

## Hose and Fitting Selection

## Hose selection by fluid compatibility/chemical resistance

**Hose selection by fluid compatibility/  
chemical resistance****Ratings code**

- G : Good to excellent. Little or no swelling, tensile or surface changes. Preferred choice.
- L : Marginal or conditional. Noticeable effects but not necessarily indicating lack of safety. Further testing suggested for specific application.
- P : Poor or unsatisfactory. Not recommended without extensive and realistic testing.
- : Indicates that this was not tested.
- \* : Biopetroleum must be tested individually due to its varying composition.

<b>Material codes for hose core tubes</b>		<b><i>polyflex</i> / Parflex Part No.</b>
H	Polyester elastomer	2040H, 515H, 518C, 550H, 55LT, 560TJ, 590TJ, 53DM
N	Polyamide	2020N, 2040N, 2245N, 2370N, 520N, 528N, 540N, 575X, 580N, 588N, 8LPG, SCR
NC	Nylon copolymer	510A, 5CNG
FEP	Fluorethylenpropylen	2380F, 2246F
TFE	Polytetrafluoroethylene (PTFE)	2030T (V70, CON), 2033T, 929/929B, 939/939B, 919U
EPDM	Ethylen Propylen Dien	SCR
<b>Material codes for hose covers</b>		
U	Polyurethane	2010N, 2040N (V00), 2040H, 2245N, 2370N, 510, 830, 838, 515H, 510A, 540N, 550H, 560TJ, 520N, 528N, 580N, 588N, 590TJ, 919U, 5CNG
HF	Special elastomer	55LT, 53DM
PFX	Special elastomer	518C
N	Polyamide	2010N, 2020N, 2245N, 8LPG
<b>Material code for sealing components</b>		
V	FKM	

## Notes on the chemical resistance table

- (1) The fluid resistance tables are simplified rating tabulations based on immersion tests at 24 °C. Higher temperatures tend to reduce ratings. Since final selection depends on pressure, fluid and ambient temperature and other factors not known to Parker Hannifin, no performance guarantee is expressed or implied. The indications do not imply any compliance with standards and regulations and do not refer to possible changes of colour, taste or smell. For food and drinking water specially approved materials have to be used. For fluids not listed or for advice on particular applications, please consult Parker Hannifin Manufacturing Germany GmbH & Co. KG, **polyflex** Division in Hüttenfeld, Germany.
- (2) Hose applications for these fluids must take into account legal and insurance regulations. The chemical resistance indicated does not express or imply approval by certain institutions.
- (3) Satisfactory at some concentrations and temperatures, unsatisfactory at others.
- (4) For gas applications, the cover should be pin-pricked and the pressure must not be released quickly. Special safety guard accessories are to be used to prevent damage or personal injury in the event of failure.
- (5) Chemical resistance does not imply low permeation rates. Please consult Parker Hannifin GmbH for a recommendation for your specific requirements.
- (6) The indication of chemical resistance does not imply any special food compatibility; it refers only to the chemical resistance of the material.
- (7) Chemical resistance does not imply acceptability for use in airless paint spray applications. These applications require a special, electrically conductive hose.

## Hose and Fitting Selection

## Hose selection by fluid compatibility/chemical resistance

Chemical	H	N	U	HF	V	NC	PFX	FEP	TFE
Acetaldehyde	G	L	L	L	P	-	L	G	G
Acetic Acid Glacial	L	L	L	L	G	P	L	L	G
Acetone	L	G	P	P	P	G	P	G	G
Acetylene	-	-	-	-	-	-	-	-	-
Air (4)	G	G	G	G	G	G	G	G	G
Ammonium Chloride	G	P	G	G	G	P	G	L	G
Ammonium Hydroxyde	L	G	P	P	L	-	P	G	G
Anhydrous Ammonia	P	P	P	P	P	P	P	-	P
Aniline	P	P	P	P	P	P	P	G	G
Animal Oils (6)	G	G	G	G	G	G	G	-	G
Aromatic Hydrocarbons	L	G	L	L	P	G	L	-	G
Asphalt	G	G	G	G	G	G	G	L	G
Baygon (insecticide)	L	G	P	P	-	-	P	-	G
Beer	G	G	G	G	G	-	G	G	G
Benzene	L	G	L	L	P	L	L	G	G
Biopetroleum	*	*	*	*	*	*	*	*	*
Brake Fluid (DOT #3)	-	G	P	P	P	-	P	-	G
Butane (2) (4)	G	G	L	L	L	P	L	-	-
Butter (6)	G	G	G	G	G	-	G	-	G
Calcium Chloride	G	-	G	G	L	-	G	G	G
Carbon Dioxide (4)	G	G	G	G	G	G	G	-	-
Carbon Monoxide (4)	G	-	G	G	G	-	G	-	-
Carbon Tetrachloride	L	G	P	P	L	G	P	G	G
Castor Oil	G	L	L	L	G	L	L	-	G
Chlordane (insecticide)	L	G	P	P	-	-	P	-	-
Chlorinated Hydrocarbon Base Fluids	L	G	L	L	P	-	L	-	G
Chlorinated Petroleum Oil	G	G	L	L	-	L	L	-	-
Chlorinated Solvents	P	-	P	P	L	-	P	-	G
Chlorine, Gaseous, Dry	P	P	P	P	G	P	P	-	-
Chloroform	P	P	P	P	P	P	P	G	G
Chromic Acid	P	-	P	P	G	P	P	L	G
Citric Acid Solutions	G	G	L	L	G	G	L	G	G
Crude Petroleum Oil	G	G	G	G	G	G	G	-	G
Cyclohexane (2)	G	G	G	G	-	-	G	G	G
Cygon (insecticide)	L	G	P	P	-	-	P	-	-
Diazion (insecticide)	L	G	P	P	-	-	P	-	-
Diesel Fuel (2)	G	G	G	G	L	G	G	-	G

G : Good to excellent. Little or no swelling, tensile or surface changes. Preferred choice.

L : Marginal or conditional. Noticeable effects but not necessarily indicating lack of safety. Further testing suggested for specific application.

P : Poor or unsatisfactory. Not recommended without extensive and realistic testing.

- : Indicates that this was not tested.

\* : Biopetroleum must be tested individually due to its varying composition.

Hose and Fitting Selection  
 Hose selection by fluid compatibility/chemical resistance

Chemical	H	N	U	HF	V	NC	PFX	FEP	TFE
Diester Oils	L	G	P	P	P	—	P	—	G
Enamels	G	G	G	G	L	—	G	—	G
Ethanol (6)	G	G	L	L	L	L	L	—	G
Ethers	L	G	P	P	L	G	P	G	G
Ethylene Glycol	G	G	L	L	G	G	L	G	G
Ethylene Oxide	G	G	L	L	P	—	L	—	—
Fatty Acids	G	G	—	—	G	G	—	G	G
Formaldehyde	L	L	P	P	L	L	P	G	G
Formic Acid J	P	P	P	P	G	P	P	G	G
Freon 12 (5)	P	G	L	L	G	G	L	—	—
Freon 22 (5)	P	G	L	L	G	G	L	—	—
Fruit Juices	G	G	G	G	G	—	G	—	G
Fuel Oil (2)	G	G	L	L	L	G	L	G	G
Gas (Oil) (2)	G	G	G	G	G	G	G	—	G
Gasoline	G	G	—	—	P	G	—	G	G
Glue	—	—	—	—	—	—	—	—	—
Glycerine	G	G	L	L	G	G	L	G	G
Glycols (to 135 °F)	G	G	L	L	G	G	L	G	G
Grease (petroleum base)	G	G	G	L	G	G	G	—	G
Heptachlor (insecticide)	L	G	P	L	L	—	P	—	G
Hexane (2)	G	G	G	L	L	G	G	G	G
Houghto Safe-1000 Series (phosphate esters)	L	G	P	P	G	G	P	—	G
Houghto Safe-600 Series (hydraulic fluid)	G	G	L	L	G	G	L	—	G
Hydraulic Fluid (petroleum base)	G	G	G	G	G	G	G	L	G
Hydraulic Fluid (phosphate ester base)	L	G	L	L	L	G	P	—	G
Hydraulic Fluid (water glycol base)	G	G	G	G	L	G	G	—	G
Hydraulic Oil (petroleum base)	G	G	G	G	G	G	G	L	G
Hydrochloric Acid	P	L	P	P	L	P	P	G	G
Hydrofluoric Acid	P	P	P	P	L	P	P	G	G
Hydrolube (hydraulic fluid/water glycol base)	G	G	L	L	G	G	L	—	G
IRUS 902 (hydraulic fluid/water-oil emulsion)	G	G	G	G	G	G	G	—	G
Isocyanates (2)	L	L	L	L	P	—	L	—	G
Isooctane (2)	G	G	G	G	L	G	L	G	G
Isopropyl Alcohol	G	G	L	L	L	G	L	G	G
Kerosene (2)	G	G	L	L	L	G	P	G	G
Ketones	L	G	P	P	P	G	P	G	G
Lacquer Solvents	L	G	P	P	P	—	P	L	G

G : Good to excellent. Little or no swelling, tensile or surface changes. Preferred choice.

L : Marginal or conditional. Noticeable effects but not necessarily indicating lack of safety. Further testing suggested for specific application.

P : Poor or unsatisfactory. Not recommended without extensive and realistic testing.

— : Indicates that this was not tested.

\* : Biopetroleum must be tested individually due to its varying composition.

## Hose and Fitting Selection

## Hose selection by fluid compatibility/chemical resistance

Chemical	H	N	U	HF	V	NC	PFX	FEP	TFE
Lactic Acid	P	G	P	P	G	G	P	G	G
Lime (calcium oxide)	G	G	G	G	G	—	G	G	G
Lindol (hydraulic fluid/phosphate esters)	L	G	P	P	—	—	P	—	G
Linseed Oil	G	G	G	G	L	G	G	G	G
LP-Gas	—	—	—	—	—	—	—	—	—
Lubricating Oils (diester base)	L	G	P	P	—	G	P	—	G
Lubricating Oils (petroleum base)	G	G	G	G	G	G	G	G	G
Magnesium Hydroxide	L	G	L	L	G	—	L	G	G
Magnesium Salts	—	G	G	G	G	—	G	—	G
Malathion (insecticide)	L	G	P	P	—	—	P	—	G
Mercury	G	G	G	G	G	G	G	G	G
Meropa Oil (sulphur base)	G	G	—	—	—	—	—	—	G
Methane	—	—	—	—	—	—	—	—	—
Methanol	G	G	P	P	P	G	P	—	G
Methoxychlor (insecticide)	L	G	P	P	—	—	P	—	G
Methyl Alcohol (6)	G	G	P	P	P	G	P	G	G
Methyl Ethyl Ketone (MEK)	L	G	P	P	P	G	P	G	G
Methyl Ethyl Ketone Peroxide (MEKP)	—	L	P	P	—	—	P	—	G
Methyl Isobutyl Ketone (MIBK)	L	G	P	P	P	G	P	G	G
Methylene Chloride	P	L	P	P	L	P	P	G	G
Milk (6)	G	G	G	G	G	—	G	G	G
Mineral Oil	G	G	G	G	G	G	G	G	G
Mineral Spirits	P	—	L	L	P	—	L	—	G
Motor Oils	G	G	G	G	G	G	G	G	G
Naphta	L	G	P	P	P	G	P	G	G
Natural Gas (4)	—	—	—	—	—	—	—	—	—
Nitric Acid	P	P	P	P	L	P	P	L	G
Nitrobenzene	P	G	P	P	P	G	P	G	G
Nitrogen, Gaseous (4) (5)	G	G	G	G	G	G	G	G	G
Nitrous Oxide	—	L	—	—	G	—	G	—	—
Oil (SAE)	G	G	G	G	G	G	G	—	G
Oil of Turpentine	G	G	P	P	G	G	P	—	G
Oleic Acid	G	G	G	G	L	G	G	G	G
OS 45 Type 3 Hydraulic Fluid (silicate esters)	L	G	L	L	P	—	L	—	—
Ozone	L	P	L	L	G	P	P	G	G
Paint (Oil Base) (7)	G	G	G	G	P	—	G	—	G
Paint Solvents (Oil base)	L	G	L	L	P	—	L	—	G

G : Good to excellent. Little or no swelling, tensile or surface changes. Preferred choice.

L : Marginal or conditional. Noticeable effects but not necessarily indicating lack of safety. Further testing suggested for specific application.

P : Poor or unsatisfactory. Not recommended without extensive and realistic testing.

— : Indicates that this was not tested.

\* : Biopetroleum must be tested individually due to its varying composition.

Hose and Fitting Selection  
 Hose selection by fluid compatibility/chemical resistance

Chemical	H	N	U	HF	V	NC	PFX	FEP	TFE
Pentane (2)	G	G	L	L	L	—	L	G	G
Perchloric Acid	P	P	P	P	L	P	P	L	G
Perchloroethylene	P	P	P	P	L	P	P	—	G
Petroleum Ether	—	—	—	—	P	—	—	—	—
Petroleum Oils	G	G	G	G	G	G	G	—	G
Phenols	P	P	P	P	L	P	P	—	G
Phosphate Esters (above 135 °F)	P	G	P	P	P	—	P	—	G
Phosphate Esters (to 135 °F)	G	G	P	P	P	G	P	—	G
Polyol Esters	L	G	P	P	P	—	P	—	G
Potassium Hydroxide, 50%	P	P	P	P	L	—	P	G	G
Propane (4) (5)	—	—	—	—	—	—	—	—	—
Propylene Glycol	—	—	G	G	G	—	—	G	G
Pydraul 312C, 625 (to 135 °F)	P	G	P	P	P	G	P	—	G
Pydraul F-9, 150, 160 (to 135 °F)	G	G	P	P	P	G	P	—	G
Quintolubric 822 Fluid	—	G	G	G	—	—	—	—	G
Salt Water	—	—	G	—	—	—	—	G	G
Sevin (insecticides in water)	G	G	G	G	—	—	G	—	G
Silicone Greases	G	G	G	G	G	G	G	—	G
Silicone Oils	G	G	G	G	G	G	G	—	G
Skydrol 500 & 7000	L	G	P	P	P	G	P	G	G
Soap Solutions	G	G	G	G	G	G	G	G	G
Soda Water	G	G	G	G	G	G	G	—	G
Sodium Borate	G	G	G	G	G	G	G	G	G
Sodium Carbonate	—	—	—	—	—	—	—	—	—
Sodium Chloride Solutions	G	G	G	G	G	—	G	G	G
Sodium Hydroxide, 50%	L	P	P	P	L	P	P	G	G
Sodium Hypochloride	L	P	P	P	L	—	P	G	G
Steam	P	P	P	P	P	P	P	P	G
Stoddard Solvent	P	G	P	P	L	G	P	G	G
Straight Synthetic Oils (phosphate esters)	L	G	P	P	P	G	P	—	G
Sulphur	G	G	G	P	G	—	G	G	G
Sulphur Dioxide	P	L	L	L	L	—	L	G	G
Sulphur Hexafluoride Gas (4) (5)	G	G	G	G	G	—	G	—	G
Sulphuric Acid	P	P	P	P	—	P	P	—	G
Toluol, Toluene	L	G	L	L	P	G	P	G	G
Transmission Fluid	G	G	G	G	P	G	G	—	G
Trichlorethylene	P	L	P	P	L	G	P	G	G

G : Good to excellent. Little or no swelling, tensile or surface changes. Preferred choice.

L : Marginal or conditional. Noticeable effects but not necessarily indicating lack of safety. Further testing suggested for specific application.

P : Poor or unsatisfactory. Not recommended without extensive and realistic testing.

— : Indicates that this was not tested.

\* : Biopetroleum must be tested individually due to its varying composition.

## Hose and Fitting Selection

## Hose selection by fluid compatibility/chemical resistance

Chemical	H	N	U	HF	V	NC	PFX	FEP	TFE
Trisodium Phosphate Solutions	L	G	P	P	G	G	P	G	G
Turpentine	G	G	L	L	L	G	P	G	G
Ucon (hydraulic fluid/water glycol base)	G	G	L	L	G	G	L	-	G
Varnish	G	G	G	G	P	G	G	-	G
Vinegar (6)	L	G	L	L	G	G	L	G	G
Water (above 60 °C) (6)	P	G	P	P	L	-	P	L	G
Water (to 60 °C) (6)	G	G	G	G	G	G	L	G	G
Water Glycols (above 60 °C)	P	G	P	P	L	-	P	-	G
Water Glycols (to 60 °C)	G	G	L	L	G	G	L	-	G
Water in oil Emulsions (above 60 °C)	P	G	P	P	L	-	P	-	G
Water in oil Emulsions (to 60 °C)	G	G	L	L	G	G	L	-	G
Whiskey, Wines (6)	G	G	L	L	G	G	G	G	G
Wood Oils	G	G	L	L	G	G	G	-	G
Xylene	L	G	P	P	P	G	P	G	G
Zinc Chloride	G	G	G	G	G	P	G	G	G

G : Good to excellent. Little or no swelling, tensile or surface changes. Preferred choice.

L : Marginal or conditional. Noticeable effects but not necessarily indicating lack of safety. Further testing suggested for specific application.

P : Poor or unsatisfactory. Not recommended without extensive and realistic testing.

- : Indicates that this was not tested.

\* : Biopetroleum must be tested individually due to its varying composition.