



TABLE OF CHEMICAL, OIL, AND SOLVENT RESISTANCE OF HOSE

The following table 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, NRP Jones should always be consulted. The table does not imply conformance to the Food & Drug Administration requirements or Federal or State Laws when handling food products.

TECHNICAL DATA & CHARTS

Elastomers/Plastics

NR/IR	Natural Rubber, Isoprene, synthetic	CSM	Chloro-sulfonyl-polyethylene (Hypalon)
SBR	Styrene-butadiene	EPDM	Ethylene-propylene-dieneterpolymer
CR	Chloroprene (Neoprene)	FKM	Fluorocarbon rubber (Viton)
NBR	Nitrile-butadiene	UHMW	Ultra High Molecular Weight Polyethylene
NR	Isobutene-isoprene (Butyl)	XLPE	Cross-linked polyethylene

WARNING: The following data has been compiled from generally available sources and should not be relied upon without consulting and following the hose manufacturer's specific chemical recommendations. Neglecting to do so might result in failure of the hose to fulfill its intended purpose, and may result in possible damage to property and serious bodily injury.

MATERIAL - MAXIMUM TEMPERATURE 100°F (38°C) UNLESS OTHERWISE SPECIFIED	MOST COMMONLY USED ELASTOMERS					SPECIAL ELASTOMERS				
	NR/IR	SBR	CR	NBR	NR	CSM	EPDM	FKM	UHMW	XLPE
Acetic Acid, Dilute, 10%	F	C	C	C	A	C	A	X	A	A
Glacial	C	X	X	X	F	C	F	X	A	A
Anhydride	C	C	F	F	F	A	I	X	A	A
Acetone	A	A	F	X	A	F	A	X	A	A
Acetylene	A	A	F	A	A	F	A	A	A	A
Air - 150°F (65°C)	A	A	A	A	A	A	A		A	A
Aluminum Chloride - 150°F (65°C)	A	A	A	A	A	A	A	A	A	A
Aluminum Fluoride - 150°F (65°C)	A	A	A	A	A	A	A		A	A
Aluminum Sulfate - 150°F (65°C)	A	A	A	A	A	A	A	A	A	A
Alums - 150°F (65°C)	A	A	A	A	A	A	A		A	A
Ammonia Gas	A	A	A	A	A	A	A	X	A	A
Ammonia Chloride	A	A	A	A	A	A	A	A	A	A
Ammonium Hydroxide	C	F	F	F	A	A	A	A	A	A
Ammonium Nitrate	A	A	A	A	A	A	A		A	A
Ammonium Phosphate, monobasic	A	A	A	A	A	A	A		A	A
dibasic	A	A	A	A	A	A	A		A	A
tribasic	A	A	A	A	A	A	A		A	A
Ammonium Sulfate	A	A	A	A	A	A	A	A	A	A
Amyl Acetate	F	X	X	X	F	X	A	X	A	A
Amyl Alcohol	A	A	A	A	A	A	A	A	A	A
Aniline, Aniline Oil	X	X	C	X	A	X	C	A	A	A
Aniline Dyes	F	F	F	F	A	F	C		A	I
Asphalt	X	X	F	F	X	F	X	A	X	X
Barium Chloride - 150°F (65°C)	A	A	A	A	A	A	A	A	A	A
Barium Hydroxide - 150°F (65°C)	A	A	A	A	A	A	A	A	A	A
Barium Sulfide - 150°F (65°C)	A	A	A	A	A	A	A	A	A	A

Resistance Ratings

A *Good Resistance:* usually suitable for service

F *Fair Resistance:* the chemical has some deteriorative effects, but the elastomer is still adequate for moderate service

C *Conditional:* depends on condition, moderate service may be possible if chemical exposure is limited or infrequent

X *Not Recommended:* unsuitable for service

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	NR/IR	SBR	CR	NBR	NR	CSM	EPDM	FKM	UHMW	XLPE
Beer	A	A	A	A	A	A	A	A	A	A
Beet Sugar Liquors	A	A	A	A	A	A	A	A	A	A
Benzene, Benzol	X	X	X	C	X	X	X	A	F	A
Benzine, petroleum ether & Benzine petroleum naphtha	X	X	C	F	X	F	X	A	A	A
Black Sulfate Liquor	A	A	A	A	A	A	A		A	A
Blast Furnace Gas	C	C	A	C	C	C	C	A	A	A
Borax	A	A	A	A	A	A	A	A	A	A
Boric Acid	A	A	A	A	A	A	A	A	A	A
Bromine	X	X	X	X	X	C	X	A	X	F
Butane	X	X	F	A	X	A	X	A	A	A
Butyl Acetate	C	A	A	A	F	X	F	X	A	A
Butyl alcohol, butanol	A	A	A	A	A	A	A	A	A	A
Calcium bisulfate	C	C	A	A	F	A	F	A	A	A
Calcium chloride	A	A	A	A	A	A	A	A	A	A
Calcium hydroxide	A	A	A	A	A	A	A	A	A	A
Calcium hypochlorite	X	X	X	X	A	F	A	A	F	F
Caliche liquors	A	A	A	A	A	A	A		I	A
Cane sugar liquors	A	A	A	A	A	A	A	A	A	A
Carbolic acid phenol	C	C	C	C	C	C	A	A	A	A
Carbon dioxide, dry/wet	A	A	A	A	A	A	A	A	A	A
Carbon disulfide	X	X	X	X	X	X	X	A		C
Carbon monoxide – 150°F (65°C)	C	C	C	C	C	F	C	A	A	A
Carbon tetrachloride	X	X	X	C	X	X	X	A	F	A
Castor oil	A	A	A	A	A	A	A	A	A	A
Cellosolve acetate	F	F	X	X	A		A	C	A	A
China wood oil, tung oil	X	X	F	A	A	F	A	C	A	A
Chlorine, dry/wet	X	X	X	X	X	X	X	C	X	F
Chlorinated solvents	X	X	X	X	X	X	X	C	I	A
Chloroacetic acid	X	C	C	C	X	A	I	X	A	A
Chlorosulfonic acid	X	X	C	C	X	X	X	X	X	F
Chromic acid	X	X	X	X	C	A	I	C	A	F
Citric acid	A	A	A	F	A	A	A	A	A	A
Coke oven gas	C	C	C	C	C	A		X	I	C
Copper chloride – 150°F (65°C)	C	A	F	A	A	F	A	A	A	A
Copper sulfate – 150°F (65°C)	C	A	A	A	F	A	A	A	A	A
Corn oil	X	C	F	A	A	F	C	A	A	A
Cottonseed oil	X	C	F	A	A	F	C	A	A	A
Creosote, coal tar wood	X	X	F	A	X		X	A	A	A
Creosols, cresylic acid	C	X	X	C	C	F	X		A	A
Ethers	C	C	C	C	C	F	X	X	A	A
Ethyl acetate	F	X	X	X	F	X	F	X	A	A
Ethyl alcohol	A	A	A	A	A	A	A	A	A	A
Ethyl cellulose	F	F	F	F	F		F	X	A	A
Ethyl chloride	A	F	F	X	A	F	A	F	F	F
Ethylene glycol	A	A	A	A	A	A	A	A	A	A
Ferric chloride – 150°F (65°C)	A	A	A	A	A	A	A	I	A	A
Ferric sulfate – 150°F (65°C)	A	A	A	A	A	A	A	A	A	A
Formaldehyde	A	A	C	A	A	A	A	A	A	A
Formic acid	A	A	C	F	A	A	A	X	A	F
Freon #12 (Liquid)	X	X	A	A	F		F	A	A	A
Fuel oil	X	X	A	A	X	F	X	A	A	A
Furfural	X	C	C	X	A	F	C	X	A	A
Gasoline, Non Leaded	X	X	X	A	X	X	X	A	F	F
Gasoline, Reg Leaded	X	X	X	A	X	X	X	A	F	F
Hi Test-Leaded	X	X	X	A	X	X	X	A	F	F
Gelatin	A	A	A	A	A	A	A	A	A	A
Glucose	A	A	A	A	A	A	A	A	A	A
Glue	F	F	A	A	F	A	A	C	A	A
Glycerine glycerol	A	A	A	A	A	A	A	A	A	A
Green sulfate liquor	A	A	A	A	A	A	A	A	A	A
Hydraulic fluids										
Petroleum	X	X	A	A	X	F	X			
Phosphate ester alkyl	X	X	C	X	A	X	A			



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	NR/IR	SBR	CR	NBR	NR	CSM	EPDM	FKM	UHMW	XLPE
Phosphate ester aryl	X	X	X	X	C	X	C			
Phosphate ester blends	X	X	X	X	X	X	C			
Silicate ester	X	X	C	C	X	C	X			
Water-Glycol	A	A	A	A	A	A	A	A		
Hydrobromic acid	C	X	C	C	A	A	A	A	F	I
Hydrochloric acid	A	X	X	X	C	C	C	A	A	A
Hydrocyanic acid	F	F	C	F	C	A	C	A	A	A
Hydrofluoric acid	X	X	X	X	C	A	C	A	A	A
Hydrofluosilicic acid	A	F	F	F	A		A	A	F	I
Hydrogen Gas	F	F	A	A	A		A	A	A	A
Hydrogen peroxide	X	X	C	C	C	C	C	A	A	F
Hydrogen sulfide, dry	C	C	F	C	A	A	A	G	A	A
wet	C	C	F	C	A	A	A	C	A	A
Kerosene	X	X	F	A	X	C	X	A	A	A
Lacquers	X	X	X	X	C	X	X	X	F	F
Lacquer solvents	X	X	X	X	C	X	X	X	F	F
Lactic acid	C	C	C	C	C	A	C	A	A	A
Linseed oil	C	X	F	A	A	A	A	A	A	A
Lubricating oil, crude	X	X	F	A	X	C	X	A	A	A
refined	X	X	F	A	X	C	X	A	A	A
Magnesium chloride – 150°F (65°C)	A	A	A	A	A	A	A	A	A	A
Magnesium hydroxide – 150°F (65°C)	A	F	F	F	A	A	A	A	A	A
Magnesium sulfate – 150°F (65°C)	A	A	A	A	A	A	A	A	A	A
Mercuric chloride	F	F	C	F	A	A	A	A	A	A
Mercury	A	A	A	A	A	A	A	A	A	A
Methyl alcohol methanol	A	A	A	A	A	A	A	C	A	A
Methyl chloride	C	C	C	C	C	X	C	A	A	F
Methyl ethyl detone	X	X	X	X	F	C	A	X	A	A
Methyl isopropyl ketone	X	X	X	X	F	C	C	X	A	A
Milk	C	C	F	F	A	A	A	A	A	A
Mineral oils	X	C	F	A	X	F	X	A	A	A
Natural gas	C	C	A	A	C	A	X	A	I	A
Nickel chloride – 150°F (65°C)	A	A	A	A	A	A	A	A	A	A
Nickel sulfate – 150°F (65°C)	A	A	A	A	A	A	A	A	A	A
Nitric acid, crude	X	X	X	X	C	C	X	C	A	F
Diluted 10%	X	X	C	X	C	A	C	C	A	I
Concentrated 70%	X	X	X	X	C	C	X	C	A	F
Nitrobenzene	X	X	X	X	X	X	X	F	A	A
Oleic acid	X	F	C	F	F	F	F	C	A	A
Oleum spirits	X	C	C	C			I	C	X	I
Oxalic acid	F	C	F	F	A	A	A	A	A	A
Oxygen	F	C	A	C	A		A	A	A	A
Palmitic acid	X	F	A	A	F	F	F	A	A	A
Perchlorethylene	X	X	X	C	X	X	X	A	F	A
Petroleum oils and crude 200°F (95°C)	X	X	F	A	X	C	X	A	A	A
Phosphoric acid, crude	A	C	C	C	C	A	C	A	A	A
pure 45%	A	C	C	C	C	A	C	A	A	A
Picric acid, molten	C	C	C	C	C		I		I	I
water solution	A	C	F	F	A	A	I	A	I	I
Potassium chloride	A	A	A	A	A	A	A	A	A	A
Potassium cyanide	A	A	A	A	A	A	A	A	A	A
Potassium hydroxide	F	F	C	C	A	A	A	C	F	A
Potassium sulfate	A	A	A	A	A	A	A	A	A	A

TECHNICAL DATA & CHARTS

Resistance Ratings

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WIRE BRAID HYDRAULIC HOSE



TECHNICAL DATA & CHARTS

MATERIAL – MAXIMUM TEMPERATURE 100°F (38°C) UNLESS OTHERWISE SPECIFIED	MOST COMMONLY USED ELASTOMERS							SPECIAL ELASTOMERS		
	NR/IR	SBR	CR	NBR	NR	CSM	EPDM	FKM	UHMW	XLPE
Propane	X	X	F	A	X	F	X	A	A	A
Sewage	C	C	F	A	C	A	C	A	A	A
Soap solutions	A	A	F	A	A	A	A	A	A	A
Soda ash sodium carbonate	A	A	A	A	A	A	A	A	A	A
Sodium bicarbonate, baking soda	A	A	A	A	A	A	A	A	A	A
Sodium bisulfate	A	A	A	A	A	A	A	A	A	A
Sodium chloride	A	A	A	A	A	A	A	A	A	A
Sodium cyanide	A	A	A	A	A	A	A	A	A	A
Sodium hydroxide	F	F	C	C	A	C	A	C	A	A
Sodium hypochlorite	X	X	X	X	A	F	A	A	A	F
Sodium metaphosphate	A	A	C	A	A	F	A	A	A	A
Sodium nitrate	C	C	C	C	A	A	A	A	A	A
Sodium perborate	C	C	C	C	A	A	A	A	A	A
Sodium peroxide	C	C	C	C	A	A	A	A	A	A
Sodium phosphate, monobasic	A	F	C	F	A	A	A	A	A	A
dibasic	A	F	C	F	A	A	A	A	A	A
tribasic	A	F	C	F	A	A	A	A	A	A
Sodium silicate	A	A	A	A	A	A	A	A	A	A
Sodium sulfate	A	A	A	A	A	A	A	A	A	A
Sodium sulfide	A	A	A	A	A	A	A	A	A	A
Sodium thiosulfate, "hypo"	A	A	A	A	A	A	A	A	A	A
Soybean oil	X	C	F	A	A	A	A	A	A	A
Stannic chloride	A	A	A	A	F	A	F	A	A	A
Steam – 450°F (230°C)	C	C	C	C	C	C	F	X	X	X
Stearic acid	X	X	C	F	F	C	F	I	A	A
Sulfur	F	F	A	F	A	A	A	A	A	C
Sulfur chloride	X	X	C	C	X	A	X	A	A	A
Sulfur dioxide dry	C	C	C	C	C	A	C	A	F	I
Sulfur trioxide dry	X	C	C	C	C	F	C	A	C	I
Sulfuric acid 10%	A	A	A	A	A	A	A	A	A	A
11% - 75%	C	C	C	C	F	A	C	A	A	A
76% - 95%	X	X	X	X	C	A	X	A	A	A
fuming	X	X	X	X	X	X	X	A	X	X
Sulfurous acid	C	C	C	C	C	A	C	A	A	A
Tannic acid	A	C	A	C	A	A	A	A	A	A
Tar	X	X	C	C	X	C	X	F	X	X
Tartaric acid	A	C	C	C	F	A	F	A	A	A
Toluene toluol	X	X	X	C	X	X	X	A	A	A
Trichloethylene	X	X	X	X	X	X	X	A	F	A
Turpentine	X	X	X	F	X	X	X	A	F	A
Vinegar	C	C	C	C	A	A	A	A	X	A
Water, acid mine	A	A	C	A	A	A	A	A	A	A
Water, fresh	A	A	C	A	A	A	A	A	A	A
distilled	A	A	C	A	A	A	A	A	A	A
Whiskey and wines	A	A	A	C	A	A	A	A	X	A
Xylene, xyol	X	X	X	C	X	X	X	A	A	A
Zinc chloride	C	C	C	C	A	A	A	A	A	A
Zinc sulfate	A	A	A	A	A	A	A	A	A	A

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