU*)

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

Nyall



Tube: Nylon

Reinforcement: Fiber, 1 or 2 Braid

Cover: Neoprene (BK), Vinyl Nitrile (RD)
Red—RMA Class B Oil Resistance

Color: Black (BK), Red (RD)

Temperature Range: -30°F to +160°F

Type Of Branding: Ink Print

Working Pressure: 500-750 psi

Type Of Coupling: 'U' Series, Barbed Inserts,
Quick Acting or Steel Nipple.
Clamps—Interlocking, Band.

F

Features:

- Neoprene cover
Vinyl Nitrile cover
- Nylon tube
- Continuous permanent brand
- High working pressure multi-purpose hose

Advantages:

- Abrasion, oil and weather resistant
- Compatible with many fluids (see chemical resistance chart)
- Excellent flow rate
- No swelling
- Easy to clean
- Easy identification
- Wide variety of applications

Markets:

- Agriculture
- Equipment rental
- Assembly/Manufacturers
- Chemical/Petroleum industry
- Lumber/Paper/Pulp industry
- Food processing industry
- Construction
- Ship building

Applications:

- Fertilizer and pesticides spray
- General service application; convey air, water, oils, paints, etc.
- Transfer of chemicals, solvents, paints, glues, and petroleum products (See chemical resistance chart)
- Paint spray
- Convey air, water, and fuels; paint spray

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Reinf.	Nominal O.D. (in.)	Nominal O.D. (mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Standard Reels (Ft)
H194104-500R	1/4	6.3	1 Br	1/2	12.7	10	500	500(RD, BK)
H194105-500R	5/16	7.9	1 Br	9/16	14.3	13	500	500(BK)
H194106-500R	3/8	9.5	1 Br	11/16	17.5	15	500	500(RD, BK)
H194108-500R	1/2	12.7	1 Br	25/32	19.8	19	500	500(RD)
H194208-500R	1/2	12.7	2 Br	7/8	22.2	26	750	500(RD, BK)
H194212-500R	3/4	19.1	2 Br	1-3/16	30.2	40	750	500(RD)
H194216-300R	1	25.4	2 Br	1-1/2	38.1	56	500	300(RD)

Boston Bulldog Fuel Oil Delivery



Tube: Nitrile (RMA Class A)

Reinforcement: Fiber, 2 Braid

Cover: Vinyl Nitrile

Color: Red

Temperature Range: -40°F to +180°F

Type Of Branding: White Ink Print

Working Pressure: 250 psi

Type Of Coupling: Internally Expanded Permanent Petroleum Couplings or Reattachable Fuel Oil Couplings

F

Features:

- RMA class A nitrile tube
- Oil resistant vinyl nitrile cover
- Smooth, red, non-marking cover

Advantages:

- Lightweight construction for easy handling

Markets:

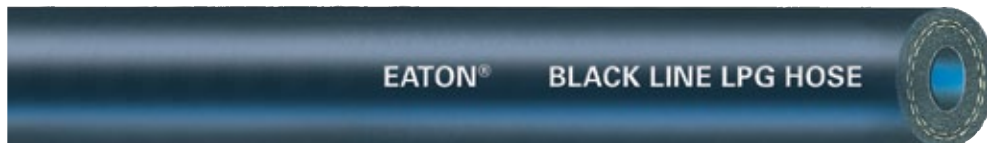
- Tank truck
- Petroleum refining
- Chemical processing

Applications:

- Fuel oil transfer for residential and/or commercial delivery

Product Number	Nominal I.D. (in.) (mm)		Reinf.	Nominal O.D. (in.) (mm)		Approx. lbs. Weight Per 100 (Ft)	Maximum Working Press. (psi)	Standard Length (Ft)
H90120-150	1-1/4	31.8	2 Br	1-3/4	44.5	65	250	150
H90122-150	1-3/8	34.9	2 Br	1-55/64	47.0	75	250	150
H90124-150	1-1/2	38.1	2 Br	2	50.8	85	250	150

Black Line Liquid Propane Gas (LPG)



Tube: Nitrile

Reinforcement: Fiber Braid
(1" has 2 Stainless Steel Static Wires)

Cover: Vinyl Nitrile, Pinpricked

Color: Black

Temperature Range: -40°F to +140°F (Hose is capable of this rating. LP-Gas should never be elevated above 100°F)

Standards: UL 21 Approved LP-Gas/Natural Gas

Type Of Branding: Ink Print

Working Pressure: LP-Gas 350 psiG Max WP
Natural Gas 1 psiG Max WP
5:1 Safety Factor on 350 psiG

Type Of Coupling: 'U' Series.

Features:

- Nitrile tube
- Vinyl nitrile cover
- One manufacturer of both hose and fittings

Advantages:

- Resistant to LPG fluids
- Good abrasion resistance
- Engineered system that has integrity and reliability

Markets:

- Petroleum refineries
- Chemical processing
- Tank truck
- Many markets

Applications:

- Transfer and delivery of propane and butane
- Transfer of natural gas in open, well ventilated areas (1 psiG max. working pressure)

Product Number	Nominal I.D. (in.)	(mm)	Reinf.	Nominal O.D. (in.)	(mm)	Approx. lbs. Weight Per 100 (Ft)	Maximum Working Press. (Psig)	Min. Bend Standard Reels* (Ft)	Radius (in.)
H90004-500R	1/4	6.3	1 Br	37/64	14.7	12	350/1	500	3.0
H90006-500R	3/8	9.5	1 Br	23/32	18.3	17	350/1	500	4.5
H90008-500R	1/2	12.7	1 Br	29/32	23.0	24	350/1	500	6.0
H90012-500R	3/4	19.1	2 Br	1-15/64	31.4	41	350/1	500	9.0
H90016-100	1	25.4	2 Br	1-1/2	38.1	52	350/1	100	12.0
H90016-150								150	12.0
H90016-300R								300	12.0

*All lengths on reels are in 50' increments.



WARNING: Natural gas transfer applications:

- Hose should only be used in open, well ventilated areas.

- Maximum working pressure should not exceed 1 psiG (UL Specification).

- Not for use in vehicles using compressed natural gas.

**Assemblies
Available**

Chemical Booster



Tube: Synthetic Rubber

Reinforcement: Textile, 2 Braid

Cover: Synthetic Rubber

Color: Red

Temperature Range: -40°F to +180°F

Type Of Branding: White Ink Print

Working Pressure: 800 psi

Type Of Coupling: Spanner Hole Type - Chrome Plated Aluminum or Polished Brass

F

Features:

- Synthetic rubber cover
- Synthetic rubber tube
- Braided reinforcement

Advantages:

- Abrasion, ozone and weather resistant
- Resistant to fire fighting chemicals
- Best coupling retention for safe, high pressure service

Markets:

- Fire fighting equipment

Applications:

- Pressure booster hose on fire fighting equipment

Product Number	Nominal I.D. (in.)	I.D. (mm)	Reinf.	Nominal O.D. (in.)	O.D. (mm)	Approx. lbs. Weight Per 100 (Ft)	Maximum Working Press. (psi)	Standard Length (ft)
H5751-50*	3/4	19.1	2 Br	1-1/4	31.8	56	800	50
H5751-100*	3/4	19.1	2 Br	1-1/4	31.8	56	800	100
H5751-150*	3/4	19.1	2 Br	1-1/4	31.8	56	800	150
H5751-200*	3/4	19.1	2 Br	1-1/4	31.8	56	800	200
H5752-50*	1	25.4	2 Br	1-19/32	40.5	81	800	50
H5752-100*	1	25.4	2 Br	1-19/32	40.5	81	800	100
H5752-150*	1	25.4	2 Br	1-19/32	40.5	81	800	150
H5752-200*	1	25.4	2 Br	1-19/32	40.5	81	800	200

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

 **WARNING:** Consult the coupling manufacturer to make sure you choose the correct coupling and proper assembly for the application.

Before using this hose, consult the chemical resistance chart or Hose Chemical Resistance Guidelines.

If you do not have a most recent copy, contact Eaton.

Consult the coupling manufacturer to make sure you choose the correct coupling and proper assembly for the application or contact Technical Support.

Specialty Service Hose

Notes

F

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⚠ WARNING: Testing can be dangerous and should be done only by trained personnel using proper tools and procedures. Failure to follow such procedures might result in serious injury, death, or damage to property.

⚠ WARNING: Failure to properly follow the manufacturer's recommended procedures for the care, maintenance, and storage of a particular hose may result in its failure to perform in the manner intended and may result in serious injury, death, or damage to property.

⚠ WARNING: Consult with the coupling manufacturer to make sure you choose the correct coupling and proper assembly for the application. Such matching of hose and couplings, and assembling of couplings, should be performed only by trained personnel using proper tools and procedures. Failure to follow manufacturer's instructions or failure to use trained personnel may result in serious bodily injury and/or property damage.

⚠ WARNING: Consider both working pressure and pressure surges when determining "maximum" pressure. Failure to select a hose that meets both these requirements could lead to end blow-offs, hose leakage, and hose bursting. The result could be serious injury or death. The Eaton hose you choose must meet or exceed the required working pressure, and must have a safety factor to allow for surge pressure.

⚠ WARNING: Do not use hose at temperatures that exceed the hose temperature rating. Doing so could deteriorate the hose, leading to leaks, hose bursting, and end blow-offs. This could result in serious personal injury or death.

⚠ WARNING: Selection of the proper hose for the application is essential to the proper operation and safe use of the hose and related equipment. Inadequate attention to selection of hose for the application can result in serious bodily injury or property damage. In order to avoid serious bodily injury or property damage resulting from selection of the wrong hose, you should carefully review the information in this catalog.

FOOD INDUSTRY & TRANSFER HOSE BENEFITS

4:1 Safety Factor (Burst: Working Pressure)

- Safer operation.
- Longer hose life.

Remove the Guesswork from Selecting, Buying and Using Critical Application Hose

- When you are handling easily contaminated or hazardous material it is critical to select the proper hose. The high visibility branding and color coding removes the guesswork from hose selection.

Environmental Resistance

- The tube and cover materials of the Eaton "Big Cats" are designed to assure maximum life and top value. They are sophisticated hoses for demanding jobs.

Built to Make Work Faster, Easier and Safer

- Moving and connecting hose several times a day isn't easy work. Each of the "Big Cats" is designed to be as easy to handle as safety and job performance will allow.

Honest Value

- There is only one way to make hose cost less—build it cheaper. You won't find compromises in the "Big Cats". That's why we put the Eaton brand name on them.

The Eaton Reputation for Quality

- Your assurance of dependable performance.

Clearforce - NR



Material: Clear PVC, FDA approved material, NSF-51 Certified

Color: Clear

Tolerance: +.005 I.D. and O.D.

Temperature Range: +15°F to +150°F

Working Pressure: 20-65 psi

Type Of Coupling: Barbed Inserts with Outer Sleeve, Ferrule or Clamps.

Features:

- Clear PVC tube
- Non-marking cover
- Constructed from FDA approved materials
- Factory tested to exceed minimum electrical resistivity of one megohm per inch at 1000 volts D.C.

Advantages:

- Moderate oil resistance
- Abrasive, age, and ozone resistance, won't mark white surfaces; flow or blockage is readily visible
- Acceptable in food markets

Markets:

- Food processing
- Industrial

Applications:

- Food and beverage dispensing; bottling plants, ice making machines
- Air-conditioning drainage, refrigeration drainage, furnace drainage

G

Product Number	Nominal I.D. (in.) (mm)		Nominal O.D. (in.) (mm)		Maximum Working Press. (psi)	Standard Length (Ft)
H160204-100	1/8	3.2	1/4	6.4	65	100*
H160305-100	3/16	4.7	5/16	7.9	55	100*
H160406-100	1/4	6.4	3/8	9.5	55	100*
H160408-100	1/4	6.4	1/2	12.7	60	100*
H160507-100	5/16	7.9	7/16	11.1	50	100*
H160608-100	3/8	9.5	1/2	12.7	45	100*
H160609-100	3/8	9.5	9/16	14.3	50	100*
H160610-100	3/8	9.5	5/8	15.9	55	100*
H160810-100	1/2	12.7	5/8	15.9	30	100*
H160811-100	1/2	12.7	11/16	17.3	40	100*
H160812-100	1/2	12.7	3/4	19.1	45	100*
H161013-100	5/8	15.9	13/16	20.6	35	100*
H161014-100	5/8	15.9	7/8	22.2	40	100*
H161216-100	3/4	19.1	1	25.4	35	100*
H161418-100	7/8	22.2	1-1/8	28.6	30	100**
H161620-100	1	25.4	1-1/4	31.8	25	100**
H162024-100	1-1/4	31.8	1-1/2	38.1	20	100**
H162430-100	1-1/2	38.1	1-7/8	47.6	25	100**
H162432-100	1-1/2	38.1	2	50.1	35	100**
H163240-100	2	50.1	2-1/2	63.5	35	100**

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. Contact Eaton for further information.

* Standard length pattern in boxes. ** Standard length pattern in coils.

Clearforce - R



Tube: Clear PVC, FDA approved materials, NSF-51 Certified

Reinforcement: Fiber, 2 Spiral

Cover: Clear PVC, FDA approved materials, NSF-51 Certified

Color: Clear

Tolerance: +.005 I.D. and O.D.

Temperature Range: +15°F to +150°F

Type Of Branding: Ink Print

Working Pressure: 75-250 psi

Type Of Coupling: 'E' Series, 265 'P' Series, Barbed Inserts, Quick Acting, Short or Long Shank. Clamps—Band, Brass Collars, or Single Bolt. **Do not use internal expanded couplings.**

Features:

- Lightweight
- Flexible
- Clear PVC tube
- Clear PVC non-marking cover
- 95% one piece coils
- Continuous permanent brand
- Constructed from FDA approved materials
- Factory tested to exceed minimum electrical resistivity of one megohm per inch at 1000 volts D.C.

Advantages:

- Easy to handle
- Easily routed
- Moderated oil resistance
- Abrasion, age, and ozone resistant, won't mark white surfaces; flow or blockage is readily visible
- Economical; less waste
- Easily identifiable
- Acceptable in food markets

Markets:

- Agriculture
- Food processing
- Marine
- Industrial

Applications:

- Spraying and conveying fertilizer and pesticides
- Food and beverage dispensing; powdered food manufacturing; bottling plants; dish washer manufacturers
- Water and bilge lines; washdown hose, etc.
- In-plant air and water service

Product Number	Nominal I.D. (in.) (mm)		Reinf.	Nominal O.D. (in.) (mm)		Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Standard Coils (Ft)*
H28503-300	3/16	4.7	2 Sp	3/8	9.5	5	250	300
H28504	1/4	6.4	2 Sp	29/64	11.5	7	250	50
H28504-300R								300
H28505-300R	5/16	7.9	2 Sp	17/32	13.5	8	250	300
H28506	3/8	9.5	2 Sp	19/32	15.1	9	225	50
H28506-300R								300
H28508	1/2	12.7	2 Sp	3/4	19.1	15	200	50
H28508-300R								300
H28510-300R	5/8	15.9	2 Sp	7/8	22.2	17	200	300
H28512	3/4	19.1	2 Sp	1-1/32	26.2	23	150	50
H28512-300R								300
H28516	1	25.4	2 Sp	1-5/16	33.3	32	125	50
H28516-200R								200
H28520-100	1-1/4	31.8	2 Sp	1-11/16	42.9	58	100	100
H28524-100	1-1/2	38.1	2 Sp	1-15/16	49.2	69	100	100
H28532-100	2	50.1	2 Sp	2-1/2	63.5	100	75	100

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. See chart on page A-12 showing the relationship between working pressure and temperature for reinforced PVC hose.

* 95% one piece coils.

Aquaforce



Tube: Clear PVC, FDA approved materials, NSF-51 Certified

Reinforcement: Fiber, 2 Spiral

Cover: PVC/Pinpricked

Color: Red

Temperature Range: +15°F to +150°F

Type Of Branding: Ink Print

Working Pressure: 150 psi

Type Of Coupling: Barbed Inserts, Quick Acting, Short or Long Shank. Clamps—Single Bolt, Brass Collar, or Band.

Do not use internal expanded couplings.

Features:

- Clear PVC tube
- Non-marking PVC cover
- Constructed from FDA approved materials
- Factory tested to exceed minimum electrical resistivity of one megohm per inch at 1000 volts D.C.

Advantages:

- Moderate oil resistance
- Abrasive, age, and ozone resistance, won't mark white surfaces; flow or blockage is readily visible
- Acceptable in food markets

Markets:

- Food processing
- Industrial

Applications:

- Food and beverage dispensing; bottling plants, ice making machines
- Air-conditioning drainage, refrigeration drainage, furnace drainage

G

Product Name	Nominal I.D. (in.)	Nominal I.D. (mm)	Reinf.	Nominal O.D. (in.)	Nominal O.D. (mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Standard Length (Ft)**
H159208-300R*	1/2	12.7	2 Sp	3/4	19.1	15	200	300
H159212-300R*	3/4	19.1	2 Sp	1-1/32	26.2	23	150	300
H159216-200R*	1	25.4	2 Sp	1-5/16	33.3	32	125	200

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

** 95% one piece coils

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. See chart on page A-12 showing the relationship between working pressure and temperature for reinforced PVC hose.

Grey Food Transfer



Tube: Vinyl Nitrile, FDA Approved Materials

Reinforcement: Fiber, 2 Ply and Helical Wire

Cover: Vinyl Nitrile

Color: Grey

Temperature Range: -40°F to +180°F

Type Of Branding: Embossed

Suction: Full Vacuum

Working Pressure: 150 psi (Depending on coupling)

Type Of Coupling: Cam and Groove, Combination Nipple or Swaged/Crimped/Internal Expanded. Clamps—Band.

Features:

- Vinyl nitrile cover
- Vinyl nitrile tube
- Continuous permanent brand
- Grey cover
- Smooth bore

Advantages:

- Abrasion, animal fat, oil and weather resistant
- Animal and vegetable oil resistant
- Easy identification
- Meets FDA requirements
- Rapid fluid flow
- Easy to clean

Markets:

- Food industry
- Tank truck
- Rail car
- In-plant

Applications:

- Transfer by pumping, suction, and discharge of non-dairy food products
- Transfer of bulk liquid, sugar, syrups, and vegetable oils from tank trucks to candy manufacturers, bottling plants, processors, etc.

Product Number	Nominal I.D. (in.)	(mm)	Reinf.	Nominal O.D. (in.)	(mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Minimum Bend Radius (in.)	(mm)	Standard Length (Ft)
H038424-100	1-1/2	38.1	2 Ply	2-1/8	54.0	120	150	4	101.6	100
H038432-100	2	50.8	2 Ply	2-5/8	66.7	145	150	5	127.0	100
H038448-100	3	76.2	2 Ply	3-5/8	92.1	220	150	9	228.6	100
H038464-100	4	101.6	2 Ply	4-5/8	117.5	315	150	11	279.4	100

White cover available as a made-to-order.

Lion Food Transfer



Tube: Vinyl Nitrile, FDA Approved Materials

Reinforcement: Fiber, 2 Ply and Helical Wire

Cover: Vinyl Nitrile

Color: White

Temperature Range: -40°F to +180°F

Type Of Branding: Printed strip

Suction: Full Vacuum

Working Pressure: 250 psi (Depending on coupling)

Type Of Coupling: Cam and Groove, Combination Nipple or Swaged/Crimped/Internal Expanded. Clamps—Band.

Features:

- Vinyl nitrile cover
- Vinyl nitrile tube
- Printed strip brand every ten feet
- White tube and cover
- Smooth bore

Advantages:

- Abrasion, animal fat, oil and weather resistant
- Animal and vegetable oil resistant
- Easy identification
- Meets FDA requirements
- Rapid fluid flow
- Easy to clean

Markets:

- Food industry
- Tank truck
- Rail car

Applications:

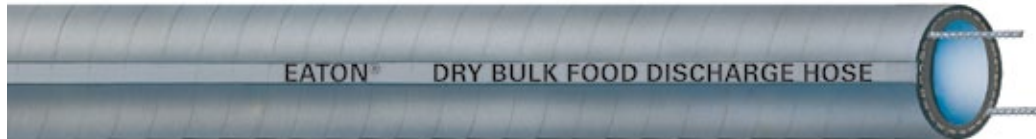
- Transfer by pumping, suction, and discharge of non-dairy food products
- Transfer of bulk liquid, sugar, syrups, and vegetable oils from tank trucks to candy manufacturers, bottling plants, processors, etc.

G

Product Number	Nominal I.D. (in.)	(mm)	Reinf.	Nominal O.D. (in.)	(mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Minimum Bend Radius (in.)	(mm)	Standard Length (Ft)
H035024-150*	1-1/2	38.1	2 Ply	2-1/8	54.0	130	250	4.0	101.6	150
H035032-150	2	50.8	2 Ply	2- 5/8	66.7	160	250	5.0	127.0	150
H035048-150	3	76.2	2 Ply	3-5/8	92.1	213	250	12.5	317.5	150
H035064-150	4	101.6	2 Ply	4-21/32	118.3	352	250	12.5	317.5	150

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

Dry Bulk Food Discharge



Tube: White Natural Rubber, FDA Approved Materials

Reinforcement: 2 Ply Fiber with Dual Stainless Steel Static Wires

Cover: Natural Rubber/SBR Blend

Color: Grey

Temperature Range: -20°F to +160°F

Type Of Branding: Embossed

Discharge: Dry Bulk Food Discharge

Working Pressure: 50 psi (Depending on coupling)

Type Of Coupling: Cam and Groove.
Clamps—Band.

G

Features:

- Grey SBR/natural rubber cover
- 7/32" natural rubber tube (white)
- Continuous printed brand
- Longer lengths
- Minimum 4-to-1 safety factor
- Dual static wire

Advantages:

- Abrasion and weather resistant
- Abrasion resistant for dry bulk food; FDA approved materials
- Easy identification
- Economical; less waste
- Meets industry standards
- Ground to coupling for increased static dissipation

Markets:

- Food industry
- Plastic industry
- Tank truck industry

Applications:

- Transfer of dry bulk food products
- Transfer of plastic pellets
- Transfer of bulk sugar, flour, rice, corn starch, and plastic pellets.

Product Number	Nominal I.D. (in.)	I.D. (mm)	Reinf.	Nominal O.D. (in.)	O.D. (mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Minimum Bend Radius (in.)	Radius (mm)	Standard Length (Ft)
H041364-100	4	101.6	2 Ply	4-3/4	120.7	225	50	11	279.4	100

Food Service Industry Hose

Notes

G

Suction and Discharge Hose

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Type 12 Industrial Grade Blue DURA-TUFF	H-10



Suction and Discharge Hose

Intro

Important Water Suction & Discharge Hose Safety Information!

 **WARNING:** Testing can be dangerous and should be done only by trained personnel using proper tools and procedures. Failure to follow such procedures might result in serious injury, death, or damage to property.

 **WARNING:** Failure to properly follow the manufacturer's recommended procedures for the care, maintenance, and storage of a particular hose may result in its failure to perform in the manner intended and may result in serious injury, death, or damage to property.

 **WARNING:** Never use a hose to transfer material it is not specifically meant to transfer. Doing so could deteriorate the hose and result in leaking, hose bursting, or end blow-offs. This could lead to serious personal injury or death. Always transfer material in a hose that is designed specifically to transfer that material. This information is listed in this catalog.

 **WARNING:** Consider both working pressure and pressure surges when determining "maximum" pressure. Failure to select a hose that meets both these requirements could lead to end blow-offs, hose leakage, and hose bursting. The result could be serious injury or death. The Eaton hose you choose must meet or exceed the required working pressure, and must have a safety factor to allow for surge pressure.

 **WARNING:** Do not use hose at temperatures that exceed the hose temperature rating. Doing so could deteriorate the hose, leading to leaks, hose bursting, and end blow-offs. This could result in serious personal injury or death.

 **WARNING:** Selection of the proper hose for the application is essential to the proper operation and safe use of the hose and related equipment. Inadequate attention to selection of hose for the application can result in serious bodily injury or property damage. In order to avoid serious bodily injury or property damage resulting from selection of the wrong hose, you should carefully review the information in this catalog.

WATER SUCTION & DISCHARGE HOSE BENEFITS

4:1 Safety Factor (Burst: Working Pressure) or 3:1 Safety Factor on Contractors Water, Green Garden Hose, Otter, Leader and Contrac-Force.

- Safer operation
- Longer hose life

Job Related Construction Service

- Eaton makes a wide variety of hose styles for water suction and discharge applications. Each product is manufactured utilizing the components and construction which makes it best suited for the job to be performed.

Pressure and Vacuum Rated

- Eaton manufactures braided and spiral hoses using the latest technology in wire and synthetic yarns. As a result, Eaton hoses are pressure and vacuum resistant, as well as flexible and easy to handle.

Quality Assured

- Value through design and quality control assures you of maximum performance from Eaton products.

Otter Water Suction & Discharge



Tube: EPDM

Reinforcement: Fiber, 2 or 4 Ply and Helical Wire

Cover: EPDM

Color: Black

Temperature Range: -10°F To +180°F

Type Of Branding: Embossed

Suction: Full Vacuum

Working Pressure: 'U' Series with 1-1/4": 75-125 psi
3:1 Safety Factor

Type Of Coupling: Cam and Groove, Water Suction, Combination Nipple, or Swaged/Crimped. Clamps—Single Bolt, Double Bolt or Band.

Features:

- EPDM cover
- EPDM tube
- Longer lengths

Advantages:

- Abrasion and weather resistant
- Resistant to diluted agricultural fertilizers
- Economical; eliminates waste

Markets:

- Agriculture
- Construction industry
- Equipment rental
- Mining
- Ship building
- Oil Exploration/drilling
- Tank truck

Applications:

- Transfer of water based liquid fertilizers and pesticides
- Pumping, suction, and discharge of water and slurries
- Convey water
- Transfer and haul salt water (brine)

H

Product Number	Nominal I.D. (in.)	(mm)	Reinf.	Nominal O.D. (in.)	(mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Minimum Bend Radius (in.)	(mm)	Standard Length (Ft)
H036420-150	1-1/4	31.8	2 Ply	1-51/64	45.6	85	125	6	152.4	150
H036424										50
H036424-100	1-1/2	38.1	2 Ply	2	50.8	87	125	5	127.0	100
H036424-150										150
H036432										50
H036432-100	2	50.8	2 Ply	2-1/2	63.5	112	125	6	152.4	100
H036432-150										150
H036440-150	2-1/2	63.5	2 Ply	3-1/16	77.8	139	100	12	304.8	150
H036448-100	3	76.2	2 Ply	3-9/16	90.5	168	100	12	304.8	100
H036464										50
H036464-100	4	101.6	2 Ply	4-9/16	115.9	219	75	14	355.6	100
H036464-150										150
H036480-150*	5	127.0	4 Ply	5-3/4	146.1	384	100	—		150
H036496-20	6	152.4	4 Ply	6-47/64	171.1	456	80	31	787.4	20
H036496										50
H036496-100										100
H036496-150										150
H03648A-20	8	203.2	4 Ply	8-53/64	224.2	662	80	32	812.8	20
H03648A										50

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

Flexbilt K-10 Suction & Discharge



Tube: Polyvinyl Chloride (PVC)

Reinforcement: Rigid Vinyl Helix

Color: Green

Temperature Range: -10°F To +150°F

Suction: Full Vacuum at 120°F; 27" of mercury at 150°

Working Pressure: 50-100 psi at 72°F;
35-65 psi at 150°F

Type Of Coupling: Cam and Groove, Water Suction,
or Combination Nipple.
Clamps—Double Bolt or Band.

Features:

- PVC construction
- 100' lengths
- Rigid vinyl helix

Advantages:

- Lightweight
- Abrasion resistant
- Economical; less waste
- Offers suction and discharge

Markets:

- Construction
- Equipment rental
- Mining, liquid waste

Applications:

- Suction
- Water discharge
- Pumping

H

Product Number	Nominal I.D.		Nominal O.D.		Approx. lbs. Weight Per 100 Ft.	Max. Working Press. (psi)		Min. Bend Radius (in.)	Standard Length (Ft)
	(in.)	(mm)	(in.)	(mm)		72°F	150°F		
H010024-100*	1-1/2	38.1	1-13/16	46.0	40	100	65	3.5	100
H010032-100*	2	50.8	2-3/8	60.3	57	85	45	5.0	100
H010040-100*	2-1/2	63.5	2-7/8	73.0	69	80	45	5.5	100
H010048-100*	3	76.2	3-7/16	87.3	94	75	40	9.5	100

Stated working pressures are listed above at 72°F and 150°F. Working pressure decreases as temperature increases.

** MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.*

TYPE CE Corrugated Suction Hose



Tube: PVC

Reinforcement: Rigid PVC Helix

Color: Clear with White Helix

Temperature Range: -5°F to +150°F

Type Of Branding: None

Working Pressure: 60-70 psi

Type Of Coupling: Cam & Groove, Water Suction or Combination Nipple, Clamps.

Features:

- Full vacuum
- Rigid PVC helix for maximum flex & crush resistance
- Small bend radius for tight turns
- Smooth bore construction

Advantages:

- Lightweight
- Extremely flexible
- Food grade
- Tough, durable, abrasion resistance

Markets:

- Mining
- Liquid waste
- Construction
- Food transfer

Applications:

- Suction
- Water discharge
- Pumping

H

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Nominal O.D. (in.)	Nominal O.D. (mm)	Working Pressure @ 68°F	Vacuum Pressure	Approx. lbs. Weight Per 100 Ft.	Standard Length (Ft.)	Package
CE-24*	1-1/2	38.1	1.960	49.8	70	28	45	100	15pc /Box
CE-32*	2	50.8	2.570	65.3	60	28	80	100	5pc /Box

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. Contact Eaton for further information.

** MTO - Made to Order - Contact Eaton at 877-662-8823 for availability, minimum run quantity, and ordering information.*

Royalflex 1196



Tube/Cover: Thermoplastic Vinyl Nitrile
MSHA Approved

Reinforcement: 100% Polyester and Helical Wire

Color: Blue

Temperature Range: -20°F To +180°F

Type Of Branding: Ink Print

Suction: Full Vacuum

Working Pressure: 200-300 psi (Depending on coupling)

Type Of Coupling: Contact Eaton for coupling information.

Features:

- Thermoplastic vinyl nitrile homogeneous tube and cover
- Ribbed cover
- More turns of helical wire per inch
- Higher working pressures
- Lightweight
- Flexible
- Longer lengths
- MSHA approved

Advantages:

- Abrasion, some chemical and heat resistance
- Sure grip
- More crush and kink resistant
- 300 psi applications
- Easy to handle
- Economical; eliminates couplings

Markets:

- Agriculture
- Construction
- Foundries
- Mining
- Oil exploration/drilling
- Paper industry
- Petroleum/Petrochemical
- Tank truck
- Waste hauling
- Waste treatment plant

Applications:

- Transfer of water, liquid diluted fertilizers and pesticides
- Pumping, suction, and discharge of water and slurries

H

Product Number	Nominal I.D.		Nominal O.D.		Approx. Weight (Lbs./Ft.)	Maximum Working Press. (psi)	Minimum Bend Radius		Standard Reels (ft)
(in.)	(mm)	(in.)	(mm)				(in.)	(mm)	
H119624	1-1/2	38.1	2	50.8	.81	300	6	152	50
H119624-60									60
H119624-100									100
H119624-120									120
H119632	2	50.8	2-1/2	63.5	1.09	300	8	203	50
H119632-60									60
H119632-100									100
H119632-120									120
H119640	2-1/2	63.5	3	76.2	1.32	300	10	254	50
H119640-60									60
H119640-100									100
H119640-120									120
H119648	3	76.2	3-1/2	88.9	1.94	250	12	305	50
H119648-60									60
H119648-100									100
H119648-120									120
H119664	4	102.0	4-1/2	115.9	2.72	200	16	406	50
H119664-60									60
H119664-100									100
H119664-120									120

Packaging is one 50, 60, 100, or 120 foot length per box.

Longer lengths available on special order.

Suction and Discharge Hose

ARROW-FLO Suction

 Refer to warnings and safety information on pages A-1 thru A-2 and page H-2.

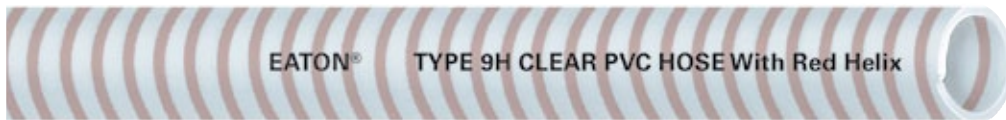
TYPE 9F

Clear PVC with White Helix, NSF-51



TYPE 9H

Clear PVC with Red Helix, NSF-51



TYPE 9G

Full color PVC with White Helix



Features:

- Full vacuum or discharge
- Rigid PVC helix for maximum flex & crush resistance
- Smooth core & cover construction

Advantages:

- Tough, durable, abrasion resistance
- Lightweight

Markets:

- Construction
- Agriculture
- Pool & spa
- Bulk material handling

Applications:

- Water suction & discharge
- Slurry vacuum & discharge
- Fertilizer transfer
- Vacuum transfer of light powders & mild chemicals
- Industrial & agricultural
- Pneumatic conveying hose

H

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Nominal O.D. (in.)	Nominal O.D. (mm)	Working Pressure @ 68°F	Burst Pressure Rating	Vacuum Pressure (In./Hg)	Min. Bend Radius	Approx. lbs. Weight Per 100 Ft.	Standard Length (Ft.)	Pkg.
9F/H/G-0814*	1/2	12.7	.840	21.3	100	650	28	1.5	13	100	Coil
9F/H/G-1215*	3/4	19.1	.950	24.1	100	550	28	2	19	100	Coil
9F/H/G-1620*	1	25.4	1-1/4	31.8	90	400	28	4	27	100	Coil
9F/H/G-2024*	1-1/4	31.8	1.520	38.6	80	400	28	4.5	36	100	Coil
9F/H/G-2428*	1-1/2	38.1	1-3/4	44.5	70	300	28	5	38	100	Coil
9F/H/G-2630*	1-5/8	41.3	1.900	48.3	70	250	28	6	46	100	Coil
9F/H/G-3238*	2	50.8	2.375	60.3	65	250	28	7.5	68	100	Coil
9F/H/G-4855*	3	76.2	3.400	86.4	65	170	28	13	119	100	Coil

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. Contact Eaton for further information.

* MTO - Made to Order - Contact Eaton at 877-662-8823 for availability, minimum run quantity, and ordering information.

Suction and Discharge Hose

Discharge

 Refer to warnings and safety information on pages A-1 thru A-2 and page H-2.

Leader Water Discharge



Tube: EPDM

Reinforcement: Fiber, 2 or 4 Spiral, 2 Ply

Cover: EPDM

Color: Black

Temperature Range: -10°F To +150°F

Type Of Branding: Embossed

Working Pressure: 80-150 psi
3:1 Safety Factor

Type Of Coupling: Cam and Groove, Combination Nipple.
Clamps—Double Bolt or Band.

Features:

- EPDM cover
- EPDM tube
- Continuous permanent brand
- Available in longer lengths

Advantages:

- Abrasion and weather resistant
- Resistant to diluted chemicals
- Easy identification
- Economical; less waste

Markets:

- Construction
- Equipment rental
- Mining
- Ship building
- Tank truck
- Agricultural

Applications:

- Water discharge
- Heavy duty with 150 psi
- Mild chemicals only

H

Product Number	Nominal I.D. (in.)	(mm)	Reinf.	Nominal O.D. (in.)	(mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Standard Length (Ft)
Light Duty								
H030724-100	1-1/2	38.1	2 Sp	1-13/16	46.0	57	100	100
H030732-100	2	50.8	2 Sp	2-5/16	58.7	73	100	100
H030740-100*	2-1/2	63.5	2 Ply	2-7/8	73.0	90	100	100
H030748-100	3	76.2	2 Sp	3-13/32	84.1	110	100	100
H030764-100	4	101.6	2 Sp	4-13/32	109.5	145	100	100
H030780-150*	5	127.0	2 Ply	5-3/8	136.5	179	100	150
H030796-150*	6	152.4	2 Ply	6-3/8	161.9	214	80	150
H03078A-150	8	203.2	2 Ply	8-25/64	213.1	283	80	150
Heavy Duty								
H037924-100	1-1/2	38.1	4 Sp	21/16	52.4	64	150	100
H037932-100	2	50.8	4 Sp	2-9/16	65.1	85	150	100
H037940-150	2-1/2	63.5	2 Ply	2-29/32	73.8	104	150	150
H037948-100	3	76.2	4 Sp	3-9/16	90.5	123	150	100
H037964-100	4	101.6	4 Sp	4-9/16	115.9	161	150	100
H037996-150*	6	192.4	2 Ply	6-29/64	163.9	255	150	150
H03798A-100*	8	203.2	2 Ply	8-13/32	213.5	313	100	100

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

Suction and Discharge Hose

Discharge

 Refer to warnings and safety information on pages A-1 thru A-2 and page H-2.

Flexbilt K-50 Water Discharge



Tube & Cover: Polyvinyl Chloride (PVC)

Reinforcement: Woven Synthetic Yarn

Color: Blue

Temperature Range: -10°F To +150°F

Type Of Branding: Embossed

Working Pressure: 35-75 psi

Type Of Coupling: Cam and Groove, Water Suction, or Combination Nipple.
Clamps—Double Bolt, Band or Wire.

Features:

- PVC construction
- Soft wall
- Smooth cover

Advantages:

- Lightweight
- Abrasion resistant
- Folds flat for easy storage
- Easy to move
- Easy to clean

Markets:

- Construction
- Equipment rental
- Mining

Applications:

- Open-end water discharge

H

Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

Suction and Discharge Hose

Discharge

 Refer to warnings and safety information on pages A-1 thru A-2 and page H-2.

TYPE 12 Industrial Grade Blue DURA-TUFF



Tube: PVC

Reinforcement: None

Color: Blue

Temperature Range: +25°F to +150°F

Type Of Branding: Ink Jet

Working Pressure: 10 psi

Features:

- Solid blue color
- Durable, abrasion resistant
- Measurement identification markers
- 0.032 wall thickness
- Soft wall
- Smooth core and cover

Advantages:

- Lightweight
- RoHS compliant
- Abrasion resistant
- Folds flat for easy storage

Markets:

- Pool and spa

Applications:

- Pool backwash hose
- Light water discharge

H

Product Number	Nominal I.D.		Nominal O.D.		Working Pressure @ 68°F	Approx. lbs. Weight Per 100 Ft.	Standard Length (Ft.)	Package
12-2425-36	1.63	41.4	1.692	43.0	10	9.0	25'	15pc/Box
12-2425-56							50'	5pc/Box
12-2425-16							100'	1pc/Box
12-2425-26							200'	Spool

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. Contact Eaton for further information.

Suction and Discharge Hose

Notes

H

Fuel/Petroleum/Oil Field
Service Hose
Introduction Page

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Royalflex 1193 Petroleum I-9

Kelly Power I-10



Fuel/Petroleum/Oil Field Service Hose

Intro

Important Petroleum Service Hose Safety Information!

 **WARNING:** Testing can be dangerous and should be done only by trained personnel using proper tools and procedures. Failure to follow such procedures might result in serious injury, death, or damage to property.

 **WARNING:** Failure to properly follow the manufacturer's recommended procedures for the care, maintenance, and storage of a particular hose may result in its failure to perform in the manner intended and may result in serious injury, death, or damage to property.

 **WARNING:** Consult with the Coupling Manufacturer to make sure you choose the correct coupling and proper assembly for the application. Such matching of hose and couplings, and assembling of couplings, should be performed only by trained personnel using proper tools and procedures. Failure to follow manufacturer's instructions or failure to use trained personnel may result in serious bodily injury and/or property damage.

 **WARNING:** Never use a hose to transfer material it is not specifically meant to transfer. Doing so could deteriorate the hose and result in leaking, hose bursting, or end blow-offs. This could lead to serious personal injury or death. Always transfer material in a hose that is designed specifically to transfer that material. This information is listed in this catalog.

 **WARNING:** If cover blisters exist, be careful not to pop them. If the hose was damaged in such a way that material was allowed to leak between the cover and inner tube, the blisters may contain this material. If the material is hazardous and splatters when the blisters are popped, it could cause serious physical injury.

 **WARNING:** Kinks can cause hose to burst, leading to bodily harm.

Fuel/Petroleum/Oil Field Service Hose

Intro

PETROLEUM HOSE BENEFITS

4:1 Safety Factor (Burst: Working Pressure)

- Safer operation
- Longer hose life

Environmental Resistance

- The tube and cover materials of the Eaton “Big Cats” are designed to assure maximum life and top value. They are sophisticated hoses for demanding jobs.

Remove the Guesswork from Selecting, Buying and Using Critical Application Hose

- When you are handling hazardous material, it is critical to select the proper hose. Eaton products’ high visibility branding and color coding removes the guesswork for hose selection.

Built to Make Work Faster, Easier and Safer

- Moving and connecting hose several times a day isn’t easy work. Each of the “Big Cats” is designed to be easy to handle as safety and job performance will allow.

The Eaton Reputation for Quality

- Your assurance of dependable performance.

Fuel/Petroleum/Oil Field Service Hose

ESP

Fuel Lines

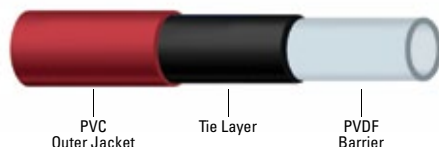
 Refer to warnings and safety information on pages A-1 thru A-2 and page I-2.

ESP® Fuel Lines

Custom Designed to your Needs

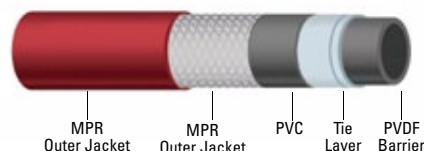
EH049

FUEL LINE TUBING CONSTRUCTION



EH089

FUEL LINE TUBING CONSTRUCTION



Features:

- PVDF barrier
- Polyester reinforced
- Black MPR cover
- CARB approved
- Meets parts of SAE J1527 B1 and SAE J30 R6, R9, R11 specifications
- Private branding available
- Light vacuum capabilities
- Available in cut lengths, coils and reels
- Temperature range: -25°F to +150°F

Advantages:

- Exceeds California air resources board standards for low hydrocarbon permeation rates
- Custom colors available
- Lightweight

Markets:

- Marine
- Small engine

Applications:

- Fuel delivery lines for small engines
- Petroleum-based chemicals
- Biodiesel fuel to 100%
- Marine fuel lines

Test Requirements SAE:	J30R6	J30R9	J30R11	J1527R1
Burst	Pass	Pass	Pass	Pass
Vacuum Collapse	Pass	Pass	Pass	Pass
Tensile	Pass	Pass	Pass	Pass
Elongation	Pass	Pass	Pass	Pass
Dry Heat Astmd573	Pass	Pass	Pass	Pass
Fuel Resistance Astmd471	Pass	Pass	Pass	Pass
Extractables	Pass	Pass	Pass	Pass
Ozone	Pass	Pass	Pass	Pass
Adhesion	Pass	Pass	Pass	Pass

Product Number	Nominal I.D.		Nominal O.D.		Working Pressure		Approx. Weight		Standard Length		Package
	(in.)	(mm)	(in.)	(mm)	20°C	@ 68°F	Kg/m	lb/ft	m	ft	
EH049 ESP® Tubing					MPa	psi					
EH04904-100	.250	6.35	.375	9.53	0.35	50	.045	.030	30.48	100	Coil/Box
EH04905-100	.312	7.92	.438	11.13	0.35	50	.054	.036	30.48	100	Coil/Box
EH04906-100	.375	9.53	.500	12.70	0.35	50	.064	.043	30.48	100	Coil/Box

Product Number	Nominal I.D.		Nominal O.D.		Working Pressure		Approx. Weight		Standard Length		Package
	(in.)	(mm)	(in.)	(mm)	20°C	@ 68°F	Kg/m	lb/ft	m	ft	
EH089 ESP® Hose					MPa	psi					
EH08904-100	.250	6.35	.490	12.45	1.72	250	.124	.083	30.48	100	Coil/Box
EH08905-100	.312	7.92	.555	14.10	1.72	250	.143	.096	30.48	100	Coil/Box
EH08906-100	.375	9.53	.625	15.88	1.72	250	.156	.105	30.48	100	Coil/Box

Fuel/Petroleum/Oil Field Service Hose

Light Duty Petroleum

 Refer to warnings and safety information on pages A-1 thru A-2 and page I-2.

**Now approved for
use with Biodiesel!
Call Eaton for details.**

Light Duty Petroleum



Tube: Vinyl Nitrile

Reinforcement: Fiber, 2 Ply and Helical Wires

Cover: Vinyl Nitrile

Color: Black

Temperature Range: -40°F to +160°F

Type Of Branding: Embossed

Suction: Full Vacuum

Working Pressure: 100 psi (Depending on coupling)

Type Of Coupling: Cam and Groove or Combination Nipple. Clamps—Band.

Features:

- Vinyl nitrile cover
- Vinyl nitrile tube
- Continuous embossed brand
- Minimum 4:1 safety factor

Advantages:

- Abrasion, animal fat, oil and weather resistant
- Easy identification
- Meets R.M.A. requirements

Markets:

- Petrochemical/ Petroleum industry
- Paper/Pulp industry
- Oil exploration and drilling
- Ship building

Applications:

- Transfer of petroleum products
- Transfer of crude oil, salt water, fresh water, and slurries

Catalog Number	Nominal I.D. (in.) (mm)		Reinf.	Nominal O.D. (in.) (mm)		Approx. lbs. Weight per 100 ft	Maximum Working Press. (psi)	Minimum Bend radius (in.) (mm)		Standard Lengths (Ft)
H043624-100	1-1/2	38.1	2 Ply	2	50.8	106	100	5	127.0	100
H043632-100	2	50.8	2 Ply	2-1/2	63.5	128	100	6	152.4	100
H043648-100	3	76.2	2 Ply	3-9/16	90.5	192	100	12	304.8	100
H043664-100*	4	101.6	2 Ply	4-9/16	115.9	267	100	14	355.6	100

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

Fuel/Petroleum/Oil Field Service Hose

Light Duty Petroleum

 Refer to warnings and safety information on pages A-1 thru A-2 and page I-2.

**Now approved for
use with Biodiesel!
Call Eaton for details.**

Bobcat LT Lightweight Petroleum



Tube: Vinyl Nitrile

Reinforcement: Fiber, 2 Ply and Helical Wires

Cover: Vinyl Nitrile (RD), Neoprene (BK)

Color: Red (RD) or Black (BK)

Temperature Range: -40°F to +180°F

Type Of Branding: Printed Strip

Suction: Full Vacuum

Working Pressure: 100 psi (Depending on coupling and clamps)

Type Of Coupling: Cam and Groove, Combination Nipple or Swaged/Crimped. Clamps—Band.

Features:

- Vinyl nitrile cover
- Vinyl nitrile tube
- Continuous printed brand with caution label every ten feet
- Lightweight and flexible

Advantages:

- Abrasion, oil and weather resistant
- Easy identification
- Safety
- Easy to route; easy to handle

Markets:

- Petrochemical/Petroleum industry
- Oil exploration and drilling
- Tank trucks
- Gasoline drop
- Waste hauling

Applications:

- Transfer and blending of petroleum products
- Transfer of crude oil, salt water, fresh (non-potable) water, and slurries
- Loading or unloading, pumping, suction, or gravity flow discharge

Catalog Number	Nominal I.D. (in.) (mm)		Reinf.	Nominal O.D. (in.) (mm)		Approx. lbs. Weight per 100 ft	Maximum Working Press. (psi)	Minimum Bend Radius (in.) (mm)		Standard Lengths (Ft)
H036932-150	2	50.8	2 Ply	2-1/2	63.5	119	150	3	76.2	150 (RD,BK)
H036948-150	3	76.2	2 Ply	3-1/2	88.9	188	150	5	127.0	150 (RD,BK)
H036964-150	4	101.6	2 Ply	4-1/2	114.3	240	100	7	177.8	150 (RD,BK)

Fuel/Petroleum/Oil Field Service Hose

Medium Duty Petroleum

 Refer to warnings and safety information on pages A-1 thru A-2 and page I-2.

**Now approved for
use with Biodiesel!
Call Eaton for details.**

Puma Petroleum



Tube: Vinyl Nitrile

Reinforcement: Fiber, 2 or 4 Ply and Helical Wires

Cover: Vinyl Nitrile

Color: Red (RD) or Black (BK)

Temperature Range: -40°F to +180°F

Type Of Branding: Printed Strip

Suction: Full Vacuum

Working Pressure: 150 psi (Depending on coupling and clamps)

Type Of Coupling: 'U' Series with 1" & 1-1/4", 430 'U' with 1", 1-1/4", 1-1/2", 2", TTC Fitting with 1" & 1-1/4", Cam and Groove, Combination Nipple or Swaged/ Crimped. Clamps—Band.

Features:

- Vinyl nitrile cover
- Vinyl nitrile tube
- Continuous printed brand

Advantages:

- Abrasion, animal fat, oil and weather resistant
- Easy identification

Markets:

- Petrochemical/ Petroleum industry
- Paper/Pulp industry
- Oil exploration and drilling
- Ship building
- Tank trucks
- Railroad tank cars
- Waste hauling

Applications:

- Transfer of petroleum products
- Transfer of crude oil, salt water, fresh (non-potable) water, and slurries
- Loading or unloading, pumping, suction, or gravity flow discharge

Product Number	Nominal I.D. (in.)	(mm)	Reinf.	Nominal O.D. (in.)	(mm)	Approx. lbs. Weight per 100 ft.	Maximum Working Press. (psi)	Minimum Bend Radius (in.)	(mm)	Standard Length (Ft)*
H036312-100	3/4	19.0	2 Ply	1-9/64	28.8	53	150	4.5	110	100(BK)
H036316-150	1	25.4	2 Ply	1-31/64	37.7	75	150	6	152	150(BK)
H036320-150	1-1/4	31.8	2 Ply	1-25/32	45.2	85	150	7.5	190	150(BK)
H036324-100	1-1/2	38.1	2 Ply	2-1/16	52.4	98	150	8	200	100(BK)
H036324-150										150
H036332-100	2	50.8	2 Ply	2-9/16	65.1	115	150	9	255	100(BK,RD)
H036332-150										150
H036340-150	2-1/2	63.5	4 Ply	3-1/32	77.0	140	150	12	315	150(BK)
H036348-100	3	76.2	4 Ply	3-9/16	90.5	166	150	15	380	100(BK,RD)
H036364-100	4	101.6	4 Ply	4-9/16	115.9	224	150	20	510	100(BK)
H036364-150										150
H036396-100	6	152.4	4 Ply	6-55/64	174.2	514	150	31	780	100(BK)
H036396-150										150(BK)
H03638A-25	8	203.2	4 Ply	8-55/64	225.0	674	150	43	1100	5(BK)
H03638A										50(BK)

*150 foot lengths available upon request.

Fuel/Petroleum/Oil Field Service Hose

Heavy Duty Petroleum

 Refer to warnings and safety information on pages A-1 thru A-2 and page I-2.

**Now approved for
use with Biodiesel!
Call Eaton for details.**

Jaguar Heavy Duty Petroleum



Tube: Vinyl Nitrile

Reinforcement: Fiber, 2 or 4 Ply and Helical Wires

Cover: Vinyl Nitrile

Color: Orange (6" & 8" Jaguar has a black Vinyl Nitrile cover)

Temperature Range: -40°F to +180°F

Type Of Branding: Printed Strip

Suction: Full Vacuum

Working Pressure: 250 psi
(Depending on coupling and clamps)

Type Of Coupling: Cam and Groove, Combination Nipple or Swaged/Crimped. Clamps—Band.

Features:

- Vinyl nitrile cover
- Vinyl nitrile tube
- Continuous printed brand and caution label every ten feet
- Orange cover

Advantages:

- Abrasion, animal fat, oil and weather resistant
- Easy identification
- Meets OSHA color requirements for flexible pipe systems

Markets:

- Tank trucks
- Railroad tank cars
- Waste hauling
- Petrochemical/Petroleum industry

Applications:

- Loading and unloading, pumping, suction
- Bottom loading, gravity flow discharge
- Transfer of petroleum products

Catalog Number	Nominal I.D. (in.)	(mm)	Reinf.	Nominal O.D. (in.)	(mm)	Approx. lbs. Weight per 100 ft	Maximum Working Press. (psi)	Minimum Bend Radius (in.)	(mm)	Standard Lengths (Ft)
H032724-150	1-1/2	38.1	2 Ply	2-1/16	52.4	99	250	4.0	101.6	150
H032732-150	2	50.8	2 Ply	2-9/16	65.1	124	250	5.0	127.0	150
H032740-150	2-1/2	63.5	2 Ply	3-1/32	77.0	161	250	7.5	190.5	150
H032748-150	3	76.2	2 Ply	3-9/16	90.5	200	250	8.0	203.2	150
H032764-150	4	101.6	2 Ply	4-9/16	115.9	292	250	12.5	317.5	150
H032796-100*	6	152.4	4 Ply	7-1/4	184.2	721	250	30.0	762.0	100
H032796-150*										150
H03278A-100*	8	203.2	4 Ply	9-1/8	231.8	909	250	32.0	812.0	100

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

Fuel/Petroleum/Oil Field Service Hose

Heavy Duty Petroleum

 Refer to warnings and safety information on pages A-1 thru A-2 and page I-2.

**Now approved for use
with Biodiesel!
Call Eaton for details.**

Royalflex 1193 Petroleum



Tube: Nitrile

Reinforcement: 100% Polyester and Helical Wires

Color: Black

Temperature Range: -20°F to +180°F

Suction: Full Vacuum

Working Pressure: 200-300 psi (Depending on coupling)

Type Of Coupling: Contact Eaton for coupling information.

Features:

- Nitrile tube and cover
- More turns of helical wire per inch
- Higher working pressure
- Lightweight
- Flexible
- Longer lengths

Advantages:

- Abrasion, oil and weather resistant
- More crush and kink resistant
- 300 psi applications
- Easy to handle
- Economical; eliminates couplings

Markets:

- Tank Trucks
- Industrial Cleaning
- Petroleum/Petrochemical
- Refineries
- Tank car
- Storage tanks
- Oil Exploration/Drilling
- Waste hauling

Applications:

- Transfer of petroleum and chemicals

Product Name	Nominal I.D. (in.)	(mm)	Nominal O.D. (in.)	(mm)	Weight (Lb/Ft)	Approx w/o Fittings (Kg/m)	Maximum Working Press. (psi)	(bar)	Bend Radius (in.)	(mm)	Standard Length (Ft)
H119324*	1-1/2	38.1	2	50.8	.80	1.191	300	20.68	6	152	50
H119324-60											60
H119324-100											100
H119324-120											120
H119332*	2	50.8	2-1/2	63.5	1.10	1.652	300	20.68	8	203	50
H119332-60											60
H119332-100											100
H119332-120											120
H119340*	2-1/2	63.5	3	76.2	1.34	1.994	300	20.68	10	254	50
H119340-60											60
H119340-100											100
H119340-120											120
H119348*	3	76.2	3-1/2	88.9	2.00	2.992	250	17.24	12	305	50
H119348-60											60
H119348-100											100
H119348-120											120
H119364*	4	102.0	4-1/2	114.3	2.72	4.084	200	13.79	16	406	50
H119364-60											60
H119364-100											100
H119364-120											120

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

Fuel/Petroleum/Oil Field Service Hose

Oil Field Hose

 Refer to warnings and safety information on pages A-1 thru A-2 and page I-2.

Kelly Power



Tube: Neoprene

Reinforcement: Wire, 4 Spiral

Cover: Neoprene

Color: Black

Temperature Range: -40°F to +250°F

Type Of Branding: Printed Strip

Working Pressure: 3000 psi
4:1 Safety Factor

Type Of Coupling: 430 'U' Series

Features:

- Neoprene cover
- Neoprene tube
- Patch brand

Advantages:

- Abrasion, oil and weather resistant
- Good oil resistance
- Easy identification

Markets:

- Oil exploration
- Drilling

Applications:

- Rotary drilling on portable drilling rigs, work over rigs, and slim hole rigs

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Reinf.	Nominal O.D. (in.)	Nominal O.D. (mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Minimum Bend Radius (in.)	Minimum Bend Radius (mm)	Standard Length (Ft)
H037732	2	50.8	4 Sp	2-21/32	67.5	310	3,000	25	635	50*

*150's available on request.

Fuel/Petroleum/Oil Field Service Hose

Notes

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Wildcat Hot AirJ-6



Material Handling Hose

Intro

Important Material Handling Hose Safety Information!

⚠ WARNING: Testing can be dangerous and should be done only by trained personnel using proper tools and procedures. Failure to follow such procedures might result in serious injury, death, or damage to property.

⚠ WARNING: Failure to properly follow the manufacturer's recommended procedures for the care, maintenance, and storage of a particular hose may result in its failure to perform in the manner intended and may result in serious injury, death, or damage to property.

⚠ WARNING: Consult with the Coupling Manufacturer to make sure you choose the correct coupling and proper assembly for the application. Such matching of hose and couplings, and assembling of couplings, should be performed only by trained personnel using proper tools and procedures. Failure to follow manufacturer's instructions or failure to use trained personnel may result in serious bodily injury and/or property damage.

⚠ WARNING: Never use a hose to transfer material it is not specifically meant to transfer. Doing so could deteriorate the hose and result in leaking, hose bursting, or end blow-offs. This could lead to serious personal injury or death. Always transfer material in a hose that is designed specifically to transfer that material. This information is listed in this catalog.

⚠ WARNING: Consider both working pressure and pressure surges when determining "maximum" pressure. Failure to select a hose that meets both these requirements could lead to end blow-offs, hose leakage, and hose bursting. The result could be serious injury or death. The Eaton hose you choose must meet or exceed the required working pressure, and must have a safety factor to allow for surge pressure.

⚠ WARNING: Do not use hose at temperatures that exceed the hose temperature rating. Doing so could deteriorate the hose, leading to leaks, hose bursting, and end blow-offs. This could result in serious personal injury or death.

MATERIAL HANDLING HOSE BENEFITS

- 4:1 Safety Factor (Burst: Working Pressure)
- Safer operation. Longer hose life

Environmental Resistance

- The tube and cover materials of the Eaton "Big Cats" are designed to assure maximum life and top value. They are sophisticated hoses for demanding jobs.

Built to Make Work Faster, Easier and Safer

- Moving and connecting hose several times a day isn't easy work. Each of the "Big Cats" is designed to be as easy to handle as safety and job performance will allow.

Honest Value

- There is only one way to make hose cost less—build it cheaper. You won't find compromises in the "Big Cats." That's why we put the Eaton brand name on them.

Job Related Construction Service

- Eaton makes a variety of hose styles for material handling applications. Each product is manufactured utilizing the components and construction which make it best suited for the job to be performed.



Material Handling Hose

Dry Bulk Transfer

 Refer to warnings and safety information on pages A-1 thru A-2 and page J-2.

Lynx Softwall Dry Material



Tube: Natural Rubber/SBR Blend (3/16" tube thickness)
Static Dissipating

Reinforcement: Fiber, 2 Ply

Cover: SBR

Color: Black

Temperature Range: -10°F To +150°F

Type Of Branding: Printed Strip

Working Pressure: 50 psi (Depending on coupling)

Type Of Coupling: Cam and Groove, or Combination Nipple. Clamps—Band.

Features:

- SBR cover
- Natural rubber/SBR blend tube 3/16" thick
- Conductive tube
- Continuous printed brand
- Available in longer lengths
- Soft wall hose

Advantages:

- Abrasion, age and weather resistant
- Static dissipating
- Easy identification
- Economical; less waste
- Folds flat for easy storage

Markets:

- Tank truck
- In-plant transfer
- Bottling plant
- Coal plant

Applications:

- Transfer of dry bulk (cement, sand, lime, etc.); discharge of any abrasive materials
- Transfer of bottle caps
- Transfer of cleaning agents

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Reinf.	Nominal O.D. (in.)	Nominal O.D. (mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Standard Length (Ft)
H031964-100	4	101.6	2 Ply	4-5/8	117.5	225	50	100

J

Material Handling Hose

Dry Bulk Transfer

 Refer to warnings and safety information on pages A-1 thru A-2 and page J-2.

Lynx HD Softwall Dry Material



Tube: Natural Rubber/SBR Blend (1/4" tube thickness)
Static Dissipating

Reinforcement: Fiber, 2 Ply

Cover: SBR

Color: Black

Temperature Range: -10°F To +150°F

Type Of Branding: Printed Strip

Working Pressure: 50 psi (Depending on coupling)

Type Of Coupling: Cam and Groove, or Combination Nipple. Clamps—Band.

Features:

- SBR cover
- Natural rubber/SBR blend tube 1/4" thick
- Conductive tube
- Continuous printed brand
- Available in longer lengths
- Soft wall hose

Advantages:

- Abrasion, age and weather resistant
- Static dissipating
- Easy identification
- Economical; less waste
- Folds flat for easy storage

Markets:

- Tank truck
- In-plant transfer
- Bottling plant
- Coal plant

Applications:

- Transfer of dry bulk (cement, sand, lime, etc.); discharge of any abrasive materials
- Transfer of bottle caps
- Transfer of cleaning agents

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Reinf.	Nominal O.D. (in.)	Nominal O.D. (mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (Psi)	Standard Length (Ft)
H052164-100	4	101.6	2 Ply	4-13/16	122.2	300	50	100
H052180-150*	5	127	2 Ply	5-7/8	149.2	320	50	150

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

Material Handling Hose

Dry Bulk Transfer

 Refer to warnings and safety information on pages A-1 thru A-2 and page J-2.

Sabertooth Dry Material



Tube: Natural Rubber/SBR Blend
Static Dissipating

Reinforcement: Fiber, 4 Ply and Helical Wire

Cover: SBR

Color: Black

Temperature Range: -10°F To +160°F

Type Of Branding: Printed Strip

Suction: Full Vacuum

Working Pressure: 100 psi (Depending on coupling)

Type Of Coupling: Cam and Groove, or Combination
Nipple. Clamps—Band.

Features:

- SBR cover
- Natural rubber/SBR blend tube
- Conductive tube
- Continuous printed brand
- Available in longer lengths

Advantages:

- Abrasion, age and weather resistant
- Static dissipating
- Easy identification
- Economical; less waste

Markets:

- Tank truck
- In-plant transfer
- Bottling plant
- Coal plant

Applications:

- Transfer of dry bulk (cement, sand, lime, plastics, animal feed, etc.); suction/discharge of any abrasive materials
- Transfer of bottle caps
- Transfer of cleaning agents

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Reinf.	Nominal O.D. (in.)	Nominal O.D. (mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Minimum Bend Radius (in.)	Minimum Bend Radius (mm)	Standard Length (Ft)
H034748-100	3	76.2	4 Ply	4	101.6	320	100	9	228.6	100
H034764-100	4	101.6	4 Ply	5	127.0	440	100	11	279.4	100

J

Material Handling Hose

Hot Air Transfer

 Refer to warnings and safety information on pages A-1 thru A-2 and page J-2.

Wildcat Hot Air



Tube: EPDM

Reinforcement: Fiber, 2 Ply and Helical Wire

Cover: EPDM/Pinpricked

Color: Brown

Temperature Range: -45°F to 300°F

Type Of Branding: Printed Strip

Suction: Full Vacuum

Working Pressure: 100-150 psi (Depending on coupling)

Type Of Coupling: Cam and Groove, or Combination Nipple. Clamps—Band.

Features:

- EPDM cover
- EPDM tube
- Continuous printed brand/brown color
- Longer lengths
- Pin pricked

Advantages:

- Abrasion, heat and weather resistant
- Heat resistant (intermittent service to 350°F)
- Easy identification
- Economical; less waste
- Hot air permeation

Markets:

- Tank trucks
- In-plant transfer
- Construction

Applications:

- Hot air blower hose; hot, dry, non-oily air applications

Product Number	Nominal I.D. (in.)	(mm)	Reinf.	Nominal O.D. (in.)	(mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Minimum Bend Radius (in.)	(mm)	Standard Length
H034948-100	3	76.2	2 Ply	3-47/64	94.9	230	150	9	228.6	100
H034964	4	101.6	2 Ply	4-39/64	117.1	290	100	11	279.4	50
H034964-100										100
H034964-150										150

Heat resistant (intermittent service to 350°F).

Material Handling Hose

Notes



Cleaning Service Hose

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Cleaning Service Hose

Intro

Important Cleaning Service Hose Safety Information!

 **WARNING:** Testing can be dangerous and should be done only by trained personnel using proper tools and procedures. Failure to follow such procedures might result in serious injury, death, or damage to property.

 **WARNING:** Failure to properly follow the manufacturer's recommended procedures for the care, maintenance, and storage of a particular hose may result in its failure to perform in the manner intended and may result in serious injury, death, or damage to property.

 **WARNING:** Never use a hose to transfer material it is not specifically meant to transfer. Doing so could deteriorate the hose and result in leaking, hose bursting, or end blow-offs. This could lead to serious personal injury or death. Always transfer material in a hose that is designed specifically to transfer that material. This information is listed in this catalog.

 **WARNING:** Consider both working pressure and pressure surges when determining "maximum" pressure. Failure to select a hose that meets both these requirements could lead to end blow-offs, hose leakage, and hose bursting. The result could be serious injury or death. The Eaton hose you choose must meet or exceed the required working pressure, and must have a safety factor to allow for surge pressure.

 **WARNING:** Do not use hose at temperatures that exceed the hose temperature rating. Doing so could deteriorate the hose, leading to leaks, hose bursting, and end blow-offs. This could result in serious personal injury or death.

 **WARNING:** Selection of the proper hose for the application is essential to the proper operation and safe use of the hose and related equipment. Inadequate attention to selection of hose for the application can result in serious bodily injury or property damage. In order to avoid serious bodily injury or property damage resulting from selection of the wrong hose, you should carefully review the information in this catalog.

CLEANING SERVICE HOSE BENEFITS

4:1 Safety Factor (Burst: Working Pressure)

- Safer operation. Longer hose life.

Job Related Cleaning Service

- Eaton makes a variety of hose styles for cleaning and sandblast applications. Each product is manufactured to the specifications required to make it best suited for the job.

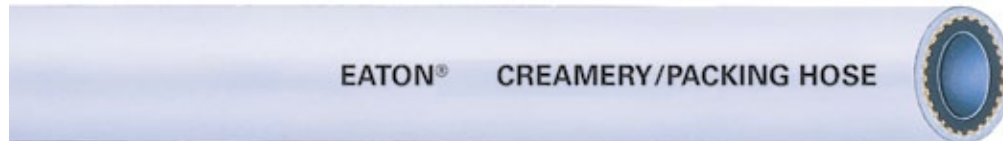
Every Hose is Easily Identified

- Every foot of hose is easily identified by means of permanent branding. This makes hose selection on the job quicker, easier and safer, and buying hose is easier too—because you can tell at a glance that you're getting exactly the hose you ordered.

Brand Name Identity

- With the Eaton brand name on the hose you buy, you are assured of maximum value and consistent quality. With over 100 years worth of reputation at stake we wouldn't have it any other way.

Creamery/Packing Washdown



Tube: Nitrile

Reinforcement: Fiber, 2 Braid

Cover: Vinyl Nitrile/Pinpricked

Color: White

Temperature Range: -40°F to +180°F

Type Of Branding: Ink Print

Working Pressure: 200 psi

Type Of Coupling: 'U' Series, Barbed Inserts, Quick Acting, Short or Long Shank. Clamps—Band.

Features:

- Vinyl nitrile cover
- Nitrile tube
- Continuous permanent brand
- White color
- Pin pricked

Advantages:

- Abrasion, animal fat, oil, and weather resistant
- Heat resistant
- Easy identification
- Non-marking
- Convey hot water to 180°F

Markets:

- Food industry
- Meat packing & rendering
- Chicken processing
- Dairies
- Canneries
- Syrup manufacturing

Applications:

- Washdown of food processing facilities and equipment
- * Not for conveying milk*

Product Number	Nominal I.D. (in.)	(mm)	Reinf.	Nominal O.D. (in.)	(mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Standard Coils (Ft)
H106612-500	3/4	19.1	2 Br	1-1/4	31.8	52	200	500
H1066RN	3/4	19.1	Molded rubber nozzles available on request.					

Cleaning Service Hose

Food Clean-Up

 Refer to warnings and safety information on pages A-1 thru A-2 and page K-2.

Washdown 1000®



Tube: Nitrile

Reinforcement: Wire, 1 Braid

Cover: Vinyl Nitrile

Color: Yellow (YW), Grey (GY)

Temperature Range: -40°F to +180°F

Type Of Branding: Ink Print

Working Pressure: 1,000 psi

Type Of Coupling: 'U' Series, 430 'U' Series or Interlocking. Clamps—Interlocking.

Features:

- Vinyl nitrile cover
- Nitrile tube
- Continuous permanent brand
- Longer lengths

Advantages:

- Abrasion, animal fat, vegetable oil, and weather resistant
- Heat resistant
- Detergent resistant
- Easy identification
- Economical; less waste

Markets:

- Food industry
- Poultry processing
- Industrial cleaning markets
- Construction industry

Applications:

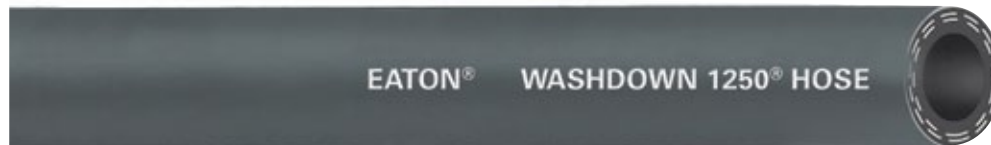
- Washdown of food processing facilities and equipment
- Transfer of hot detergent type solutions for cleaning equipment, tanks, buildings, etc.; maximum temperature of +180°F
- Convey air and water

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Reinf.	Nominal O.D. (in.)	Nominal O.D. (mm)	Approx. Lbs. Per 100 Ft.	Maximum Working Press. (psi)	Minimum Bend Radius (In.)	Standard Coils (Ft)
H961006-350R*	3/8	9.5	1 Br	11/16	17.5	25	1,000	5	350(YW)
H961008-350R*	1/2	12.7	1 Br	27/32	21.4	32	1,000	7	350(YW, GY)
H961012-350R*	3/4	19.1	1 Br	1-5/32	29.4	46	1,000	9-1/2	350(YW)

Reels will vary from 300 to 400 feet with maximum of 3 pieces per reel, no piece less than 50 feet.

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

Washdown 1250®



Tube: Nitrile

Reinforcement: Fiber, 1 and 2 Braid

Cover: Vinyl Nitrile

Color: Grey

Temperature Range: -40°F to +180°F

Type Of Branding: Ink Print

Working Pressure: 1,250 psi

Type Of Coupling: 'U' Series, Steel Nipple or Interlocking. Clamps—Interlocking.

Features:

- Vinyl nitrile cover
- Smooth cover
- Nitrile tube
- Continuous permanent brand/grey cover
- Longer lengths

Advantages:

- Abrasion, animal fat, vegetable oil, and weather resistant
- Easy to clean
- Heat resistant
- Detergent resistant
- Easy identification
- Economical; less waste

Markets:

- Food industry
- Poultry processing
- Industrial cleaning markets
- Construction Industry

Applications:

- Washdown of food processing facilities and equipment
- Transfer of hot detergent type solutions for cleaning equipment, tanks, buildings, etc.; maximum temperature +180°F
- Convey air and water

Product Number	Nominal I.D. (in.) (mm)		Reinf.	Nominal O.D. (in.) (mm)		Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Standard Reels** (Ft)
H967306-350R*	3/8	9.5	1 Br	45/64	17.8	16	1,250	350
H967308-350R*	1/2	12.7	2 Br	55/64	22.9	23	1,250	350
H967312-350R*	3/4	19.1	2 Br	1-11/64	29.8	30	1,250	350

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

** Reels will vary from 300 to 400 feet with maximum of 3 pieces per reel, no piece less than 50 feet.

Cleaning Service Hose

High Pressure

 Refer to warnings and safety information on pages A-1 thru A-2 and page K-2.

Supraforce



Tube: Rubber Modified Thermoplastic

Reinforcement: Fiber, 2 Spiral

Cover: Rubber Modified Thermoplastic

Color: Yellow

Temperature Range: +10°F To +180°F

Type Of Branding: Ink Print

Working Pressure: 300-400 psi

Type Of Coupling: Barbed Inserts. Clamps—Brass Collar.
Do not use internal expanded couplings.

Features:

- Lightweight
- Flexible
- PVC tube
- Rubber modified thermoplastic cover
- Factory tested to exceed minimum electrical resistivity of one megohm per inch at 1000 volts D.C.

Advantages:

- Easy to handle
- Easy to route
- Moderate oil resistance
- Good age, abrasion, ozone, and oil resistance
- No electrical build-up

Markets:

- Food processing
- Meat packing plants
- Construction

Applications:

- High pressure spray
- Washdown
- High pressure air

Product Number	Nominal I.D. (in.) (mm)		Reinf.	Nominal O.D. (in.) (mm)		Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Minimum Bend Radius (in.)	Std. Reels (Ft)
H153106-500R*	3/8	9.5	4 Sp	11/16	17.5	15	400	4-1/2	500
H153108-500R*	1/2	12.7	4 Sp	25/32	19.8	17	400	6	500
H153110-500R*	5/8	15.9	4 Sp	1-1/2	25.4	28	400	7-1/2	500
H153112-500R	3/4	19.1	4 Sp	1-1/8	28.6	32	400	9	500
H153116-300R*	1	25.4	4 Sp	1-7/16	36.5	48	300	12	300

Stated working pressures are tested at 68°F. Working pressure decreases as temperature increases. See chart on page A-12 showing the relationship between working pressure and temperature for reinforced PVC hose.

** MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.*

K

Cleaning Service Hose

Pressure Washer

 Refer to warnings and safety information on pages A-1 thru A-2 and page K-2.

Pressure Washer



Tube: Nitrile RMA Class A Oil Resistance

Reinforcement: Wire, 1 Braid

Cover: Vinyl Nitrile MSHA Approved

Color: Blue

Temperature Range: -40°F To +200°F

Type Of Branding: Ink Print

Working Pressure: 3,000 psi

Type Of Coupling: TTC Fittings, 'Z' Series

Features:

- Vinyl nitrile MSHA approved
- Nitrile tube
- Flexible one-wire braid

Advantages:

- Non-marking
- Abrasion, heat, ozone, and weather resistant
- Heat and detergent resistant
- Easy to handle at 3,000 psi

Markets:

- Industrial cleaning markets
- Food industry
- Construction industry
- Marine
- Agricultural

Applications:

- Pressure wash engines, equipment, tanks, buildings, and roof cleaning, etc.
- Washdown of food processing facilities and equipment
- High pressure cleaning and degreasing
- Boat cleaning
- Pressure wash engines, farm equipment, tanks and buildings

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Reinf.	Nominal O.D. (in.)	Nominal O.D. (mm)	Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Standard Reels (Ft)
H334504	1/4	16.3	1 Br	1/2	12.7	13	3,000	50
H334504-100								100
H334504-250R								250
H334504-500R								500
H334506	3/8	9.5	1 Br	5/8	15.9	18	3,000	50
H334506-100								100
H334506-250R								250
H334506-500R								500
H334508	1/2	12.7	1 Br	25/32	19.8	25	3,000	50
H334508-100								100
H334508-250R								250
H334508-500R								500

K

Concord Sandblast



Tube: Natural Rubber

Reinforcement: Fiber, 2 Braid or 2 Ply

Cover: SBR

Color: Black

Temperature Range: -40°F To +150°F

Type Of Branding: Embossed

Working Pressure: 100-150 psi

Type Of Coupling: Sandblast Couplings that attach to O.D. of hose.

Features:

- SBR cover
- Continuous, natural rubber tube
- Conductive tube
- Continuous permanent brand
- Flexible

Advantages:

- Abrasion, age and weather resistant
- Abrasion resistant
- Static dissipating
- Easy identification
- Easy to handle

Markets:

- Construction industry
- Metal working
- Ship building

Applications:

- Conveys sand from sandblast equipment to clean steel or concrete before painting or sealing
- Conveys sand or shot for cleaning purposes

Product Number	Nominal I.D. (in.) (mm)		Reinf.	Nominal O.D. (in.) (mm)		Approx. lbs. Weight Per 100 Ft.	Maximum Working Press. (psi)	Standard Length (Ft)
H003408	1/2	12.7	2 Br	1-1/16	27.0	40	150	50
H003408-100								100
H003412	3/4	19.1	2 Br	1-1/2	38.1	70	150	50
H003412-100								100
H003412-150*								150
H003416	1	25.4	2 Br	1-15/16	49.2	110	150	50
H003416-100								100
H003416-150								150
H003420	1-1/4	31.8	2 Ply	2-5/32	54.8	130	125	50
H003420-100								100
H003420-150								150
H003424	1-1/2	38.1	2 Ply	2-25/64	60.7	140	100	50
H003424-100								100
H003424-150								150
H003432	2	50.8	2 Ply	2-7/8	73.0	174	100	50
H003432-150								150

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

Cleaning Service Hose

Notes

K

Cleaning Service Hose

Notes

Steam Service Hose

Introduction Page

Steam Cleaning

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Steam Service Hose

Intro

Important Steam Hose Safety Information!

 **WARNING:** Exposure to steam is hazardous. If not properly controlled, steam can cause property damage, serious bodily injury, or death. In order to avoid property damage, serious injury, or death, you must select the proper steam hose for the given application. Also, proper installation, usage and maintenance of the steam hose you select will contribute to increased operator safety.

 **WARNING:** Failure to properly follow the manufacturer's recommended procedures for the care, maintenance and storage of a particular hose may result in its failure to perform in the manner intended and may result in serious injury, death, and damage to property.

 **WARNING:** Only specially trained persons should engage in applications or testing procedures that require particular skills. Failure to do so may result in damage to the hose products or to other property and more importantly, may result in serious injury.

 **WARNING:** Steam heat is hotter than 212°F (boiling water) and increases in temperature as pressure increases. See safety information in this catalog.

STEAM HOSE BENEFITS

10:1 Safety Factor (Burst: Working Pressure)

- Safer operation
- Longer hose life

Heat Resisting Patrex or EPDM Tubes

- Eaton products' exclusive elastomers with superior heat resistance provide for longer service life...and will resist flaking rubber particles (popcorning) and will handle most steam cleaner detergents.

Hi-Strength Steel Wire Braided Reinforcement

- Keeps the hose limber and easy to handle. Adds versatility...hot water cleaning to high pressure process steam service.

EPDM or Oil Resistant

- Stand up to the dragging, scuffing and abuse found in many applications.

Covers

- Ensures maximum service life and value. Exceptional aging, weathering, and heat resisting properties keep the hose flexible and easy to use.

Permanent Branding for Easy Identification

- The name of the hose and the working pressure are molded into the hose cover...can't rub off. This lets the operator know that the hose is for steam service.

The Eaton Brand Reputation for Quality

- Your assurance of dependable performance.

Steam Service Hose

Safety Tips

Common Sense with Steam Hose

- Provide operators with adequate safety clothing. Include gloves, rubber boots, full length protective clothing and eye protection. The objective is to provide protection from scalding burns resulting from splash back of steam or hot water.
- Ensure that the work area is free of tripping hazards and other clutter.
- Check the tightness of the coupling with each use.
- Do not allow the hose to remain pressurized when not in service. Turning off the pressure can provide dramatic increases in steam hose service life.
- Periodic maintenance of steam hose can pay big dividends. All steam hoses are expected to wear out in time. It is important to continually be on the lookout for hose that has deteriorated to the point where it can no longer provide safe service. The following guidelines can help in that determination.

Operators should be aware of the obvious signs of trouble.

They include:

- Cover blisters or lumps
- Cuts or gouges in the outside of the hose which expose the reinforcement
- Hardened or inflexible hose
- Steam leakages at the coupling ends or anywhere along the length of the hose
- Flattened or kinked areas which have damaged the hose
- A reduction of steam flow indicating that the tube is swelling

When any of the above abnormalities appear it is good safety sense to immediately remove the hose from service. Once removed, the hose can be carefully inspected before further use. Steam hose failures occur near the ends due to flexing and strain at the couplings. In those cases the hose can frequently be cut back and recoupled, providing additional service life. Hose used in continuous high pressure/ temperature service should be inspected periodically for signs of tube hardening. In most cases it is necessary to remove a coupling for tube inspection.

Steam Service Hose

Safety Tips

Make Your Selection With Safety in Mind

- Be sure to select a hose identified as steam hose.
- Hose identification should be in the form of permanent branding on the hose outer cover, not just on the package.
- You must identify the type of service the steam hose is required to accomplish.
 - a) Is the hose manually handled?
 - b) What is the anticipated frequency of use?
 - c) What is the actual pressure of the steam service?
 - d) Is it subject to surges or peak pressures?
 - e) What is the temperature of the steam?
 - f) Saturated (wet) or superheated (dry) steam?
 - g) What are the external conditions in the area where the hose will be used?
- You should recognize that spillage or accumulations of corrosive chemicals or petroleum based materials externally can have a deteriorating effect on the hose cover.

Making Sure the Hose is Installed Properly

- Be certain to use hose couplings designed for steam hose service. Follow the coupling manufacturer's instruction for coupling attachment. Check tightness with each use.
- Avoid extreme flexing of the hose near the coupling. If necessary use elbows in the piping system to assure a straight line connection with the hose.
- Installing and using a shut-off valve between the steam source and the hose will maximize service life and operator safety, and we consider such a value mandatory for safe operation.
- The use of spring guards can relieve some of the acute flexing encountered in heavy manual handling applications.
- Provide a suitable means of storing the hose when not in use. A permanent rack or tray will minimize the damage to the hose in storage. Do not hang the hose on a hook, nail, or other device which could cut or damage the hose.

Steam Service Hose

Recommendations

The Wolf Coupling offers significant advantages over the traditional bolt-style steam hose end. The Wolf ferrule is designed to grip the hose reinforcement to provide long-lasting coupling retention. This design avoids the problem of “cold flow” by involving the reinforcement as part of the coupling retention method rather than relying on the compression of the rubber cover by a bolt-style coupling. By using the Wolf Permanent Attach Coupling, the requirement for periodically re-tightening a bolt-style clamp is avoided. Additionally, there are no clamps to get hung up on obstacles in the plant.

- 1 Install an OSHA approved safety cable on the hose at every junction to prevent whipping of the end if the coupling should disconnect.
- 2 Ensure continuous static grounding of the hose at each coupling.
- 3 If the clamps are a bolt-on style, tighten them to the correct torque before use. Use calibrated torque wrenches, not impact or other types.
- 4 Repairs on steam hoses and couplings should be done only by fully qualified distributors or fabricators.
- 5 All workers near the hose should wear full protective safety gear including gloves, safety shoes, full-length protective clothing and protective glasses or goggles.
- 6 Perform a complete safety check before the steam is turned on. Inspect the area and remove all unnecessary objects and debris. Inspect the hose for gouges, kinks, worn areas, loose couplings and other potential safety problems.
- 7 Install a shut-off valve between the source of steam and hose assembly.
- 8 Use spring guards to protect the hose from kinking when handling of the hose is required.
- 9 Avoid excessive flexing of the hose, particularly near couplings. Flexing can weaken the assembly.
- 10 Examine connections to the steam source. Use straight connections instead of bending the hose. Install pipe elbows to ensure either straight vertical connections pointing downward, or a 45° downward angle that allows the hose to gently contact the ground without too much flexing.
- 11 Be aware of the danger of hammer effect and take steps to prevent it. Hammer effect is caused by spikes of extreme pressure; it can damage hose assemblies and break couplings free. The usual causes are blockage, pinched-off flow or valves being opened or closed too fast. Make personnel aware of both the danger and causes, and urge them to avoid actions that can cause the hammer effect.
- 12 When finished using steam, always close the pressure valve from the steam source. In addition to providing an extra safety margin, this action can extend the working life of the hose.
- 13 Add an extra measure of safety by ensuring that all steam hose connections are incompatible with other hoses in the plant or by color-coding for different applications. Manufacturers can often cooperate with these requests and suggest good color-coding systems.
- 14 Train workers to look for signs of problems during usage, such as steam leakage, loose clamps, hose shrinkage, cover damage or exposed reinforcement.

200 L.L.



Tube: EPDM

Reinforcement: Wire, 1 Braid

Cover: EPDM/Pinpricked

Color: Black

Temperature Range: +388°F

Type Of Branding: Ink Print

Working Pressure: 200 psi (Depending on coupling)
10:1 Safety Factor

Type Of Coupling: Wolf Permanent Crimp Couplings or Interlocking. Clamps—Interlocking, (2 Bolt, 4 Bolt).

Features:

- EPDM cover
- EPDM tube
- Continuous ink print and date code
- Minimum 10-to-1 safety factor
- Long lengths

Advantages:

- Heat, age, ozone and weather resistant.
- Excellent heat resistance
- Handles most steam cleaning detergents
- Easy identification
- Meets safety standards of RMA
- Economical
- Fewer couplings

Markets:

- Chemical/Petroleum industry
- Industrial cleaning markets
- Lumber/Woodworking
- Plywood manufacturing
- Pulp processing
- Ship building
- Food industry

Applications:

- Transfer of steam for processing products and cleaning equipment
- Transfer of steam for cleaning of equipment, tanks, buildings, etc.
- Transfer of hot water and steam

Product Number	Nominal I.D. (in.) (mm)		Reinf.	Nominal O.D. (in.) (mm)		Approx. lbs. Weight Per 100 Ft	Maximum Working Press. (psi)	Standard Length (Ft)
H602706-350R*	3/8	9.5	1 Br	13/16	20.6	25	200	350
H602708-350R*	1/2	12.7	1 Br	15/16	23.8	28	200	350
H602712-350R	3/4	19.1	1 Br	1-3/16	30.2	40	200	350

Not to be used as a pressure washer hose

** MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.*

Concord 250



Tube: EPDM

Reinforcement: Wire, 2 Braid

Cover: EPDM/Pinpricked

Color: Black (BK), Available in Red (RD)

Temperature Range: +450°F

Type Of Branding: Ink Print

Working Pressure: 250 psi (Depending on coupling)
10:1 Safety Factor

Type Of Coupling: Wolf Permanent Crimp Couplings or Interlocking. Clamps—Interlocking, (2 Bolt, 4 Bolt).

Features:

- EPDM cover
- EPDM tube
- Continuous ink print and date code
- Minimum 10-to-1 safety factor
- Available with red cover (made-to-order)
- Date code

Advantages:

- Heat, age, ozone and weather resistant.
- Excellent heat resistance
- Handles most steam cleaning detergents
- Easy identification
- Meets safety standards of RMA
- Color coding
- Safety & maintenance records

Markets:

- Chemical/Petroleum Industry
- Industrial cleaning markets
- Ship building
- Food industry
- Lumber/Woodworking
- Plywood mfg./Cardboard
- Pulp processing

Applications:

- Transfer of steam for processing products and cleaning equipment
- Transfer of steam or hot 200°F detergent-type solutions for cleaning of equipment, tanks, buildings, etc.
- Transfer of steam to melt glues, waxes, etc.

Product Number	Nominal I.D. (in.)	(mm)	Reinf.	Nominal O.D. (in.)	(mm)	Approx. lbs. Weight Per 100 Ft	Maximum Working Press. (psi)	Standard Length (Ft)
H956808	1/2	12.7	2 Br	1-1/32	26.2	46	250	50(BK,RD)
H956808-100*	1/2	12.7	2 Br	1-1/32	26.2	46	250	100(BK)
H956812	3/4	19.1	2 Br	1-11/32	34.1	70	250	50(BK,RD)
H956812-100*	3/4	19.1	2 Br	1-11/32	34.1	70	250	100(BK,RD)
H956816	1	25.4	2 Br	1-9/16	39.7	96	250	50(BK,RD)
H956816-100*	1	25.4	2 Br	1-9/16	39.7	96	250	100(BK)

Not to be used as a pressure washer hose

** MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.*

Concord 250 O.R.



Tube: EPDM

Reinforcement: Wire, 2 Braid

Cover: Special Oil Resistant Compound/Pinpricked

Color: Black (BK) or Red (RD)

Temperature Range: +450°F

Type Of Branding: Ink Print

Working Pressure: 250 psi (Depending on coupling)
10:1 Safety Factor

Type Of Coupling: Wolf Permanent Crimp Couplings or Interlocking. Clamps—Interlocking, (2 Bolt, 4 Bolt).

Features:

- Special cover
- EPDM tube
- Continuous ink print and date code
- Minimum 10-to-1 safety factor
- Date code

Advantages:

- Oil resistant.
- Excellent heat resistance
- Handles most steam cleaning detergents
- Easy identification
- Meets safety standards of RMA
- Safety & maintenance records

Markets:

- Chemical/Petroleum industry
- Industrial cleaning markets
- Ship building
- Food industry
- Lumber/Woodworking
- Plywood mfg./Cardboard
- Pulp processing

Applications:

- Transfer of steam for processing products and cleaning equipment
- Transfer of steam or hot 200°F detergent-type solutions for cleaning of equipment, tanks, buildings, etc.
- Transfer of steam to melt glues, waxes, etc.

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Reinf.	Nominal O.D. (in.)	Nominal O.D. (mm)	Approx. lbs. Weight Per 100 Ft	Maximum Working Press. (psi)	Standard Length (Ft)
H968212*	3/4	19.1	2 Br	1-11/32	34.1	70	250	50 (BK,RD)

Not to be used as a pressure washer hose

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

Concord Standard Steam & Concord Standard Steam-Spiral Stripe



Tube: Patrex (Chlorobutyl)

Reinforcement: Wire, 2 Braid, 2 Stainless Steel Static Wires

Cover: EPDM/Pinpricked

Color: Black (BK), Black and Red Stripe (RD)

Temperature Range: +450°F

Type Of Branding: Embossed

Working Pressure: 250 psi (Depending on coupling)
10:1 Safety Factor

Type Of Coupling: Interlocking.
Clamps—Interlocking, (2 Bolt, 4 Bolt).

Features:

- EPDM cover
- Patrex (Chlorobutyl) tube
- Continuous Embossed brand and date code
- Minimum 10-to-1 safety factor
- Built in separate static wire
- Barber pole striped cover (RD)

Advantages:

- Heat, age, ozone and weather resistant.
- Excellent heat resistance
- Handles most steam cleaning detergents
- Easy identification
- Safety & maintenance records
- Meets safety standards of RMA
- Assures safe grounding
- Safety
- Color code system

Markets:

- Chemical/Petroleum industry
- Industrial cleaning markets
- Ship building
- Lumber/Woodworking
- Plywood mfg./Cardboard
- Pulp processing

Applications:

- Transfer of steam for processing products and cleaning equipment
- Transfer of steam or hot 200°F detergent-type solutions for cleaning of equipment, tanks, buildings, etc.
- Transfer of steam to melt glues, waxes, etc.

Product Number	Nominal I.D. (in.)	Nominal I.D. (mm)	Reinf.	Nominal O.D. (in.)	Nominal O.D. (mm)	Approx. lbs. Weight Per 100 Ft	Maximum Working Press. (psi)	Standard Length (Ft)
H008408*	1/2	12.7	2 Br	1-1/8	28.6	55	250	50 (BK*,RD)
H008412	3/4	19.1	2 Br	1-3/8	34.9	78	250	50 (BK,RD)
H008416	1	25.4	2 Br	1-5/8	41.3	100	250	50 (BK,RD)
H008420	1-1/4	31.8	2 Br	1-15/16	49.2	135	250	50 (BK,RD)
H008424 *	1-1/2	38.1	2 Br	2-3/16	55.6	155	250	50 (BK,RD*)
H008432*	2	50.8	2 Br	2-11/16	68.3	194	250	50 (BK,RD*)

Not to be used as a pressure washer hose

* MTO - Made to Order - Contact Eaton at 800-833-3837 for availability, minimum run quantity, and ordering information.

Couplings

General Information

Coupling Selection

This catalog lists the most common type of coupling used for each hose. Consider the following items when selecting couplings for your application. Consult your coupling manufacturer and Eaton for further information about these items:

- Environment
- Temperature ranges - external environment year round, temperature of material being conveyed, and temperature of cleaning solution
- Maximum pressure requirements
- Corrosive resistance and compatibility with material being conveyed
- Conductivity - especially in flammable applications (non-spark brass cam lever arms)
- Gasket material required, if any, keeping in mind compatibility with the material being conveyed
- Port or fitting the hose assembly must be connected to
- Coating (if any) on coupling (i.e. zinc, etc.)

There are two general types of couplings to consider, field-attachable and permanent. The most common types of field-attachable end fittings include cam and groove, king combination nipple and flange.



Cam and groove coupling



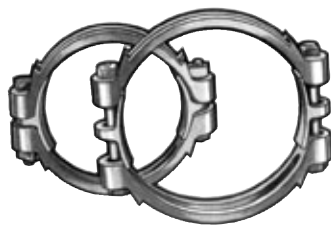
King combination nipple coupling or "KC"



Flange end



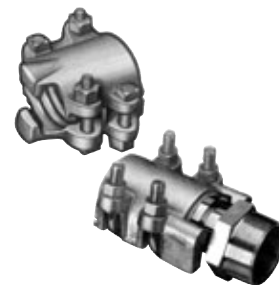
Flat band clamp



Double bolt clamp



Single bolt clamp



Interlocking clamps

Field-attachable couplings are usually secured by one of the following methods; flat bands, single bolt, double bolt or interlocking clamps.

Band clamps are generally used for applications requiring cam and groove style couplings (less than 150 psi). Bolt clamps generally offer greater security than bands and are therefore chosen more often for higher pressure applications. They can also be retightened after a hose has been in service.

Permanent couplings are also used in applications where you could see pressures greater than 150 psi. These end fittings are swaged, crimped or internally expanded onto the hose. Internal expansion couplings exist for full-flow applications and allow easier assembly cleaning.

Couplings

General Information



Swaged coupling



Crimped coupling



Internally expanded coupling

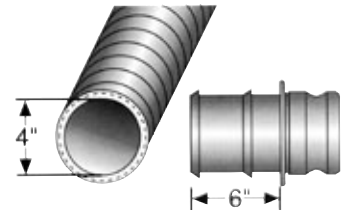
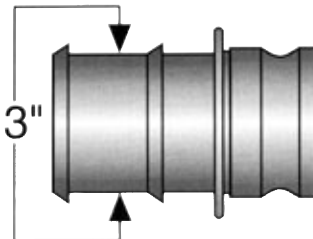
Some couplings have special coatings such as zinc or nickel plating. Always make certain any coating is compatible with the material being transferred and the external environment. Otherwise, contamination and/or failure could occur. The coupling manufacturer can provide you with this information.

To make certain you have selected the right coupling for your application, always consult the coupling manufacturer. To help make coupling selection easier, Eaton includes coupling thread data and flange size information in this catalog.

Measuring Couplings

To determine the size of a coupling, measure the shank outer diameter (O.D.) between the shank barbs. The shank is the portion of a coupling that is inserted into the hose. A "three-inch" coupling will have a shank O.D. of three inches when the O.D. is measured between the shank barbs.

In general, the length of the coupling shank should be approximately one and a half times the inner diameter of the hose. For example, a hose with a four-inch diameter would require a coupling with a six-inch-long shank.



Installing Field-Attachable Couplings

Before installing a coupling, be sure the shank is free of any burrs or sharp edges. This will make insertion into the hose easier and will help prevent inner tube hose damage.

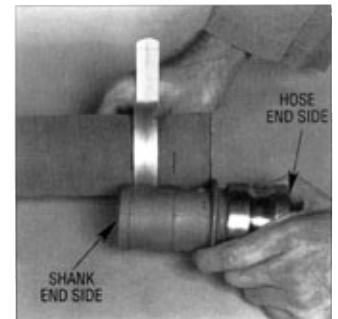


WARNING: Never alter the shank of the coupling beyond removing any burrs. Altering the shank can reduce some of the coupling holding power or create sharp edges which could cut the hose tube. The resulting spraying, leaking, or end blow-offs could result in personal injury or death.

If the coupling will be secured by bands, hold the coupling near the hose and use a marker to indicate where the bands are to be located. A variety of shank designs is available, so always follow the manufacturer's recommendations for positioning bands.

Three common shank styles include the two-barb coupling, the combination nipple which consists of multiple barbs of the same size, and the coupling which has two large barbs and two smaller barbs.

To attach bands to the two-barb coupling, hold the coupling along side the hose. Make a mark on the hose-end side of each barb. When attaching the coupling, place the bands just to the hose-end side of the marks.

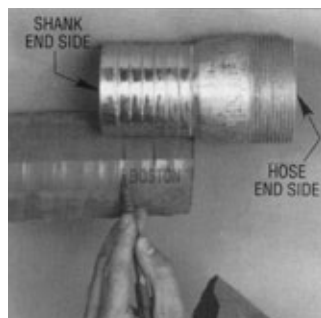


Banding a two-barb coupling

To band a combination nipple coupling, place a mark just to the hose-end side of the last barb of the shank (farthest from the hose end). Place a second mark midway between the first mark you make and the hose end.

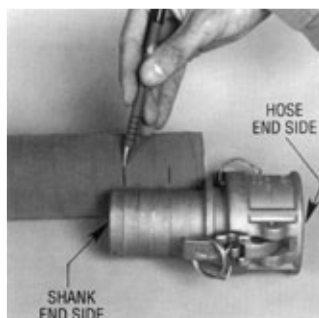
Couplings

General Information



Banding a combination nipple shank.

To band a combination nipple coupling, place a mark to the hose end side of the last barb on the shank (farthest from the hose end). Place a second mark midway between the first mark you make and the hose end.



Banding a coupling with two large barbs and two small barbs.

If two or more bands are to be installed, the band farthest from the end of the hose should be assembled at least half an inch from the end of the coupling shank.

Coat the coupling shank with a mild soap and water solution. Keep the hose and coupling shank aligned and press them together. Aligning them will help prevent damage to the tube and assure that the coupling reaches full insertion depth. Eaton recommends using a hydraulic or pneumatic powered pusher during coupling installation to prevent inner tube hose damage that can occur when using a rubber mallet.



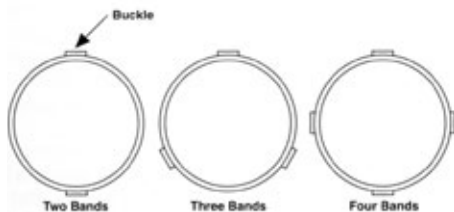
Align the hose and coupling to prevent tube and coupling damage. Eaton recommends using an automatic coupling inserter to help achieve proper coupling alignment.

If the shank won't fit properly into the hose, select another coupling and try again. There are minimum and maximum shank tolerance dimensions for each coupling type. Consult each coupling manufacturer for specifications. Make sure you don't damage the tube.

Finally, secure the coupling. There are a variety of tools, securing mechanisms, and assembly procedures, so always follow the manufacturer's recommended procedures. Bands should be placed inside of the marks, toward the hose end side. The band farthest from the hose end should be tightened first.



In situations where two bands are present, Eaton suggests rotating the clamp buckles 180° from each other when assembling them. Rotating the buckles prevents possible leak paths. Always tighten the band farthest from the end of the hose assembly first.



These illustrations show correct buckle position.

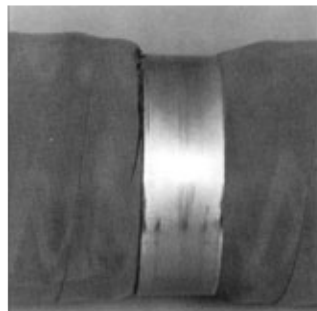
If three bands are present, space the clamp buckles 120° apart. For more than three bands, contact your clamp supplier.

Eaton also recommends tightening the clamps in the same direction as the rotation of the wire helix (clockwise) if one is

present. Doing so will prevent the wire helix and the bands from working against each other.



Tighten clamps in the same direction as the helical wire.



Overtightened band

⚠ WARNING Do not overtighten coupling securing mechanisms. Doing so can cut the hose and cause leaks, spraying, and end blow-offs. This could lead to personal injury or death.

Installing Permanent Couplings

Permanent couplings are swaged, crimped or internally expanded onto the hose. Eaton is currently testing various couplings with Eaton hose in order to make recommendations regarding assembly procedures. In the meantime, contact Eaton or the coupling and equipment manufacturers, or refer to the manufacturer's literature for further information.

Coupling Repair

The following items can be replaced on female cam and groove couplings: cam arms (handles), pins, rings, gaskets, and in some cases the ring/clip or locking mechanism can be replaced, check with the coupling manufacturer.

To replace a cam arm, start by placing the coupling in a vise. Close the vise on the coupling body so that the vise jaws contact the coupling just below the cam arms. Make sure the cam arms are in full open position. Snug the vise securely.

⚠ CAUTION Do not tighten the vise excessively. Excessive vise pressure can distort the coupling.

Using a standard 1/4" round punch and a hammer or mallet, tap the cam arm pin through the cam arm and both lug holes. Holding onto the cam arm, remove the 1/4" round punch from cam arm lugs and lift out cam arm. Take the new cam arm pin and place either end into the cam arm lug hole. Using a hammer or mallet, gently tap the cam arm pin until it begins to enter the opening between the two cam arm lugs. Position the new cam arm between the two cam arm lugs and, with a hammer or mallet, gently tap the cam arm pin until it enters the hole in the cam arm. After the pin has entered that cam arm hole, continue tapping the pin until it is flush with the cam arm lug. Make sure the cam arm moves freely on the pin and that the pin fits snug in the lug holes.

Rings are replaced very easily. To take a ring off a cam arm, twist it off like you would take a key off of a key ring. The new ring is put on to the arm in the same fashion. When replacing a gasket, pull the old gasket out of the coupling with needle nose pliers. Next wipe the inside of the coupling where the gasket seats with a clean rag. Select a new replacement gasket that is the proper size and will meet the chemical compatibility requirements of the application. Finally, place the new gasket in the coupling so that it fits into the gasket recess and is seated flush against the coupling face.

Pressure test and tag any hose assembly that has been repaired.

Couplings

General Information

Safety Information

Choosing the correct coupling is important for maximum hose efficiency and safety. Couplings must be applied properly. Incorrect or improperly applied couplings can result in shorter hose life and hose failures. These failures can result in serious bodily harm or property damage.

Hose couplings have been carefully engineered over the years to meet specific safety requirements.

Some factors you should consider when choosing the proper coupling for a particular application are:

1. What is the material to be handled?
 - a) Is it dangerous?
 - b) Is it corrosive?
 - c) Is it abrasive?
2. What are the pressures involved?
 - a) High pressure
 - b) Medium pressure
 - c) Low pressure
 - d) Suction
3. What means of connection are required?
 - a) Threads
 - b) Special locking
 - c) Flanged ends

When selecting couplings, the end user should inform the distributor of the application and pressures involved when ordering hose assemblies, and it's up to the distributor to supply the right hose and coupling for that application.

All hose assemblies should be treated with respect as potential hazards. Fittings, clamps or clips should be checked on a regular basis, and removed from service if damaged.

Shank length of coupling should be 1-1/2 times the inside diameter of the hose.

Combination nipples should only be used for suction and low pressure discharge applications.



WARNING: Consult with the Coupling Manufacturer to make sure you choose the correct coupling and proper assembly for the application. Such matching of hose and couplings, and assembling of couplings, should be performed only by trained personnel using proper tools and procedures. Failure to follow manufacturer's instructions or failure to use trained personnel may result in serious bodily injury and/or property damage.

Short Shank



- Service:** Low pressure air and water service
- Size Range:** 3/16" to 1"
- Description:** Cast brass with serrated shank; GHT, NPSM or NPT male and NPSH female; washer seal
- Attachment:** Clamps or bands

Long Shank

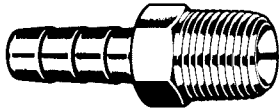


- Service:** Medium pressure air, water, sanitary and liquids in suction or discharge service
- Size Range:** 3/8" to 4"
- Description:** Machined steel or brass with serrated shank; NPT or NPSM male and female; thread seal to NPT and washer seal to NPSM female Attachment Bands or clamps

Couplings

General Information

Barbed Insets



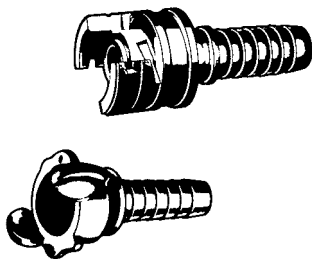
- Service:** Low or medium pressure air, water and fluids
- Size Range:** 3/16" to 1"
- Description:** Machined brass with serrated shank; NPT or NPTF male and rigid female, and NPSM swivel female; thread seal to NPT or NPTF female, and ball end or washer seal to NPSM female
- Attachment:** Bands or clamps

Interlocking



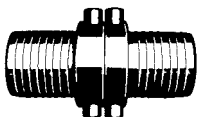
- Service:** High pressure air and water service, steam, high pressure spray, and LPG service
- Size Range:** 1/4" to 6"
- Description:** Plated malleable iron; insert and spud may be either steel or malleable iron; NPT male and female with ground joint or washer seal Attachment Four bolt or two bolt interlocking clamps

Quick Acting



- Service:** Low to medium pressure; air, water or oil service where frequent and fast connections must be made
- Size Range:** 1/4" to 2"
- Description:** Plated malleable iron, stainless steel or bronze
- Attachment:** Interlocking clamps or bands

Water Suction



- Service:** Heavy duty water discharge and suction service
- Size Range:** 1" to 8"
- Description:** Malleable iron, aluminum and/or brass
- Attachment:** Clamps or bands

Couplings

General Information

Interlocking Clamp



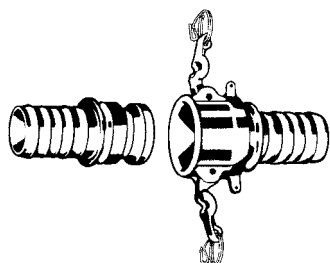
Service: Heavy duty high pressure applications such as air, steam, water, spray, LPG service

Size Range: 9/16" to 7 3/16" hose O.D.

Description: Malleable iron, plated

Attachment: Clamps bolted into position

Cam and Grove



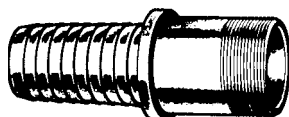
Service: Low and medium pressure water, petroleum and chemical transfer where fast connections are needed; also used for suction service

Size Range: 1/2" to 8"

Description: Aluminum, bronze, stainless steel, Monel, malleable iron; washer seal with no threads

Attachment: Clamps, bands, or crimp/swage ferrules

Swaged or Crimped



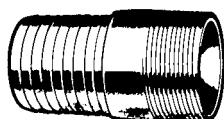
Service: For use on all types of hose where high pressures are used

Size Range: 1 1/4" to 8"

Description: Couplings consist of swaged fittings having serrated steel shanks with ferrules of plated steel

Attachment: Swaging or crimping equipment

Combination Nipple



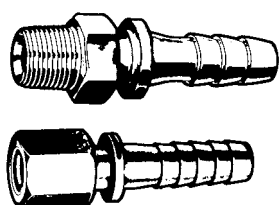
Service: Low or medium pressure suction and discharge of water, fluids, and material handling

Size Range: 1/2" to 12"

Description: Tubular steel, stainless, malleable iron, aluminum or brass with serrated shank; NPT male threads, grooved, or beveled for welding

Attachment: Clamps or bands

Steel Nipple



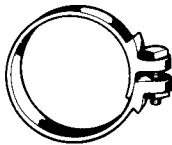
Service: Medium to high pressure: wide variety of applications.

Size Range: 1/4" to 1"

Description: Machined from cold drawn bar steel, heat treated for toughness.

Attachment: Interlocking clamps

Single Bolt Clamp



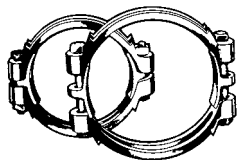
Service: Low pressure, and suction service on shank couplings, combination nipples, and pipe nipples

Size Range: 7/8" to 5 1/4" hose O.D.

Description: Cast malleable iron, plated.

Attachment: Bolted on hose

Double Bolt Clamp



Service: Low or medium pressure, and suction service with large sizes of combination nipples, or couplings

Size Range: 3 1/2" to 17 1/2" hose O.D.

Description: Cast malleable iron, plated, and brass

Attachment: Applied over hose and bolted into position

Band Clamp



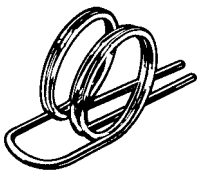
Service: Low or medium pressure, and suction service

Size Range: 3/4" to 6" hose O.D.

Description: Pre-formed flat stainless steel, high carbon steel

Attachment: Special locking band tool

Wire Hose Clamp



Service: Suitable for medium pressure, air, water or general purpose hose; good for hose with helical wire or corrugations; available in larger sizes for pin lug, serrated pipe nipple or combination nipples

Size Range: 5/8" to 13 1/4" hose O.D.

Description: Pre-formed round wire made of stainless steel, galvanized steel, copper, bronze or aluminum

Attachment: Wire ends pulled and crimped with special tool or machine

Brass Ferule



Service: Low or medium pressure air or water using general purpose hose and brass inserts

Size Range: 31/64" to 1 1/2" hose O.D

Description: Made from various gauge brass tubing; stamped with Standard Industrial Part Number

Attachment: Crimped on using either ribbed or plain die

Wolf Series Hose Couplings Used With Authorized Eaton Hose

Selection of the proper hose and hose couplings needs to be made with specific applications in mind. Inadequate attention to selection of hose and couplings can result in hose leakage, bursting, or other failure which can result in serious bodily injury or property damage from steam discharge or flying projectiles.

The following are factors which need to be considered in the selection and use of Wolf Series hose couplings which are designed only to be used with Concord 250 Steam, 200LL, Hot Tar Pumping and Hydrocarbon Drain hose.

- Hose size
- Temperature
- Hose pressure
- Hose length
- Material conveyed
- Static head pressure
- Bends
- Installation design
- Corrosion requirements

Please review the crimp specifications to determine the correct tooling to be used when crimping Wolf Series hose couplings to Eaton hose.

Eaton Hoses and Wolf Coupling Compatibility

The Wolf couplings and Eaton hoses identified in this literature have been engineered and designed as a complete hose assembly system. Each component of the assembly is compatible with the other. Component compatibility, along with the use of high quality components, ensures the production of reliable hose assemblies. The practice of intermixing hose and couplings not specifically engineered and designed for use together may result in the production of an unsafe and unreliable hose assembly. The Eaton warranty is limited to apply only when the Wolf coupling and Eaton hoses are assembled to our specifications.



WARNING:

Intermixing components not specifically designed for use together may result in an unsafe and unreliable hose assembly, which can result in serious bodily injury or property damage.



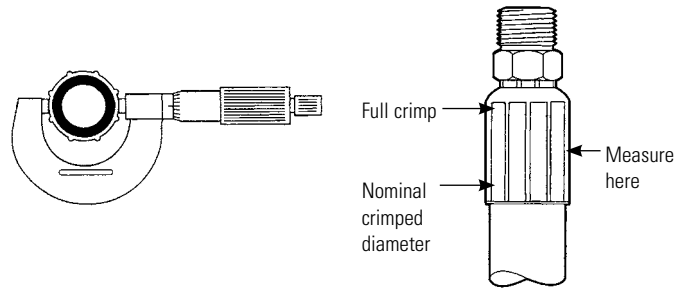
WARNING: Only specially trained

persons should engage in applications or testing procedures that require particular skills. Failure to do so may result in damage to the hose products or to other property and, more important, may result in serious bodily injury.



WARNING: Exposure

to steam is hazardous. If not properly controlled, steam can cause property damage, serious bodily injury, or death. In order to avoid property damage, serious injury, or death, you must select the proper steam hose for the given application. Also, proper installation, usage and maintenance of the steam hose you select will contribute to increased operator safety.



Wolf Series Hose Couplings Should ONLY Be Used With Authorized Eaton Hose

If this is a new installation, please refer to your Coll-O-Crimp Set-Up and Operating Instructions for installation procedures. Refer to page 154 of this catalog for safety information.

After the initial setup of the Coll-O-Crimp press, and purging of the system, the ram return stops may need to be repositioned. These stops are normally found rotated to their "inward" position to allow for a faster cycle time, when using other Coll-O-Crimp tooling. In order to easily accommodate the tooling and crimp the Wolf Series hose couplings, rotate the stops to their "outward" position and proceed as follows.

1. Activate the pump by pulling the activating lever or turning on the switch.
2. During the downward travel of the ram, rotate the stops to their outward position.
3. Release the activating lever or switch that permits the ram to fully retract into the press. The proper Wolf Series tooling may now be inserted into the base plate.
4. Place the proper size Wolf Series hose end onto the hose making sure the hose is bottomed in the hose end.
5. Insert the hose assembly from the bottom of the press and through the collet. The top surface of the collet should be positioned slightly above the ferrule shoulder. The surface of the crimp die should fully cover the coupling shell for a "full crimp". Hold and support the hose assembly from below the press while crimping to ensure that the hose remains completely inserted and bottomed into the hose end.
6. Close the pusher halves on the T-440-1 and activate the pump by turning on the switch. When the pusher contacts the base plate (or spacer ring if applicable), the crimp is complete.
- 7 Release the lever or switch and remove the hose assembly to inspect.
8. To ensure a proper crimp has been completed, measure the nominal crimp diameter.

Nominal Crimp Diameter Measurement:

Please place this catalog near your Coll-O-Crimp equipment for reference.

Measuring crimp diameters should be a part of the normal hose assembly procedure. To ensure a proper crimp diameter reading, follow these steps:

- 1 Measure the diameter in the middle of crimped portion of the hose end.
2. Place the caliper or micrometer in a position to allow a measurement across the pressed (flat) portion of the crimp.
3. See crimp diameters in the Hose End & Tool Selector Chart on pages 188-192.

Note:

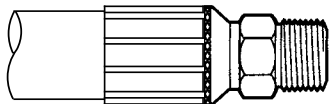
Wolf Series hose couplings are designed for use with 1/2", 3/4" & 1" Concord 250 Steam, 1" Hot Tar Pumping Hose and 3/4" Hydrocarbon Drain.

WARNING: Failure to properly follow the manufacturer's recommended procedures for the care, maintenance and storage of a particular hose might result in its failure to perform in the manner intended and might result in possible damage to property and serious bodily injury.

Couplings

Wolf Series

Hose End Series: Wolf Series



Typical Application:

High Pressure and Temperature applications such as steam, hydrocarbon drain, and hot tar transfer

Compatible Hose:

Hot Tar Pumping, Concord 250, Concord 250 O.R. and Hydrocarbon Drain

Pressure:

Determined by maximum working pressure for hose size

Material:

Low Carbon Steel

Plating:

Zinc; Clear Trivalent Chromate

Advantages:

Permanent attach coupling for steam hose service

Ordering Information:

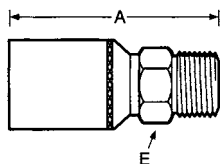
Order individually by catalog number

Assembly Instructions:

See Hose End & Tool Selector Chart for Eaton crimp specifications

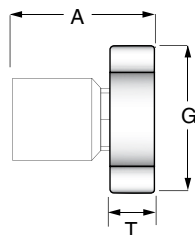
Refer to important safety information found on pages A-1 thru A-2 of this catalog.

Male Pipe (NPTF) Rigid



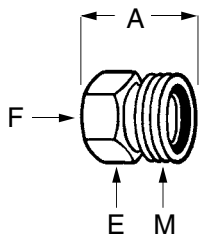
Hose I.D.	Catalog Number	Thread Size (NPTF)	A	Hole Dia.	Hex E
1/2	87-0008-02	1/2—14	2.74	.36	.81
3/4	87-0012-02	3/4—14	3.68	.61	1-1/16
1	43016U-116	1—11-1/2	4.05	.81	1-3/8

Wing Nut Swivel



Hose I.D.	Catalog Number	Thread Size (NPSM)	A	Hole Dia.	G	T Nom.
1/2	87-0008-01	1—11-1/2	2.76	.36	2.25	.95
3/4	87-0012-01	1-1/2—11-1/2	3.48	.61	3.51	1.06
1	87-0016-01	1-1/2—11-1/2	3.51	.81	3.51	1.06

Female Spud



Hose I.D.	Catalog Number	Thread Size M (NPSM)	Thread Size F (NPTF)	A	Hole Dia.	Hex E
3/4	87-0012-03	1-1/2—11-1/2	3/4—14	1.185	.61	2
1	87-0016-03	1-1/2—11-1/2	1—11-1/2	1.185	.81	2

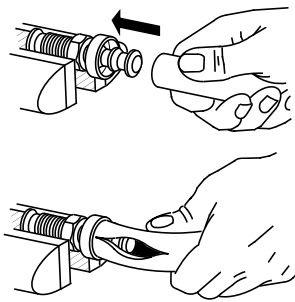
Note: Refer to current price list for availability of cataloged items. Configurations and dimensions subject to change without notice.

Couplings

Field Attachable 100 'B' Series Barb-Tite™

Use Hose H201/Easy Couple

Hose End Series: 100 'B' Series



Note:

Refer to current price list for availability of cataloged items. Configurations and dimensions subject to change without notice.



CAUTION

Sealing integrity may be damaged by the use of clamps.

Typical Application:

Low pressure shop or service air lines. Often used for low pressure lube and oil lines

Compatible Hose:

H201/Easy Couple

Pressure:

Determined by maximum working pressure for hose size

Material:

Low Carbon Steel

Plating:

Zinc; Clear Trivalent Chromate

Advantages:

Easy to assemble – just push the fitting onto the hose. No clamps needed! Low cost and a wide selection of configurations and sizes.

Ordering Information:

Order individually by catalog number

Assembly Instructions:

1. Lubricate insert.
2. Hold hose at angle as shown and push on and up over first barb.
3. Continue to push straight on until hose is seated under protective plastic cap. (Keep hand back from hose end area so that hose can expand.)

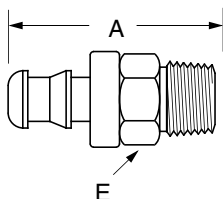
Disassembly Instructions:

1. Split hose as shown. Do not cut completely through hose. Sealing edge of barb could be damaged.
2. Bend hose and remove with quick pull.

Refer to important safety information found on pages A-1 thru A-2 of this catalog.

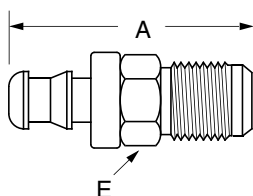
Label Set: FS-500

Male Pipe Rigid



Hose I.D.	Pipe Size	Catalog Number	Thread Size	A	Hose Cut-Off Factor†	Hole Dia.	Hex E
1/4	1/8	10004B-102	1/8-27	1.29	.65	.172	7/16
1/4	1/4	10004B-104	1/4-18	1.52	.88	.172	9/16
5/16	1/8	10005B-102	1/8-27	1.36	.69	.234	1/2
5/16	1/4	10005B-104	1/4-18	1.57	.87	.234	9/16
3/8	1/8	10006B-102	1/8-27	1.46	.69	.297	1/2
3/8	1/4	10006B-104	1/4-18	1.65	.88	.297	9/16
3/8	3/8	10006B-106	3/8-18	1.65	.88	.297	11/16
1/2	3/8	10008B-106	3/8-18	1.85	.94	.391	11/16
1/2	1/2	10008B-108	1/2-14	2.10	1.19	.391	7/8
5/8	1/2	10010B-108	1/2-14	2.60	1.19	.484	7/8
3/4	3/4	10012B-112	3/4-14	2.66	1.25	.609	1-1/16

SAE 45° Flare Male Rigid



Hose I.D.	Pipe Size	Catalog Number	Thread Size	A	Hose Cut-Off Factor†	Hole Dia.	Hex E
1/4	1/4	10004B-304	7/16-20	1.45	.81	.172	7/16
1/4	5/16	10004B-305	1/2-20	1.54	.94	.172	1/2
5/16	5/16	10005B-305	1/2-20	1.60	.94	.220	1/2
3/8	3/8	10006B-306	5/8-18	1.73	1.00	.297	5/8

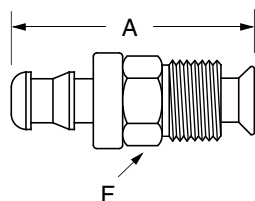
†To determine the correct length of hose, subtract the cut-off factor for each end fitting from the overall length of assembly.

Couplings

Field Attachable 100 'B' Series Barb-Tite

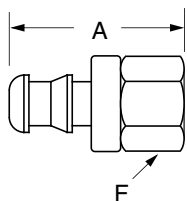
Use Hose H201/Easy Couple

Inverted Male Swivel (Steel Nut)



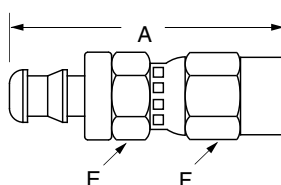
Hose I.D.	Pipe Size	Catalog Number	Thread Size	A	Hose Cut-Off Factor†	Hole Dia.	Hex F
1/4	3/16	10004B-B03	3/8-24	1.39	1.13	.109	3/8
1/4	1/4	10004B-B04	7/16-24	1.42	1.13	.172	7/16
1/4	5/16	10004B-B05	1/2-20	1.52	1.19	.188	1/2
5/16	1/4	10005B-B04	7/16-24	1.81	1.11	.184	7/16
5/16	5/16	10005B-B05	1/2-20	1.60	.80	.234	1/2
5/16	3/8	10005B-B06	5/8-18	1.60	1.19	.234	5/8
3/8	5/16	10006B-B05	1/2-20	1.64	1.19	.234	1/2
3/8	3/8	10006B-B06	5/8-18	1.70	.97	.297	5/8
1/2	1/2	10008B-B08	3/4-18	2.24	1.25	.391	3/4

Female Inverted Rigid



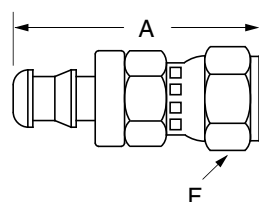
Hose I.D.	Pipe Size	Catalog Number	Thread Size	A	Hose Cut-Off Factor†	Hole Dia.	Hex F
1/4	3/16	10004B-A03	3/8-24	1.12	.48	.172	1/2
1/4	1/4	10004B-A04	7/16-24	1.14	.50	.172	9/16
1/4	5/16	10004B-A05	1/2-20	1.18	.56	.172	5/8
5/16	5/16	10005B-A05	1/2-20	1.25	.56	.220	5/8
3/8	5/16	10006B-A05	1/2-20	1.32	.55	.297	5/8
3/8	3/8	10006B-A06	5/8-18	1.35	.63	.297	3/4
1/2	1/2	10008B-A08	3/4-18	1.73	.75	.391	7/8

Female Pipe Swivel



Hose I.D.	Pipe Size	Catalog Number	Thread Size	A	Hose Cut-Off Factor†	Hole Dia.	Hex E	Hex F
1/4	1/4	10004B-254	1/4-18	2.42	1.81	.172	3/4	5/8
3/8	3/8	10006B-256	3/8-18	2.77	2.00	.297	7/8	11/16
1/2	1/2	10008B-258	1/2-14	3.29	2.38	.391	1-1/8	7/8

SAE 37° Female Swivel



Hose I.D.	Tube Size	Catalog Number	Thread Size	A	Hose Cut-Off Factor†	Hole Dia.	Hex F
1/4	1/4	10004B-604 ^a	7/16-20	1.38	.74	.172	9/16
1/4	5/16	10004B-605 ^a	1/2-20	1.42	.81	.172	5/8
5/16	5/16	10005B-605 ^a	1/2-20	1.54	.83	.234	11/16
3/8	5/16	10006B-605 ^a	1/2-20	1.60	.88	.297	11/16
3/8	3/8	10006B-406 ^b	5/8-18	1.73	.94	.297	3/4
3/8	3/8	10006B-606 ^c	9/16-18	1.66	.88	.297	11/16
1/2	1/2	10008B-608 ^a	3/4-16	2.06	1.06	.391	7/8
5/8	5/8	10010B-610 ^a	7/8-14	2.67	1.19	.484	1
3/4	5/8	10012B-610 ^a	7/8-14	2.69	1.25	.511	1
3/4	3/4	10012B-412 ^b	1-1/16-14	2.69	1.19	.609	1-1/4
3/4	3/4	10012B-612 ^c	1-1/16-12	2.69	1.19	.609	1-1/4

†To determine the correct length of hose, subtract the cut-off factor for each end fitting from the overall length of assembly.

a Swivel nuts are universal – both SAE 37° and 45° connections.

b SAE 45° flare connection only.

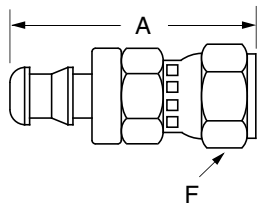
c SAE 37° flare connection only.

Couplings

Field Attachable 100 'B' Series Barb-Tite

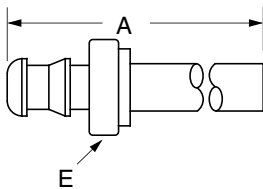
Use Hose H201/Easy Couple

SAE 45° Flare Female Swivel



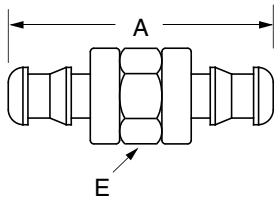
Hose I.D.	Tube Size	Catalog Number	Thread Size	A	Hose Cut-Off Factor†	Hole Dia.	Hex F
3/8	3/8	10006B-406 ^b	5/8-18	1.62	.88	.297	3/4
3/4	3/4	10012B-412 ^b	1-1/16-14	2.66	1.25	.609	1-1/4

Straight Tube Rigid



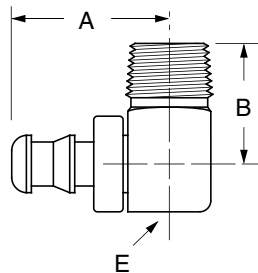
Hose I.D.	Tube Size	Catalog Number	Thread Size	A	Hose Cut-Off Factor†	Hole Dia.	Hex E
1/4	3/16	10004B-X03	.188	1.77	1.13	.172	13/32
1/4	1/4	10004B-X04	.250	1.83	1.19	.172	13/32
1/4	5/16	10004B-X05	.312	1.85	1.25	.172	13/32
5/16	5/16	10005B-X05	.312	1.91	1.25	.228	7/16
3/8	3/8	10006B-X06	.375	2.04	1.27	.297	1/2

Hose Mender



Hose I.D.	Catalog Number	A	Hose Cut-Off Factor†	Hole Dia.	Hex E
1/4	10004B-Y04	1.76	.50	.172	1/2
5/16	10005B-Y05	1.85	.44	.234	9/16
3/8	10006B-Y06	1.97	.44	.297	5/8
1/2	10008B-Y08	2.33	.50	.391	3/4

Male Pipe Rigid 90° Elbow



Hose I.D.	Pipe Size	Catalog Number	Thread Size	A	B	Hose Cut-Off Factor†	Hole Dia.	Square E
5/16	1/8	10005B-C02	1/8-27	1.02	.94	.31	.228	1/2
5/16	1/4	10005B-C04	1/4-18	1.09	.94	.38	.228	9/16
3/8	1/8	10006B-C02	1/8-27	1.08	.94	.38	.297	1/2
3/8	1/4	10006B-C04	1/4-18	1.15	.94	.38	.297	9/16

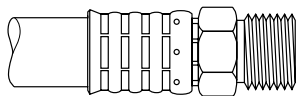
†To determine the correct length of hose, subtract the cut-off factor for each end fitting from the overall length of assembly.

^b SAE 45° flare connection only.

Couplings

Coll-O-Crimp 'E' Series

Hose End Series: 'E' Series



Refer to important safety information found on pages A-1 thru A-2 of this catalog.

Note: Refer to current price list for availability of cataloged items. Configurations and dimensions subject to change without notice.

Typical Application:

General purpose low- and medium-pressure fluid transfer

Compatible Hose:

H265/Ultraforce, H275/Polyforce, H285/Clearforce

Pressure:

Determined by maximum working pressure for hose size and hose end configuration whichever is lesser

Material:

Low Carbon Steel

Plating:

Zinc; Clear Trivalent Chromate

Advantages:

Wide selection of hose and end configurations allowing for a diverse number of applications where hose compatibility is a problem

Ordering Information:

Order individually by catalog number

Assembly Instructions:

See Hose End & Tool Selector Chart for crimp specifications.

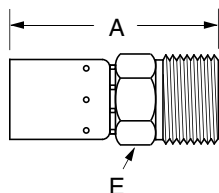
Assemble With:

T-400-1, T-410-1, T-420-1, T-440-1, T-460, T-462, T-465-1, T480

Label Set:

FS-1200

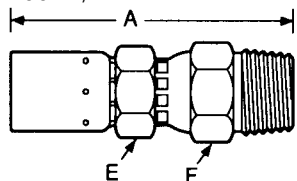
Male Pipe Rigid



Hose I.D.	Pipe Size	Catalog Number	Thread Size	A	Hose Cut-Off Factor†	Hole Dia.	Hex E
3/16	1/8	03E-102	1/8-27	1.58	.75	.09	7/16
3/16	1/4	03E-104	1/4-18	1.83	1.00	.09	9/16
1/4	1/8	04E-102	1/8-27	1.60	.75	.16	7/16
1/4	1/4	04E-104	1/4-18	1.79	1.00	.16	9/16
1/4	3/8	04E-106	3/8-18	1.82	1.00	.16	11/16
5/16	1/4	05E-104	1/4-18	1.86	.94	.22	9/16
5/16	3/8	05E-106	3/8-18	1.89	1.00	.22	11/16
3/8	1/4	06E-104	1/4-18	1.90	1.00	.27	9/16
3/8	3/8	06E-106	3/8-18	1.93	1.00	.27	11/16
3/8	1/2	06E-108	1/2-14	2.17	1.25	.27	7/8
1/2	3/8	08E-106	3/8-18	2.02	1.00	.38	3/4
1/2	1/2	08E-108	1/2-14	2.27	1.25	.38	7/8
3/4	3/4	12E-112	3/4-14	2.51	1.31	.61	1-1/16
1	1	16E-116	1-11-1/2	2.95	1.63	.84	1-3/8

Male Pipe Swivel

Note: Swivel for installation purposes only. (Not for temperatures above 200°F.)



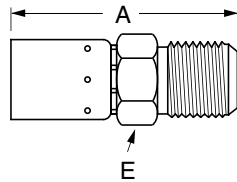
Hose I.D.	Pipe Size	Catalog Number	Thread Size	A	Hose Cut-Off Factor†	Hole Dia.	Hex E	Hex F
1/4	1/4	04E-J04	1/4-18	2.68	1.81	.16	5/8	13/16
5/16	1/4	05E-J04	1/4-18	2.75	1.81	.22	5/8	13/16
3/8	3/8	06E-J06	3/8-18	2.79	1.81	.27	11/16	7/8
1/2	1/2	08E-J08	1/2-14	3.03	2.00	.39	3/4	7/8
3/4	3/4	12E-J12	3/4-14	3.73	2.50	.61	1-1/4	1-1/4

†To determine the correct length of hose, subtract the cut-off factor for each end fitting from the overall length of assembly.

Couplings

Coll-O-Crimp
'E' Series

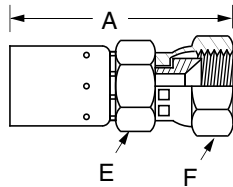
SAE 37° Male Rigid



Hose I.D.	Tube Size	Catalog Number	Thread Size	A	Hose Cut-Off Factor†	Hole Dia.	Hex E
1/4	1/4	04E-504	7/16-20	1.78	0.94	.16	1/2
1/4	5/16	04E-505	1/2-20	1.78	0.94	.19	9/16
1/4	3/8	04E-506	9/16-18	1.82	1.00	.22	5/8
5/16	5/16	05E-505	1/2-20	1.86	0.94	.22	9/16
3/8	3/8	06E-506	9/16-18	1.92	1.00	.22	5/8
3/8	1/2	06E-508	3/4-16	2.08	1.19	.33	13/16
1/2	1/2	08E-508	3/4-16	2.18	1.19	.38	13/16
1/2	5/8	08E-510	7/8-14	2.31	1.25	.42	15/16
3/4	3/4	12E-512	1-1/16-12	2.63	1.44	.61	1-1/8
1	1	16E-516	1-5/16-12	2.83	1.50	.84	1-3/8

SAE 37° Female Swivel

(Exceptions Noted, Refer to Footnotes)



Hose I.D.	Tube Size	Catalog Number	Thread Size	A	Hose Cut-Off Factor†	Hole Dia.	Hex E	Hex F
3/16	1/4	03E-604 ^a	7/16-20		1.89	1.00		.09
7/16	9/16							
1/4	1/4	04E-604 ^a	7/16-20	1.92	1.13	.16	7/16	9/16
1/4	5/16	04E-605 ^a	1/2-20		2.00	1.19		.16
1/2	5/8							
1/4	3/8	04E-606 ^c	9/16-18	2.06	1.25	.16	9/16	11/16
5/16	5/16	05E-605 ^a	1/2-20	2.07	1.19	.22	1/2	5/8
5/16	3/8	05E-406 ^b	5/8-18	2.03	1.13	.22	9/16	3/4
5/16	3/8	05E-606 ^c	9/16-18	2.12	1.19	.22	9/16	11/16
3/8	3/8	06E-406 ^b	5/8-18	2.06	1.13	.27	9/16	3/4
3/8	3/8	06E-606 ^c	9/16-18	2.19	1.25	.27	9/16	11/16
3/8	1/2	06E-608 ^a	3/4-16	2.30	1.38	.27	3/4	7/8
1/2	1/2	08E-608 ^a	3/4-16	2.39	1.38	.38	3/4	7/8
1/2	5/8	08E-610 ^a	7/8-14	2.51	1.50	.38	7/8	1
3/4	3/4	12E-412 ^b	1-1/16-14	2.76	1.56	.61	1	1-1/4
3/4	3/4	12E-612 ^c	1-1/16-12	2.76	1.56	.61	1	1-1/4
1	1	16E-616 ^c	1-5/16-12	3.05	1.75	.84	1-1/4	1-1/2

†To determine the correct length of hose, subtract the cut-off factor for each end fitting from the overall length of assembly.

a Swivel nuts are universal

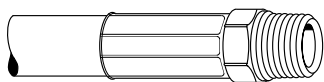
b both SAE 37° and 45° connections.

c SAE 37° flare connection only.

Couplings

Coll-O-Crimp 265 'P' Series

Hose End Series: 265 'P' Series



Typical Application:

Compatible Hose:

Pressure:

Material:

Advantages:

Ordering Information:

Assemble With:

General purpose low- pressure air and water lines

H265/Ultraforce, H275/Polyforce, H285/Clearforce

Determined by maximum working pressure for hose size

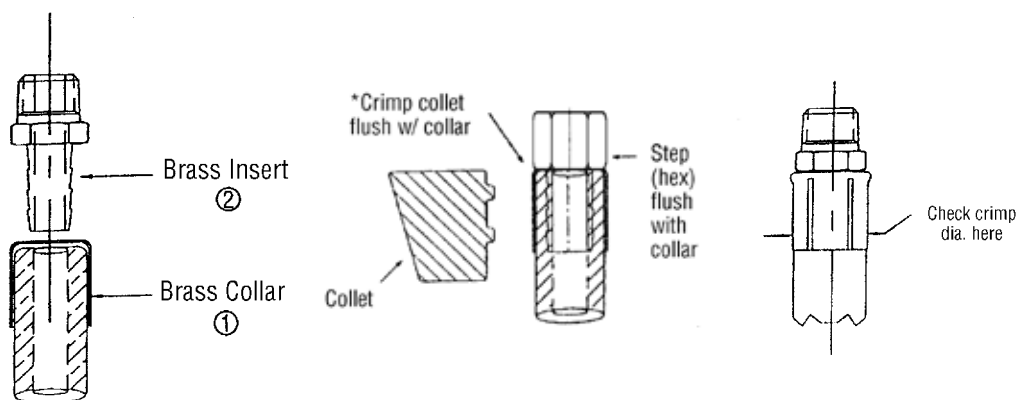
CA360 Brass

One piece construction, easy to assemble,
corrosion resistant

Order individually by catalog number. To order replacement collar only, use base number followed by "COO" suffix.
(Example: 26504P-COO)

T-400-1, T-410-1, T-420-1, T-440-1, T-460, T-462, T-465-1,
T-480

Note: Refer to current price list for availability of cataloged items. Configurations and dimensions subject to change without notice.



Componentry for 265 'P' Series Hose Ends

1. Brass Collar
2. Brass Insert

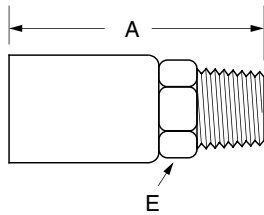
Assembly Instructions for 265 'P' Series Hose Ends

1. Push collar onto hose until bottomed.
2. Push insert into hose until step on insert (or hex) is flush with collar.
3. Check for bottoming by checking collar movement along insert. Hose is bottomed when collar cannot slide along insert.
4. Position top of collar so that it is flush with the top of the collet. Follow recommended Coll-O-Crimp operating procedures found in the back of this catalog.

Couplings

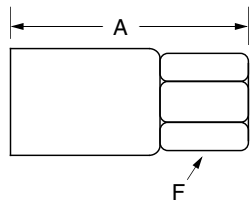
Coll-O-Crimp
265 'P' Series

Male Pipe Rigid



Hose I.D.	Pipe Size	Catalog Number	Thread Size	A	Hose Cut-Off Factor†	Hole Dia.	Hex E
1/4	1/8	26504P-102	1/8-27	1.56	.56	.18	7/16
1/4	1/4	26504P-104	1/4-18	1.63	.63	.18	9/16
1/4	3/8	26504P-106	3/8-18	1.75	.75	.18	11/16
3/8	1/8	26506P-102	1/8-27	1.56	.56	.25	7/16
3/8	1/4	26506P-104	1/4-18	1.75	.75	.31	9/16
3/8	3/8	26506P-106	3/8-18	1.74	.75	.28	11/16
3/8	1/2	26506P-108	1/2-14	1.94	1.00	.28	7/8
1/2	1/4	26508P-104	1/4-18	1.73	.75	.37	9/16
1/2	3/8	26508P-106	3/8-18	1.71	.75	.37	11/16
1/2	1/2	26508P-108	1/2-14	1.94	1.00	.37	7/8
1/2	3/4	26508P-112	3/4-18	1.94	1.00	.37	1-1/8
3/4	1/2	26512P-108	1/2-14	1.94	1.00	.37	1-1/8
3/4	3/4	26512P-112	3/4-14	1.92	1.00	.56	1-1/8

Female Pipe Rigid



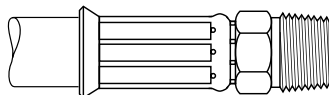
Hose I.D.	Pipe Size	Catalog Number	Thread Size	A	Hose Cut-Off Factor†	Hole Dia.	Hex F
1/4	1/8	26504P-202	1/8-27	1.49	.50	.18	9/16
1/4	1/4	26504P-204	1/4-18	1.60	.63	.18	11/16
3/8	1/8	26506P-202	1/8-27	1.49	.50	.28	9/16
3/8	1/4	26506P-204	1/4-18	1.60	.63	.28	11/16
3/8	3/8	26506P-206	3/8-18	1.66	.69	.28	13/16
1/2	1/4	26508P-204	1/4-18	1.57	.63	.37	11/16
1/2	3/8	26508P-206	3/8-18	1.63	.69	.37	13/16
1/2	1/2	26508P-208	1/2-14	1.85	.88	.37	1
3/4	1/2	26512P-108	1/2-14	1.94	1.00	.37	1-1/8
3/4	3/4	26512P-112	3/4-14	1.92	1.00	.56	1-1/8

†To determine the correct length of hose, subtract the cut-off factor for each end fitting from the overall length of assembly.

Couplings

Coll-O-Crimp 'U' Series

Hose End Series: 'U' Series



Note: Refer to current price list for availability of cataloged items. Configurations and dimensions subject to change without notice.

Typical Application: Compatible Hose:

General purpose low, medium, and high pressure fluid transfer. Use Hose H105 & H106/Bosflex, H1066/Creamery Packing, H115 & H116/Performer II, H1571/Mineforce, H1776 & H1777/Perfection 300, H1812/Industrial A/W, H1941 & H1942/Nyall, H1981-H1983/Marathoner, H6002/Concord Air, H8811/Nitrogen Service, H900/Black Line, H9610/Washdown 1000, H9949/Shock Safe & H9673/Washdown 1250

Pressure:

Determined by maximum working pressure for hose size and hose end configuration whichever is lesser.

Material:

Low Carbon Steel

Plating:

Zinc; Clear Trivalent Chromate

Advantages:

Wide selection of hose and end configurations allowing a diverse number of applications. An ideal series to introduce hydraulics.

Ordering Information:

Order individually by catalog number.

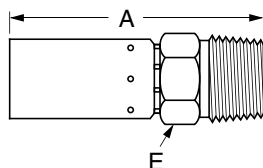
Assemble With:

T-400-1, T-410-1, T-420-1, T-440, T-460, T-462, T-465 and T-480.

Label Set:

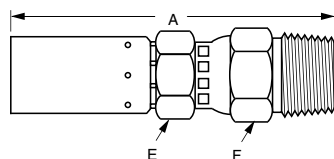
FS-1100

Male Pipe Rigid



Hose I.D.	Pipe Size	Catalog Number	Thread Size	A	Hose Cut-Off Factor†	Hole Dia.	Hex E
1/4	1/8	04U-102	1/8-27	2.31	.75	.16	9/16
1/4	1/4	04U-104	1/4-18	2.49	.94	.16	9/16
1/4	3/8	04U-106	3/8-18	2.52	1.00	.16	11/16
1/4	1/2	04U-108	1/2-14	2.77	1.06	.16	7/8
3/8	1/4	06U-104	1/4-18	2.52	1.00	.25	11/16
3/8	3/8	06U-106	3/8-18	2.52	1.00	.25	11/16
3/8	1/2	06U-108	1/2-14	2.77	1.25	.25	7/8
1/2	1/4	08U-104	1/4-18	2.56	.88	.28	13/16
1/2	3/8	08U-106	3/8-18	2.57	1.14	.36	3/4
1/2	1/2	08U-108	1/2-14	2.75	1.31	.36	13/16
1/2	3/4	08U-112	3/4-14	2.83	1.28	.36	1-1/16
5/8	3/8	10U-106	3/8-18	3.12	1.13	.48	15/16
5/8	1/2	10U-108	1/2-14	3.31	1.38	.48	15/16
5/8	3/4	10U-112	3/4-14	3.31	1.30	.48	1-1/16
3/4	1/2	12U-108	1/2-14	3.62	1.44	.61	1
3/4	3/4	12U-112	3/4-14	3.61	1.44	.61	1-1/16
3/4	1	12U-116	1-11-1/2	3.84	1.69	.61	1-3/8
1	3/4	16U-112	3/4-14	4.23	1.88	.81	1-1/4
1	1	16U-116	1-11-1/2	3.90	1.69	.81	1-3/8
1-1/4	1-1/4	20U-120	1-1/4-11-1/2	4.61	2.31	1.02	1-11/16

Male Pipe Swivel



Note: Swivel for installation purposes only. (Not for temperatures above 200°F.)

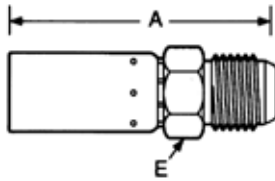
Hose I.D.	Pipe Size	Catalog Number	Thread Size	A	Hose Cut-Off Factor†	Hole Dia.	Hex E	Hex F
1/4	1/4	04U-J04	1/4-18	3.38	1.88	.16	5/8	13/16
3/8	1/4	06U-J04	1/4-18	3.40	1.94	.25	11/16	13/16
3/8	3/8	06U-J06	3/8-18	3.38	1.94	.25	11/16	7/8
3/8	1/2	06U-J08	1/2-14	3.60	2.13	.25	3/4	7/8
1/2	3/8	08U-J06	3/8-18	3.45	2.00	.36	13/16	7/8
1/2	1/2	08U-J08	1/2-14	3.60	2.19	.36	13/16	7/8
3/4	3/4	12U-J12	3/4-14	4.73	2.56	.61	1	1-1/4
1	1	16U-J16	1-11-1/2	5.06	2.88	.80	1-1/4	1-3/8

†To determine the correct length of hose, subtract the cut-off factor for each end fitting from the overall length of assembly.

Couplings

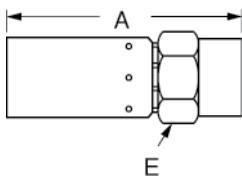
Coll-O-Crimp
'U' Series

SAE 37° Male Rigid



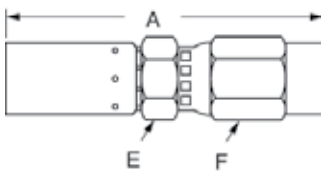
Hose I.D.	Tube Size	Catalog T Number	hread Size	A	Hose Cut-Off Factor†	Hole Dia.	Hex E
1/4	1/4	04U-504	7/16-20	2.48	1.00	.16	1/2
1/4	5/16	04U-505	1/2-20	2.51	1.00	.16	9/16
1/4	3/8	04U-506	9/16-18	2.55	1.00	.16	5/8
3/8	3/8	06U-506	9/16-18	2.54	1.00	.25	11/16
3/8	1/2	06U-508	3/4-16	2.67	1.25	.25	13/16
3/8	5/8	06U-510	7/8-14	2.83	1.31	.25	15/16
1/2	1/2	08U-508	3/4-16	2.70	1.19	.38	13/16
1/2	5/8	08U-510	7/8-14	2.83	1.31	.36	15/16
1/2	3/4	08U-512	1-1/16-12	2.87	1.44	.36	1-1/8
5/8	1/2	10U-508	3/4-16	3.22	1.31	.39	15/16
5/8	5/8	10U-510	7/8-14	3.32	1.38	.48	15/16
5/8	3/4	10U-512	1-1/16-12	3.42	1.44	.48	1-1/8
3/4	5/8	12U-510	7/8-14	3.64	1.44	.43	1
3/4	3/4	12U-512	1-1/16-12	3.74	1.56	.61	1-1/16
3/4	7/8	12U-514	1-3/16-12	3.81	1.63	.61	1-1/4
3/4	1	12U-516	1-5/16-12	3.81	1.63	.61	1-3/8
1	7/8	16U-514	1-3/16-12	4.18	1.94	.72	1-1/4
1	1	16U-516	1-5/16-12	4.20	2.00	.81	1-3/8
1	1-1/4	16U-520	1-5/8-12	4.02	1.81	.81	1-11/16
1-1/4	1-1/4	20U-520	1-5/8-12	4.60	2.31	1.02	1-11/16

Female Pipe Rigid



Hose I.D.	Pipe Size	Catalog Number	Thread Size	A	Hose Cut-Off Factor†	Hole Dia.	Hex E
1/4	1/8	04U-202	1/8-27	2.20	.75	.16	5/8
1/4	1/4	04U-204	1/4-18	2.43	.94	.16	3/4
3/8	1/4	06U-204	1/4-18	2.46	1.06	.25	3/4
3/8	3/8	06U-206	3/8-18	2.57	1.13	.25	7/8
1/2	1/2	08U-208	1/2-14	2.82	1.38	.36	1-1/8
3/4	3/4	12U-212	3/4-14	3.71	1.56	.61	1-3/8

Female Pipe Swivel



Hose I.D.	Pipe Size	Catalog Number	Thread Size	A	Hose Cut-Off Factor†	Hole Dia.	Hex E	Hex F
1/4	1/4	04U-254	1/4-18	3.52	2.06	.20	5/8	13/16
3/8	3/8	06U-256	3/8-18	3.61	2.19	.32	11/16	7/8
1/2	1/2	08U-258	1/2-14	3.85	2.38	.43	13/16	1-1/8
3/4	3/4	12U-262	3/4-14	4.81	2.63	.61	1	1-3/8
1	1	16U-266	1-11-1/2	5.26	3.06	.80	1-1/4	1-5/8

Note: Swivel for installation purposes only. (Not for temperatures above 200°F.)

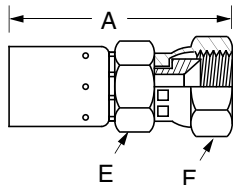
†To determine the correct length of hose, subtract the cut-off factor for each end fitting from the overall length of assembly.

Couplings

Coll-O-Crimp 'U' Series

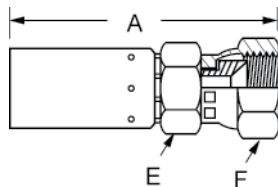
Female Straight Pipe Swivel (NPSM)

(Connects to male pipe fitting with internal seat.)



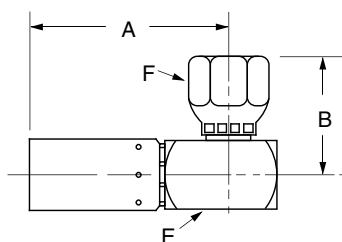
Hose I.D.	Pipe Size	Catalog Number	Thread Size	A	Hose Cut-Off Factor†	Hole Dia.	Hex E	Hex F
1/4	1/4	04U-054	1/4-18	2.55	1.06	.16	1/2	11/16
3/8	3/8	06U-056	3/8-18	2.65	1.19	.27	11/16	7/8
1/2	1/2	08U-058	1/2-14	2.85	1.44	.36	13/16	1
3/4	3/4	12U-062	3/4-14	3.77	1.63	.61	1	1-1/4
1	1	16U-066	1-11-1/2	4.34	2.13	.81	1-1/4	1-1/2
1-1/4	1-1/4	20U-070	1-1/4-11-1/2	4.76	2.44	1.08	1-11/16	1-7/8

SAE 37° Female Swivel



Hose I.D.	Tube Size	Catalog Number	Thread Size	A	Hose Cut-Off Factor†	Hole Dia.	Hex E	Hex F
1/4	1/4	04U-604 ^a	7/16-20	2.61	1.13	.16	9/16	9/16
1/4	5/16	04U-605 ^a	1/2-20	2.67	1.18	.16	9/16	5/8
1/4	3/8	04U-606 ^c	9/16-18	2.72	1.25	.16	9/16	11/16
3/8	1/4	06U-604 ^a	7/16-20	2.66	1.25	.16	11/16	9/16
3/8	3/8	06U-406 ^b	5/8-18	2.68	1.25	.25	11/16	3/4
3/8	3/8	06U-606 ^c	9/16-18	2.77	1.31	.25	11/16	11/16
3/8	1/2	06U-608 ^a	3/4-16	2.86	1.44	.25	11/16	7/8
3/8	5/8	06U-610 ^a	7/8-14	3.00	1.56	.25	7/8	1
3/8	3/4	06U-612 ^c	1-1/16-12	3.15	1.69	.25	1	1-1/4
1/2	3/8	08U-606 ^c	9/16-18	2.68	1.25	.30	13/16	11/16
1/2	1/2	08U-608 ^a	3/4-16	2.79	1.38	.36	13/16	7/8
1/2	5/8	08U-610 ^a	7/8-14	3.00	1.56	.36	13/16	1
1/2	3/4	08U-612 ^c	1-1/16-12	3.12	1.44	.36	1	1-1/4
1/2	1	08U-616 ^c	1-5/16-12	3.17	1.75	.36	1-1/4	1-1/2
5/8	1/2	10U-608 ^a	3/4-16	3.48	1.56	.39	15/16	7/8
5/8	5/8	10U-610 ^a	7/8-14	3.53	1.63	.48	15/16	1
5/8	3/4	10U-612 ^c	1-1/16-12	3.64	1.75	.48	1	1-1/4
3/4	5/8	12U-610 ^a	7/8-14	3.75	1.56	.48	1	1
3/4	3/4	12U-412 ^b	1-1/16-14	3.86	1.69	.61	1	1-1/4
3/4	3/4	12U-612 ^c	1-1/16-12	3.86	1.69	.61	1	1-1/4
3/4	7/8	12U-614 ^c	1-3/16-12	3.88	1.69	.61	1-1/8	1-3/8
3/4	1	12U-616 ^c	1-5/16-12	4.07	1.88	.61	1-1/4	1-1/2
1	3/4	16U-612 ^c	1-1/16-12	4.37	2.13	.61	1-1/4	1-1/4
1	7/8	16U-614 ^c	1-3/16-12	4.35	2.13	.72	1-1/4	1-3/8
1	1	16U-616 ^c	1-5/16-12	4.46	2.25	.81	1-1/4	1-1/2
1	1-1/4	16U-620 ^c	1-5/8-12	4.30	2.19	.81	1-5/8	2
1-1/4	1-1/4	20U-620 ^c	1-5/8-12	4.90	2.63	1.02	1-11/16	2

SAE 37° Female Swivel 90° Elbow



Hose I.D.	Tube Size	Catalog Number	Thread Size	A	B	Hose Cut-Off Factor†	Hole Dia.	Square E	Hex F
1/4	1/4	04U-554 ^c	7/16-20	2.43	1.06	.95	.16	11/16	9/16
3/8	3/8	06U-556 ^c	9/16-18	2.50	1.18	1.06	.25	11/16	11/16
1/2	1/2	08U-558 ^c	3/4-16	2.75	1.35	1.31	.36	3/4	7/8
1/2	5/8	08U-560 ^c	7/8-14	2.75	1.34	1.31	.36	3/4	1
3/4	5/8	12U-560 ^c	7/8-14	4.15	1.54	2.00	.61	1-1/8	1
3/4	3/4	12U-562 ^c	1-1/16-12	4.15	1.62	2.00	.61	1-1/8	1-1/4
3/4	7/8	12U-564 ^c	1-3/16-12	4.15	1.68	2.00	.61	1-1/8	1-3/8

† To determine the correct length of hose, subtract the cut-off factor for each end fitting from the overall length of assembly.

a Swivel nuts are universal

b both SAE 37° and 45° connections

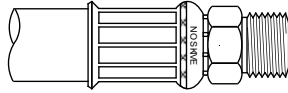
c SAE 37° flare connection only

Low Carbon Steel

Couplings

430 'U' Series No Skive

Hose End Series: 'U' Series



Note: Refer to current price list for availability of cataloged items. Configurations and dimensions subject to change without notice.

Typical Application: Compatible Hose:

General purpose low, medium, and high pressure fluid transfer.
Use Hose H0377/Kelly Power, H115 & H116/Performer II, H1777/Perfection 300, H1812/Industrial A/W, H6002/Concord Air, H6008/Yellow Jack, H6009/Bulldog Gold & H9622/Contractors Air.

Material:

Low Carbon Steel

Plating:

Zinc; Clear Trivalent Chromate

Assemble With:

T-410-1 Coll-O-Crimp II, T-420-1 Coll-O-Crimp Super I, T-440-1 Coll-O-Crimp II Plus or T-480

Advantages:

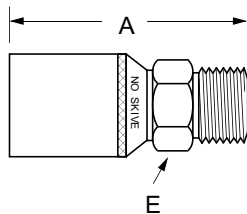
Wide selection of hose and end configurations allowing a diverse number of applications. An ideal series to introduce hydraulics.

Ordering Information:

Order individually by catalog number. O-rings not supplied with split flange hose ends.

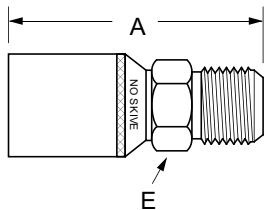
Label Set: FS-3100

Male Pipe (NPTF) Rigid



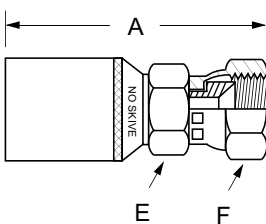
Hose I.D.	Pipe Size	Catalog Number	Thread Size	A	Hose Cut-Off Factor†	Hole Dia.	Hex E
1/2	1/2	43008U-108	1/2-14	3.56	1.69	.34	7/8
1/2	3/4	43008U-112	3/4-14	3.29	1.38	.34	1-1/16
3/4	3/4	43012U-112	3/4-14	3.68	1.69	.61	1-1/16
3/4	1	43012U-116	1-11-1/2	3.77	1.75	.61	1-3/8
1	3/4	43016U-112	3/4-14	3.86	1.81	.71	1-1/4
1	1	43016U-116	1-11-1/2	4.05	2.00	.81	1-3/8
1	1-1/4	43016U-120	1-1/4-11-1/2	4.08	2.06	.81	1-11/16
1-1/4	1-1/4	43020U-120	1-1/4-11-1/2	4.58	2.31	1.02	1-11/16
1-1/2	1-1/2	43024U-124	1-1/2-11-1/2	4.87	2.38	1.25	2
2	2	43032U-132	2-11-1/2	5.51	2.69	1.69	2-1/2

SAE 37° Male Rigid



Hose I.D.	Tube Size	Catalog Number	Thread Size	A	Hose Cut-Off Factor†	Hole Dia.	Hex E
1/2	1/2	43008U-508	3/4-16	3.50	1.63	.34	7/8
1/2	5/8	43008U-510	7/8-14	3.30	1.38	.34	1
3/4	3/4	43012U-512	1-1/16-12	3.74	1.75	.61	1-1/8
3/4	7/8	43012U-514	1-3/16-12	3.81	1.81	.61	1-1/4
3/4	1	43012U-516	1-5/16-12	4.02	2.06	.61	1-3/8
1	1	43016U-516	1-5/16-12	4.02	2	.81	1-3/8
1	1-1/4	43016U-520	1-5/8-12	3.84	1.81	.81	1-11/16
1-1/4	1-1/4	43020U-520	1-5/8-12	4.57	2.31	1.02	1-11/16
1-1/2	1-1/2	43024U-524	1-7/8-12	4.95	2.50	1.25	2
2	2	43032U-532	2-1/2-12	5.57	2.75	1.69	2-5/8

SAE 37° Female Swivel



Hose I.D.	Tube Size	Catalog Number	Thread Size	A	Hose Cut-Off Factor†	Hole Dia.	Hex E	Hex F
1/2	3/8	43008U-606°	9/16-18	3.56	1.69	.34	13/16	11/16
1/2	1/2	43008U-608°	3/4-16	3.67	1.75	.34	13/16	7/8
1/2	5/8	43008U-610°	7/8-14	3.72	1.81	.34	13/16	1
1/2	3/4	43008U-612°	1-1/16-12	3.76	1.88	.34	1	1-1/4
3/4	3/4	43012U-612°	1-1/16-12	4.08	2.06	.61	1	1-1/4
3/4	7/8	43012U-614°	1-3/16-12	3.90	1.88	.61	1-1/4	1-3/8
3/4	1	43012U-616°	1-5/16-12	4.01	2.00	.61	1-1/4	1-1/2
1	3/4	43016U-612°	1-1/16-12	4.19	2.19	.61	1-1/4	1-1/4
1	1	43016U-616°	1-5/16-12	4.28	2.25	.81	1-1/4	1-1/2
1	1-1/4	43016U-620°	1-5/8-12	4.12	2.06	.81	1-5/8	2
1-1/4	1-1/4	43020U-620°	1-5/8-12	4.87	2.63	1.02	1-11/16	2
1-1/4	1-1/2	43020U-624°	1-7/8-12	5.03	2.75	1.02	1-7/8	2-1/4
1-1/2	1-1/2	43024U-624°	1-7/8-12	5.29	2.81	1.25	2	2-1/4
2	2	43032U-632°	2-1/2-12	6.04	3.25	1.69	2-1/2	3

†To determine the correct length of hose, subtract the cut-off factor

a Swivel nuts are universal c SAE 37° flare connection only.

A

abrasion: external damage to a hose assembly caused by its being rubbed on a foreign object; a wearing away by friction. **adhesion:** the strength of bond between cured rubber surfaces or between a cured rubber surface and a non-rubber surface.

adhesion: the strength of bond between cured rubber surfaces or between a cured rubber surface and a non-rubber surface.

ambient/atmospheric conditions: The surrounding conditions, such as temperature, pressure, and corrosion, to which a hose assembly is exposed.

ANSI: American National Standards Institute.

application working pressure: unique to customer's application. See pressure, working.

assembly: a general term referring to any hose coupled with end fittings of any style attached to one or both ends.

ASTM: American Society for Testing and Materials.

axial movement: compression or elongation along the longitudinal axis.

B

bend radius: the radius of a bent section of hose measured to the innermost surface of the curved portion.

bend radius, minimum: the smallest radius at which hose or tubing can be used. For Metal Hose: the radius of a bend measured to the

hose centerline, as recommended by the manufacturer.

blister: a raised spot on the surface or a separation between layers, usually forming a void or air-filled space in the vulcanized hose.

bloom: a discoloration or change in appearance of the surface of a rubber hose caused by the migration of a liquid or a solid to the surface. Examples—Sulfur bloom, wax bloom. Not to be confused with dust on the surface from external sources.

bore: a fluid passageway.

braid: the woven portion of a hose used as reinforcement to increase pressure rating and add hoop strength. Various materials such as polyester, cotton or metal wire are used. A hose may have one or more braids, outside or between layers of hose material.

braided hose: hose in which the reinforcing material has been applied by braiding.

braider: a machine for making braid. The yarn is drawn off of several bobbins while they move in and out during their travel around the center of the machine. These yarns are thus intertwined in a regular manner according to the desired pattern.

braided ply: a layer of braided reinforcement.

brand: a mark or symbol identifying or describing a product and/or manufacturer, that is embossed, inlaid or printed.

burst pressure: pressure at which a hose will fail and burst. Most Eaton hoses are rated with burst pressures of 4 times the maximum working pressure. Steam hoses are rated with a burst pressure of 10 times the maximum working pressure.

C

capped end: a seal on the end of a hose to protect internal reinforcement.

carcass: the fabric, cord and/or metal reinforcing section of a hose as distinguished from the hose tube or cover.

cemented end: a capped end accomplished by means of cement

chalking: the formation of a powdery surface condition due to disintegration of surface binder or elastomer by weathering or other destructive environments.

checking: the short, shallow cracks on the surface of a rubber product resulting from damaging action of environmental conditions.

chemical compatibility: the relative degree to which a material may contact another without corrosion, degradation or adverse change of properties.

chemical resistance: the ability of a particular polymer, rubber compound, or metal to exhibit minimal physical and/or chemical property changes when in contact with one or more chemicals for a specified length of time, at specified concentrations, pressure, and temperature.

cold flex: act or instance of bending or bowing a rubber hose under conditions of cold environment.

cold flexibility: relative ease of bending while being exposed to specified low temperature.

collar: 1) the portion of a fitting that is compressed by crimping to seal the hose onto the fitting barbs and create a permanent attachment; also called a ferrule. (With field attachable fittings, the lock and seal are accomplished mechanically by the collar without crimping); 2) a raised portion on the hose shank which functions as a connection for a ferrule or other locking device or functions as a hose stop.

Coll-O-Crimp: a line of hydraulic and pneumatic hose, hose end fittings, and fabrication equipment that is a registered trademark of Eaton Corporation.

combustible liquid: a combustible liquid is one having a flash point at or above +100°F (37.8°C).

compound: the mixture of rubber or plastic and other materials, which are combined to give the desired properties when, used in the manufacture of a product.

conductive: the ability to transfer electrical potential.

core: the inner portion of a hose, usually referring to the material in contact with the medium.

corrosion: the process of material degradation by chemical or electrochemical means.

corrosion resistance: ability of metal components to resist oxidation.

coupled lengths: individual lengths of hose with couplings attached. This may be, as specified, either the length of exposed hose or the overall length including couplings.

coupling: a device attached to the end of hose or conduit to facilitate connection to a suitable fitting and insure a passageway.

coupling: a frequently used alternative term for hose end fitting.

cover steam: mark or line resulting from applying cover from calendered stock.

cover: the outer component usually intended to protect the carcass of a product.

CPE: chlorinated polyethylene, a rubber elastomer.

cracking: a sharp break or fissure in the surface, generally caused by strain and environmental conditions.

crazing: a surface effect on rubber articles characterized by multitudinous minute cracks.

crimp diameter: the distance across opposite flats after crimping.

crimp/crimping: a hose end fitting attachment method utilizing a number of dies mounted in a radial configuration. The dies close perpendicular to the hose and fitting axis, compressing the collar, ferrule, or sleeve around the hose.

cure: the act of vulcanization. See vulcanization.

cut-off factor: the hose length to be subtracted from the overall assembly length that allows for the hose coupling end connection extension beyond the end of the hose.

D

date code: any combination of numbers, letters, symbols or other methods used by a manufacturer to identify the time of manufacture of a product.

deburr: to remove ragged edges from the inside diameter of a hose end.

design factor: a ratio used to establish the working pressure of the hose, based on the burst strength of the hose.

DOT: Department of Transportation.

durometer: an instrument for measuring the hardness of rubber and plastic compounds.

E

eccentricity: the condition resulting from the inside and outside diameters not having a common center.

effusion: the escape, usually of gases, through a material. See permeation.

elastic limit: the limiting extent to which a body may be deformed and yet return to its original shape after removal of the deforming force.

elastomer: any one of a group of polymeric materials, usually designated thermoset, such as natural rubber, or thermoplastic, which will soften with application of heat.

elongation: the increase in length expressed numerically as a percentage of the initial length.

end force: an internal pressure which acts outward toward the ends of the tube.

endurance test: a service or laboratory test, conducted to product failure, usually under normal use conditions.

enlarged end: An end with inside diameter greater than that of the main body of hose.

EPDM: Ethylene Propylene Diene Monomer; an elastomer.

EVA: Ethyl Vinyl Acetate

extrude/extruded/extrusion: forced through the shaping die of an extruder; extrusion may have a solid or hollow cross section.

F

fabric impression: impression formed on the rubber surface during vulcanization by contact with fabric jacket or wrapper.

fabricator: the producer of hose assemblies.

fatigue: the weakening or deterioration of a material occurring when a repetitious or continuous application of stress causes strain, which could lead to failure.

FDA: United States Food and Drug Administration.

fire sleeve: slip-on or integrally extruded sleeve used to retard the effects of fire in certain applications; most often made with silicone and/or ceramic fiber.

flammable gases/liquid/media:

a flammable gas, including liquefied gas, is one having a closed cup flash point below +100°F (+37.8°C) and a vapor pressure greater than 25 psi. (174.2 KPa).

flange: (1) Metal ring attached to pipe nipples. (2) Raised edge on hose.

flex cracking: a surface cracking induced by repeated bending and straightening.

filler: the yarn which interlaces with the warp yarn to form a woven fabric.

flow rate: a volume of media being conveyed in a given time period.

fluid: a gas or liquid medium.

fluorocarbon: an organic compound containing fluorine directly bonded to carbon. The ability of the carbon atom to form a large variety of structural chains gives rise to many fluorocarbons and fluorocarbon derivatives.

G

GPM: gallons per minute.

GHT: garden hose thread.

H

heat resistance: the property or ability to resist the deteriorating effects of elevated temperatures.

helix: a shape formed by spiraling a wire or other reinforcement around the cylindrical body of a hose; typically used in suction hose.

hoop force: an internal pressure which acts outward on the walls of the inner tube.

hose: a flexible conduit consisting of a tube, reinforcement, and usually an outer cover.

hydrostatic testing: the use of liquid pressure to test a hose or hose assembly for leakage, twisting, and/or hose change-in-length.

I

I.D.: the abbreviation for inside diameter.

identification yarn: a yarn of single or multiple colors, usually embedded in the hose wall, used to identify the manufacturer.

impression: a design formed during vulcanization in the surface of a hose by a method of transfer, such as fabric impression or molded impression.

impulse: an application of force in a manner to produce sudden strain or motion, such as hydraulic pressure applied in a hose.

innertube: the innermost layer of a hose; the hose material in contact with the medium.

ISO: International Organization for Standardization.

J

jacket: (1) A seamless tubular braided or woven ply generally exposed on outside. (2) A woven fabric used during vulcanization by the wrapped "cure" method.

K

knitter: a machine capable of forming a fabric by the action of needles engaging threads in such a manner as to cause a sequence of interlaced loops from forming a continuous tubular structure.

kinking: a temporary or permanent distortion of the hose induced by bending beyond the minimum bend radius.

L

layer: a single thickness of rubber or fabric between adjacent parts.

layline: the line of printed information that runs parallel on the side of a manufactured hose giving details such as part number, PSI rating, hose size and manufacturing data.

leno breaker: an open-mesh fabric made from coarse ply yarns with a leno weave. A leno weave is one in which certain warp threads—termed doup or crossing threads—are passed from side to side of one or more ends—termed standard threads—and are bound in by the filling in this position. Where the crossed interlacing occurs an open perforated structure is formed.

lined hose: fire hose having a seamless woven jacket or jackets and an internal rubber tube.

LPG, LP Gas: the abbreviation for liquefied petroleum gas.

M

machine made: (1) Mandrel-built reinforced hose made by machine, as opposed to hose built by hand. (2) Tubing that is processed without internal support.

media, medium: the substance(s) being conveyed through a system.

mandrel: a form, usually of elongated round section, used for size and support hose during fabrication and/or vulcanization. It may be rigid or flexible.

mandrel built: a hose fabricated and/or vulcanized on a mandrel.

mandrel wrapped: built up by wrapping an unvulcanized sheet on a mandrel.

manufacturer's identification: a code symbol used on or in some hose to indicate the manufacturer.

MAWP: see pressure, maximum allowable working.

minimum bend radius (MBR): minimum radius to which a hose may be bent without compromising the integrity of construction. According to RMA IP-11-7 Chemical Hose Bulletin, crushed or kinked sections where the hose O.D. is reduced by 20% or more of the normal indicate internal damage of the reinforcement and/or tube.

MSDS: Material Safety Data Sheet.

MSHA: Mine Safety and Health Administration.

N

NAHAD: the abbreviation for the National Association of Hose & Accessories Distributors.

necking down: the diminution of the cross-section of a rubber hose.

nitrile rubber (NBR/Buna-N): a family of acrylonitrile elastomers used extensively for industrial hose.

nominal: a size indicator for reference only.

nomograph: a chart used to compare hose size to flow rate to recommended velocity.

non-conductive: the inability to transfer an electrical charge.

nozzle end: an end of hose in which both the inside and outside diameters are reduced.

NPT/NPTF: abbreviation for national pipe threads. See fitting/coupling - Pipe Thread Fittings.

NSF: National Sanitation Foundation.

nylon: a family of polyamide materials.

O

OAL: see overall length

O.D.: the abbreviation for outside diameter.

oil resistance: the ability of the materials to withstand exposure to oil.

oil swell: the change in volume of a rubber article resulting from contact with oil.

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Glossary

operating conditions: the pressure, temperature, motion, and environment to which a hose assembly is subjected.

overall length (OAL): the total length of a hose assembly, which consists of the free hose length plus the length of the coupling(s).

oxidation: the reaction of oxygen on a material, usually evidenced by a change in the appearance or feel of the surface or by a change in physical properties.

ozone cracking: the surface cracks, checks or crazing caused by exposure to an atmosphere containing ozone.

ozone resistance: the ability to withstand the deteriorating effects of ozone (generally cracking).

P

Pancure: a vulcanization process in which the hose is taken from the covering operation, coiled either on reels or horizontal pans and placed directly into the vulcanizer.

permeation: the process of migration of a substance into and through another, usually the movement of a gas into and through a hose material; the rate of permeation is specific to the substance, temperature, pressure and the material being permeated.

pinpricked: perforations through the cover of a hose to vent permeating gases.

pitch: 1) the distance from one point on a helix to the corresponding point on the next turn of the helix, measured parallel to the axis; 2) the distance between the two peaks of adjacent corrugation or convolution.

plating: a material, usually metal, applied to another metal by electroplating, for the purpose of reducing corrosion; typically a more noble metal such as zinc is applied to steel.

plied yarns: a yarn made by twisting together two or more single yarns.

ply: an individual layer in hose construction.

polymer: a macromolecular material formed by the chemical combination of monomers, having either the same or different chemical compositions.

porous tube: (1) The physical conditions of a hose tube due to presence of pores. (2) A hose tube that has low resistance to permeation.

pressure: force ÷ unit area. For purposes of this document, refers to PSIG (pounds per square inch gauge).

pressure drop: the measure of pressure reduction or loss over a specific length of hose.

pressure, burst: the pressure at which rupture occurs.

pricker marks: the marks due to perforating the cover of the hose prior to or after vulcanization.

proof pressure test: a non-destructive hydrostatic pressure test applied to a product to show up possible defects.

psi (PSI): pounds of pressure per square inch of area (lb2/in).

PTFE: polytetrafluoroethylene, a high molecular weight fluoroplastic polymer with carbon atoms shielded by fluorine atoms having very strong inter atomic bonds, giving it chemical inertness.

PVC: polyvinyl chloride. A low cost thermoplastic material typically used in the manufacture of industrial hoses. The operating temperature range is -500°F to +1750°F (-295.5°C to +954.4°C).

R

reinforcement: (1) The strength members, consisting of fabric, cord, and/or metal, of a rubber hose. (2) The non-rubber elements making up a rubber hose. (3) The non-rubber compounding ingredients which impart increased tensile strength or other desirable properties.

RMA: The Rubber Manufacturers Association, Inc.

rough-bore hose: a wire reinforced hose in which a wire is exposed in the bore.

S

SAE: Society of Automotive Engineers.

safety factor: divisor of burst pressure used to determine working pressure.

service test: a test which makes the hose operate under service conditions in the actual equipment.

smooth bore hose: a wire reinforced hose in which the wire is not exposed in the bore.

smooth-bore: a term used to describe the type of inner core in a hose.

soft end: an end in which the rigid reinforcement of the body, usually wire, is omitted.

specification: a document setting forth pertinent details of a product.

specific gravity: the ratio of the weight of a given substance to the weight of an equal volume of water at a specified temperature.

spiral: a method of applying reinforcement in which there is not interlacing between individual strands of the reinforcement.

static wire: a wire incorporated in a rubber hose to give quality or additional power to conducting or transmitting static electricity.

straight end: an end with inside diameter the same as that of the main body.

standard: a document, or an object for physical comparison, for defining product characteristics, products, or processes, prepared by a consensus of a properly constituted group of those substantially affected and having the qualifications to prepare the standard for use.

static wire: wire incorporated in a hose to conduct static electricity.

stem: see nipple.

surge (spike): a rapid and transient rise in pressure.

swelling: an increase in volume or linear dimension of a specimen immersed in liquid or exposed to a vapor.

T

tight braid: (1) An unevenness in the braid reinforcement caused by one or more ends of the reinforcement being applied at a greater tension than the balance of the ends of the braided reinforcement. (2) Also refers to a localized necking down of the braided reinforcement caused by a braider stop or some other cause.

tube: the innermost continuous all-rubber or plastic element of a hose.

tubing: a non-reinforced, homogeneous conduit, generally of circular cross-section.

U

UL: Underwriters' Laboratories, Inc.

V

vacuum: full vacuum is 29.92 in Hg.

vacuum resistance: the measure of a hoses ability to resist negative gauge pressure.

vibration: amplitude motion occurring at a given frequency.

viscosity: the resistance of a material to flow.

vulcanization: a process during which a rubber compound, through a change in its chemical structure, improves or extends elastic properties over a greater range of temperature.

W

warp: (1) The yarn that runs lengthwise in a woven fabric. Also called chain or twist. An individual thread of warp is termed an end. (2) The sheet of yarns laid together in parallel order on a beam to form a warp.

weathering: the surface deterioration of a hose cover during outdoor exposure, as shown by checking, cracking, crazing and chalking.

wire braid: a ply of braided wire reinforcement.

wire reinforced: a hose containing wires to give added strength, increased dimensional stability; crush resistance. See reinforcement

working pressure (WP): maximum pressure at which a hose is designed to operate.

working temperature: the temperature range of the application, may include the temperature of the fluid conveyed or the environmental conditions the assembly is exposed to in use.

woven jacket: a seamless jacket with continuous parallel warp yarns interlaced spirally with continuous filler elements.

wrapper marks: impressions left on the surface by the material used to wrap the hose during vulcanization. Usually shows characteristics of a woven pattern and wrapper with edge marks.

Y

yarn: a generic term for a continuous strand of textile fibers or filaments in a form suitable for knitting, weaving, or otherwise intertwining to form a textile fabric. It may comprise (a) a number of fibers twisted together, (b) a number of filaments laid together without twist (a ser twist yarn), (c) a number of filaments laid together with more or less twist, or (d) a single filament with or without twist (a monofilament).

This Glossary of Terms, as utilized in the hose industry, includes some definitions from The Hose Handbook, published by the Rubber Manufacturers Association.

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Appendices

Hose Selection Worksheet

Eaton recommends using the STAMPED process to aid in determining the correct hose and coupling for your application. This worksheet is designed to help you organize information for determining

the best hose for a given application. The questions are based on the hose selection factors described earlier in this catalog.

When selecting a hose, always use this worksheet in conjunction with this

catalog. Read all instructions concerning the hose you are selecting. If any questions arise contact Eaton Technical Support at 1-888-258-0222.

S - Size
(I.D., O.D. and length)

T - Temperature of material conveyed and environmental

A - Application, the conditions of use

M - Material being conveyed, type and concentration

P - Pressure to which the assembly will be exposed

E - Ends; style, type, orientation, attachment methods, etc.

D - Delivery testing, quality, packaging, and delivery requirements

1. Size

Flow (cubic feet per minute) requirements? _____

See RMA Water Discharge table.

Hose I.D. requirements given the flow requirements? _____

Pressure drop? _____

Length requirements (excluding hose ends)? _____

2. Temperature

Temperature range of material to be transferred?

Min. _____ Max. _____ Average _____

Year-round external environment temperature range? _____

Cleaning temperature? _____

3. Application

If the application is new, what service is to be performed? _____

If it is an existing application, do not replace a failed hose without finding out the cause of the failure. The hose may have been specified incorrectly originally. Ask the following questions:

What hose was in use? _____

Why did it fail? _____

How long did the hose last? _____

Have the service conditions changed since the failed hose was installed? _____

Any movement during loading or unloading process such as flexing or other repetitive motion? _____

What other hose conditions exist in addition to the one at the failure point? _____

Was hose cleaned and dried prior to transferring the next material? _____

Examine other hoses in similar service to avoid unexpected failures. _____

4. Material: Compatibility & Environment

Internal and external environment consideration. Internal environment relates to the material being conveyed. External environment relates to anything originating from outside the hose.

Check all that apply.

☐ Abrasive materials (conveyants and external)

☐ Petroleum products (aromatics, aliphatics, etc.)

☐ Materials that could cut or gouge hose

☐ Solvents

☐ Ozone

☐ Acids/caustics

☐ Animal fats (oils)

☐ Sparking or flames

☐ Cleaning with steam

Material to be transferred? _____

Material concentration (%)? _____

What hose cleaning solution(s) will be used? _____

S - Size
(I.D., O.D. and length)

T - Temperature of
material conveyed
and environmental

A - Application,
the conditions of use

M - Material being
conveyed, type
and concentration

P - Pressure to which
the assembly will be
exposed

E - Ends; style, type,
orientation, attachment
methods, etc.

D - Delivery testing,
quality, packaging, and
delivery requirements

5. Pressure & Suction

What working pressure is required? _____

Are pressure surges involved in this application? How high? _____

What safety factor is required? _____

Is this a suction application? What vacuum rating is required? _____

6. Ends

End 1 _____

Material _____

Attachment Method _____

7. Delivery

Qty. required _____ Date required _____ Pkg. requirements _____

Testing Required - ☐ No ☐ Yes If Yes, Type: _____

Certification Required - ☐ No ☐ Yes If Yes, Type: _____

Special Requirements/Other Information

Will the selected hose need to possess any of the following features:

Branding information needed on the hose? _____

Color coding? _____

Any special designations required by agencies or associations? _____

Will any regulatory agency approvals be required? If yes, which one(s)? _____

Non-conductive rubber needed to prevent transmittal of electricity? _____

Static wire or static-dissipating tube to prevent static electricity buildup and discharge sparks? _____

Pinpricked cover to resist blistering when transferring hot materials or air/gases under pressure? _____

Abrasion sleeve or guard? _____

Heat shield? _____

Sub-zero exposure resistance? _____

Special assembly requirements? _____

Continuous transfer service or intermittent service? _____

Flexibility: Do space restrictions exist where the hose will be used? _____

Bend Radius: of the hose relative to space in which hose will be used? _____

Considering the intended use of the hose, how flexible will it need to be (check one)?

☐ Extremely flexible ☐ Slightly flexible ☐ Not an issue

Weight: How will the hose be handled during use, if all? _____

How important is the weight of the hose going to be in this application (check one)?

☐ Very important ☐ Slightly important ☐ Not an issue

Be sure to reference chemical compatibility recommendations in the Chemical Compatibility Charts starting on page D-3.

If you have any questions, please contact Eaton Technical Support at 1-888-258-0222.

Product Warranty

The Eaton Hydraulics warranty policy is located at www.hydraulics.eaton.com/warranty

Hose with a History



**Eaton Industrial
Hose Offers Product
Reliability, Diverse
Applications
and a Long History
which means
experience.**

What can we offer you?



It's a distinct advantage being one of the most experienced hose producers in the market. With over 100 years of manufacturing and research and development, consistency in an ever-evolving marketplace is something we pride ourselves in.

Capabilities

Wide Range of Options

- Compounds: PVC, EPDM, natural rubber, modified vinyl, UHMW, XLPE, CPE and Patrex
- Variety of reinforcements to give you the exact hose you need for every application: spiral and braided textile reinforced, wire braided, wire spiral and fiber braid with helical wire.
- Large variety of cover colors
- Ability to Private Brand

Reasons to Choose Eaton Industrial Hose

- Eaton Industrial Specialists located at our Central Distribution Centers in Cleveland, TN and Guelph, Ontario
- Hose qualified with select Eaton couplings
- Detailed laylines and custom colors



The Boston Bulldog was created as a trademark to identify this high quality brand of hose.

Founded in 1870.

Product Highlights

Eaton Industrial Big Cats

Built to make work faster, easier and safer!

The Big Cats are designed to assure maximum product life in your chemical, acid and petroleum applications. Some distinct advantages are:

- Easy-to-handle
- High visibility branding
- Color-coded covers
- High chemical resistance



Don't Gamble, Use Royalflex®!

Eliminate scrap and additional coupling costs, with Royalflex's long, continuous lengths.

This kink-resistant hose services many applications:

- Petroleum and chemical transfer
- Pumping, suction and discharge of water and slurries

This state-of-the-art product is only offered through Eaton.



Steam Hose

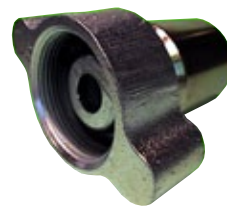
Eaton Industrial steam hose has many unique features and benefits:

- Our steam hose has a 10 to 1 safety factor.
- Chlorobutyl tube for high temperatures
- Engineered system available with our Concord 250 hose and Crimp Wolf Coupling.



Crimp Wolf Coupling

Engineered system qualified to work with a variety of Eaton Industrial hose, including:



- Concord 250 Steam
- Hydrocarbon Drain
- Hot Tar Pumping



Markets and Applications

- Dry bulk transfer
- Hot air blower
- High pressure cleaning
- Washdown of food processing
- Boat cleaning
- Sand blast cleaning
- Water suction and discharge
- Transfer of cleaning agents
- Fertilizer and pest control
- Hot tar pumping
- Nitrogen transfer
- Hydrocarbon drain
- Paint spray
- Rotary drilling on oil rigs
- Fuel Oil transfer
- Food & beverage dispensing
- Water and bilge lines
- Transfer of non-dairy products
- Bulk liquid transfer
- Acid & Chemical transfer
- Petroleum transfer and mixing
- Tank spinners
- Steam transfer

...and many more!



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