

Technical Data

Hose Design Factors

Unless otherwise stated in this catalog, all Abbott Rubber hose specifications meet or exceed the following industry minimum hose design factors for newly manufactured hose:

• Water Hose up to 150 psi WP - 3:1
• Hoses for all other liquids, solid materials suspended in liquids or air, and water hose over 150 psi WP - 4:1
• Hoses for compressed air and other gasses - 4:1
• Hoses for liquid media that immediately changes into gas under standard atmospheric conditions - 5:1
• Steam Hose - 10:1
• Other industry design ratios exist - contact us for specifications detail.

Temperature De-Rating Chart

De-rating factor applies to hose system pressure ratings

Hose Type	70°	90°	150°	200°	250°	300°	350°	400°	450°	500°
Steam	1.00	0.95	0.81	0.68	0.56	0.44	0.32	0.20	0.08	N/R
Hot Tar & Asphalt	1.00	0.95	0.81	0.68	0.56	0.44	0.32	0.20	0.08	N/R
PVC	1.00	0.82	0.30	N/R	N/R	N/R	N/R	N/R	N/R	N/R
Rubber	1.00	0.91	0.64	0.42	0.20	N/R	N/R	N/R	N/R	N/R
Chemical	1.00	0.91	0.64	0.42	0.20	N/R	N/R	N/R	N/R	N/R
Air	1.00	0.91	0.64	0.42	0.20	N/R	N/R	N/R	N/R	N/R
Soft	1.00	0.91	0.64	0.42	0.20	N/R	N/R	N/R	N/R	N/R

Oil Resistance Chart

The definition of Oil Resistance is currently related to Tensile Retention % and Volume Swell % of the tested material after immersion in ASTM No.3 Oil and in ASTM Fuel B for 70 hours at 100°C (212°F). The hose industry is currently classifying the materials as follows:

Physical Properties After Exposure to Oil

	Volume Change Max.	Tensile Strength Retained
Class A - High Oil Resistance	+25%	80%
Class B - Medium High Oil Resistance	+65%	50%
Class C - Limited Oil Resistance	+100%	40%



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General Chemical Resistance of Typical Hose Compounds

Rubber

ASTM Designation D1418-93	Common Name	Composition	General Properties
CIIR	Chlorobutyl	Chloro-Isobutene-Isoprene	Excellent resistance to high heat steam. Very good weathering resistance, low permeability to air. Good physical properties. Poor resistance to petroleum-based fluids.
CR	Neoprene	Chloroprene	Excellent weathering resistance. Flame retarding. Good oil resistance. Good physical properties.
CSM	Hypalon®	Chloro-sulfonated polyethylene	Excellent ozone, weathering and acid resistance. Good abrasion and heat resistance. Can be compounded for good oil resistance.
EPDM	EPM or EPDM	Ethylene-propylene-diene-terpolymer	Good general purpose polymer. Excellent heat, ozone and weather resistance. Not oil resistant.
EU	Urethane	Polyether	Excellent abrasion, tear, and solvent resistance. Good aging. Poor high temperature properties.
FKM	Fluoroelastomer	Fluorocarbon rubber	Excellent high temperature resistance, particularly in air or oil. Very good chemical resistance.
MQ	Silicone	Dimethylpolysiloxane	Excellent high and low temperature resistance. Fair physical properties.
NBR	BUNA-N or Nitrile	Nitrile-Butadiene	Excellent oil resistance. Good physical properties.
NR	Natural	Isoprene Rubber (Natural)	Excellent physical properties, including abrasion resistance. Not oil resistant.
SBR	SBR	Styrene-Butadiene Rubber	Good physical properties, including abrasion resistance. Not oil resistant.
UHMWPE	UHMWPE	Ultra-High Molecular Weight Polyethylene	Excellent resistance to a majority of existing chemicals. Meets FDA requirements for food and beverages.
XLPE	Cross Linked Polyethylene	Cross Linked Polyethylene	Excellent resistance to most solvents, oils and chemicals. Do not confuse with chemical properties of standard polyethylene.
XNBR	Carboxylated nitrile	Carboxylated acrylonitrile-butadiene	Excellent oil and abrasion resistance.
	Synthetic Rubber	Synthetic Rubber	Compounded to meet general application requirements.



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General Chemical Resistance of Typical Hose Compounds

Plastic

ASTM Designation D1600	Common Name	Composition	General Properties
PA	Nylon	Polyamide	Good abrasion, chemical and fatigue resistance. Good long term resistance to high temperature. Low gas permeation and low coefficient of friction.
PE	Polyethylene	Polyethylene	Excellent dielectric properties. Excellent resistance to water, acids, alkalis and solvents. Good abrasion and weathering resistance.
UHMW-PE	UHMWPE	Ultra high molecular weight polyethylene	Excellent resistance to a broad range of chemicals, excellent weight polyethylene abrasion resistance.
PVC	PVC	Polyvinyl chloride	Good weathering, moisture and flame resistance. General resistance to alkalis and weak acids. Good abrasion resistance.
TPES	Polyester	Thermoplastic polyester resin	Good flex fatigue and low temperature properties. High polyester resin resistance to deformation. Good resistance to abrasion, chemicals, hydraulic fluids and aromatic fuels.
TPE	Thermoplastic Rubber	Thermoplastic polyolefins and block copolymers of styrene and butadiene	Good weather and aging resistance. Good for water dilute acids and bases.
PTFE	Fluoropolymer	Polytetrafluorethylene	Excellent high temperature properties and chemical resistance.

Male NPT Thread Sizes

