

HOSES - FLUID COMPATIBILITY CHART

INTRODUCTION

GB

WARNING: This chemical compatibility guide must not be used in conjunction with any other compatibility guides from previous or future catalogue editions, bulletins or publications. Incorrect use of these charts could result in personal injury or property damage.

HOSE SELECTION BY MEDIUM AND HOSE TYPE

This hose compatibility chart is a reference of Manuli hose compatibility with various fluid media. It is intended as a guide to chemical compatibility with inner tube materials and assembly lubricants applied internally.

The Fluid Compatibility Chart lists the relative resistance of hose tube and fitting materials to more common hydraulic fluids and chemicals. These ratings do not cover all possible variations of all factors, such as temperature, concentration, degradation or fluid contamination, etc. Testing under actual conditions is the best way to assure chemical compatibility for critical applications.

The specific recommendations regarding **hydraulic fluids** are based upon specific laboratory tests with fluids and/or field experiences, the advice of various polymer or fluid suppliers. It must be stressed, however, that this information is offered only as a guide. Final hose selection depends also upon pressure, fluid temperature, ambient temperature, and special requirements or variations, which may not be known by Manuli.

All the combined factors in working operations may impact on the service life of the hose assembly and must be carefully considered before release a hose for a specific application: the chemical compatibility with the service fluid is only one of the factors to be considered.

The specific recommendations regarding **generic chemicals** are mainly based on literature data in conjunction with polymers used for the tube compound. The field results of the fluid conveyed in the hose should be carefully tested and field validated by users.

No tests on finished hose assemblies in combination with the mentioned chemicals has been normally performed. Manuli hoses are designed for hydraulics, they are not intended for industrial diversified applications with various chemicals.

The outer cover of the hose is intended to protect the reinforcement layer(s) from mechanical influences (abrasion, weathering etc), cover compounds are not designed to exhibit the same chemical resistance as the tube compounds. Manuli Rubber Industries should be consulted about the compatibility of the cover, should the application involve the extended exposure or immersion in a liquid: anyway the hydraulic hoses of the Manuli product range are not designed in general for immersion in the service fluid. This type of special applications should be avoided or carefully studied with additional external protections for the hoses, selection of special hose types, e.g. with thermoplastic cover and validation on the specific application. The turbulence of the fluid, the high temperature and nature of the fluid as well as other elements may impact the properties or integrity of the hose cover material (the cover compound of the hose is designed to resist to oil drops and external agents, not immersion in the service fluid).

For more detailed information contact Manuli Rubber Industries.

HOW TO USE THE CHART

- Hydraulic fluids are listed in alphabetic order with the manufacturer brand name, chemicals are listed alphabetically;
- Find the hose type and read the compatibility rating (see rating scale);
- Define the proper hose selection for the application by choosing the best rating.

LEGENDA OF RATINGS

E = Excellent - Small or negligible changes of compound properties: no problem for use. Service life can exceed the expectations.

G = Good - There are only minor changes of some compound properties. Service life is normally in line with state of the art (standard) expectations.

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C = Conditional - significant changes on some compound properties. Service life can be reduced; higher durability can be achieved with reduced severity of working conditions (temperature in particular) or with an upgraded hose selection. Whenever possible, a field validation under actual working conditions is recommended.

X = Not recommended - Unsuitable, severe effects on physical properties.

REMARKS:

- O-Rings used with couplings also must be considered for chemical compatibility with the fluid to be conveyed. This includes fittings containing internal O-Rings; for example Metric Female 24° Cone seat fittings, etc. Standard O-Ring of Manuli fittings are made of Nitrile rubber (NBR), highly chemically compatible with all hydraulic fluids. If you use special fluids or very high temperatures, different O-Ring materials should be used, contact Manuli Rubber Industries for specific information. See Technical Manual for dimensions of O-Rings.
- Compatibility of hose fittings with conveyed fluids is an essential factor in avoiding chemical reactions that may result in release of fluids and failure of the connection with the potential of causing severe personal injury or property damage. Standard Manuli fittings are made of carbon steel with Hexavalent chromium free plating.

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OILS CLASSIFICATION - ACCORDING TO ISO 6743-4

STD HYDRAULIC OILS

HH – highly refined mineral oils

HS – synthetic fluids

FLAME RESISTANT OILS

WATER BASED

HFA – Fluids with not less than 80% of H₂O

- HFAE Oil + Water + Additives
- HFAS Chemical solutions + Water

HFB – Water and oil emulsions - H₂O>40%

HFC – Water and Glycols – 35%>H₂O>65%

NO WATER BASED

HFD – Synthetic fluids with no water

- HFDR – Phosphoric esters
- HFDS – Chlorinated hydrocarbons
- HFDT – Mixture of HFDR and HFDS
- HFDU – other synthetic fluids

ECOLOGICALLY ACCEPTABLE OILS (EAHF) – BIODEGRADABLE

Ecologically Acceptable Hydraulic Fluids (EAHF) can provide benefits in terms of avoiding crop, ground and water contamination.

SYNTHETIC OILS

HPG – Polyglycols

HEPG (Hydraulic Fluids based on Polyglycols)

HE – Polyesters

HEES (Hydraulic Oils Environmental Synthetic Esters)

VEGETABLE OILS

HE – Polyesters

HETG (Rapeseed, sunflower)

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FLUIDS COMPATIBILITY

	ISO 6743	GOLDEN SPIRAL DIAMONDSPIRAL SHIELDMASTER ROCKMASTER XTRAFLEX GOLDENISO LL	ETERNITY NOZONE 2K	TRACTOR SHIELDMASTER ROCKMASTER HARVESTER/17 PILOT LYTEFLEX COVER GOLDENISO AW TWINPOWER	EQUATOR	ASTRO SPIRTEX/K MULTITEX PUSH FIT	HYDROPLAST HYDROTWIN
FLUID	TYPE	WIRE SPIRAL	SPECIAL WIRE BRAIDED	WIRE BRAIDED	HT WIRE BRAIDED	TEXTILE BRAIDED	TPE TEXTILE BRAIDED
ACT Ecosafe FR	HFDU	G	G	G	G	G	-
ADDINOL OKOSYNTH SUPER HEES 46	HEES	-	-	G	-	-	-
ADDINOL OKOSYNTH SUPER HEES 46 S	HEES	G	G	G	C	-	-
AGIP Aeroshell Fluid 41	HH	E	G	G	G	E	C
AGIP ARNICA 46	HH	E	G	G	E	G	-
AGIP Arnica Extra Plus	HEES	G	G	G	C	G	E
AGIP Arnica Plus	HEES	E	E	E	E	E	E
AGIP Arnica S46	HFDU	E	E	E	G	E	E
AGIP ATF 2D Gear	HH	G	G	G	G	C	-
AGIP OSO 32	HH	E	E	E	E	E	G
AGIP SINT 2000	HS	G	G	E	G	E	G
AGIP Tecscint SL5W40	HS	E	G	G	G	-	-
AKZO Fyrquel	HFDU	X	X	X	-	X	-
AMBRA Hitech 46	HH	E	E	E	G	E	G
ANDEROL 497	HEES	G	C	G	C	G	-
ANDEROL 8768	HS	G	G	C	G	G	-
API HS 46	HH	G	C	C	E	-	-
ARAL Vitam DF Top 46	HH	E	G	G	-	G	G
ARAL Vitam EHF 46	HEES	E	E	G	G	G	G
ATLAS COPCO PAROIL S BULK	HS	G	C	C	G	C	-
ATLAS Copco Roto H	HS	G	G	G	E	G	E
ATLAS Copco Roto Inject Fluid	HH	E	G	G	G	G	E
ATLAS Copco Roto Inject Fluid Plus	HS	E	G	G	E	G	E
AVIA HVI 46	HS	G	G	G	E	G	-
AVIA Syntofluid F 46	HEES	E	G	E	G	G	E
AVIA Syntofluid N 32	HEES	G	G	E	G	E	G
AVIA Syntofluid N 46	HEES	E	E	G	C	E	G
AVIA Syntofluid PE B 30	HS	G	G	G	-	G	G
AVIA Syntofluid PE B 50	HS	G	C	C	G	G	-
BINOL Hydra P ii 46	HETG	E	E	G	-	G	-
BP A 0629L/028	HS	G	G	G	E	G	G
BP Biohyd SE-S 46	HEES	G	G	E	G	E	-
BP ENERGOL HLP 46	HH	G	G	G	-	-	-
BP Vanellus C 5	HH	E	G	G	G	-	-
BREMER Rivolta SBH 23	HEES	E	G	E	G	G	E
CALTEX RANDO HD	HH	G	C	C	G	-	-
CASTROL Aero HF 585 B	HH	E	G	G	G	E	C
CASTROL Anvol SWX 68	HFDU	E	G	E	G	G	-
CASTROL Biotech Alpin 22	HETG	E	E	E	C	E	-
CASTROL Brayco 717	HH	E	G	G	G	G	G
CASTROL Carelube HTG	HETG	G	G	G	G	G	G
CASTROL Hyspin EL 46	HEES	E	G	E	-	E	-
CASTROL Hyspin HDH 7000	HH	E	E	E	E	E	-
CASTROL Icematic SW 100	POE-AC	G	G	G	-	C	E

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FLUID	TYPE	WIRE SPIRAL	SPECIAL WIRE BRAIDED	WIRE BRAIDED	HT WIRE BRAIDED	TEXTILE BRAIDED	TPE TEXTILE BRAIDED	
CASTROL Lift oil	HH	G	G	G	G	G	G	
CASTROL PRODUCT L 571	HH	E	G	G	G	G	-	
CASTROLTransynd RD	HS	G	G	G	E	G	E	
CEPSA Hydraulico HM 46	HH	E	E	G	E	G	E	
CHEVRON Hydraulic AW 46	HH	E	E	G	G	G	-	
CHEVRON Rycon MV	HH	E	G	G	G	G	-	
DOT 3	HPG	G	G	X	X	X	X	
DOT 4	HPG	G	G	X	C	X	C	
ESSO Nuto H46	HH	G	G	G	E	G	E	
ESSO Univis N46	HH	E	G	G	E	C	-	
EXXON HUMBLE H 46	HH	E	G	G	E	G	-	
EXXON MOBIL 424	HH	G	G	G	G	-	-	
FINKE Aviaticon HY HE	HEES	G	G	E	-	E	G	
FOLTZERMSRINGOLI HYDRA 46	HH	C	C	C	E	-	-	
FRAGOLHE 46	HEES	E	G	E	G	G	E	
FUCHS Dea Triton SE 55	POE-AC	G	G	G	-	G	E	
FUCHS Eco Hyd 46 S NWG	HEES	G	G	G	C	G	-	
FUCHS Planto Hytrac	HH	G	G	G	G	G	G	
FUCHS Plantohyd 46s	HEES	E	G	E	G	E	E	
FUCHS Plantohyd N 46	HETG	G	G	E	E	E	E	
FUCHS PLANTOHYD SUPER S46	HEES	G	C	G	C	-	-	
FUCHS Plantosyn 3268 Eco	HEES	G	C	E	E	E	G	
FUCHS Plantosyn 46 HVI	HEES	G	G	C	G	G	G	
FUCHS Renolin B15 VG46	HH	G	G	G	-	-	-	
FUCHS Renolin MR 520	HH	G	G	E	G	E	E	
GULF Armony AW 46	HH	E	E	G	E	C	E	
HOUGHTON Cosmolubric HF 130	HFDU	G	G	G	C	G	-	
HOUGHTON Safe 620	HFC	G	G	G	X	-	-	
HOUGHTON-Safe 273 CTF	HFC	E	G	E	X	-	-	
IDEMITSU DAPHNE 46	HH	G	G	G	E	G	-	
IGOL Marine 15W-40	HH	G	G	G	-	-	-	
IGOL MATIC FLUID BIO 46	HETG	E	G	G	E	G	-	
IGOL TICMA FLUID BIO 46	HEES	G	G	G	C	G	-	
IGOL ZNS 46	HH	E	G	G	E	-	-	
INGERSOLL RAND SSR Ultra plus coolant	POE-AC	G	G	G	E	G	G	
INGERSOLL RAND Ultra Plus Coolant	POE-AC	G	G	G	E	-	-	
IRVING HYDRAULICS 46	HH	G	G	G	E	G	-	
ISAFLEX KOMPRESSOIL SE	HEES	E	G	G	C	-	-	
JACOBSEN Greens care	HETG	G	-	G	-	-	-	
J. Deere Biohygard II	HETG	E	E	E	E	G	G	
KLUBER HYSYN FG46	HS	G	C	C	G	-	-	
KLUBER SUMMIT HYSYN FG 46	HS	G	G	G	G	C	-	
KOLLEIK PL 42 Hydraulik Kolleik		G	C	C	-	-	-	
KOMATSU Genuine Bio 46 G4	HEES	E	E	E	E	G	E	

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FLUID	TYPE	WIRE SPIRAL	SPECIAL WIRE BRAIDED	WIRE BRAIDED	HT WIRE BRAIDED	TEXTILE BRAIDED	TPE TEXTILE BRAIDED
KOMATSUKPO 10 Powertrain TO 10	HH	E	E	G	G	G	E
LUBRIZOL Emkarate RL 1005	POE-AC	G	G	C	-	C	G
MAV Sint Plus 2005 ISO46	HS	G	G	C	C	G	-
METLUBE HFR 220	HFC	G	G	C	E	C	-
MICRO QUIMICA Microcorte 530	HFB	G	G	G	X	C	-
MILLERS Millfood 32	HS	G	G	G	E	G	E
MOBIL Aero HF MIL H5606	HH	E	G	G	G	G	-
MOBIL Arctic EAL 22	POE-AC	E	E	G	G	G	G
MOBIL DTE 10 EXCEL	HH	E	G	C	G	G	-
MOBIL DTE 13	HH	E	G	G	E	G	-
MOBIL DTE 25	HH	G	G	G	E	G	E
MOBIL DTE EXCEL 46	HH	G	G	G	E	C	-
MOBIL EAL 224 H	HETG	G	G	E	X	E	G
MOBIL Hydrofluid HFDU	HFDU	E	E	E	G	E	E
MOBIL Jet oil II	HS	G	G	G	C	E	-
MOBIL Rarus SHC 1026	HS	E	G	G	E	G	-
MOBIL SHC 524	HS	E	G	G	E	-	-
MOBIL Therm 605	HH	G	G	G	E	G	-
MOTOREX Oekosynt 46	HEES	G	G	G	G	E	-
NALCO Varidos FSK 40%	HFB	E	E	E	E	E	-
NESTE BIO Hydraulil LONGLIFE 46	HEES	G	C	G	C	-	-
NESTE BIO Hydraulil SE 46	HEES	E	G	G	G	-	-
NESTE Biohydraulil SE 46	HEES	E	E	E	G	E	G
NESTE HYDRAULI 32 SUPER	HH	E	G	C	E	-	-
NESTE HYDRAULI 46 SUPER	HH	E	G	C	E	-	-
NYCO Hydraulic Oil FH 51 - MIL H5606	HH	G	G	E	C	E	C
NYCO Hydraulic Oil FH 6 - MIL H6083	HH	G	G	E	C	E	C
NYCO Hydraulic oil FH3 (MIL H 46170 C-1)	HS	E	G	G	E	G	-
OMV Biohyd MS 46 (100°C)	HEES	G	G	G	-	G	G
OMV HLP AL 46	HH	E	G	G	E	C	-
PAG SP 10	HPC	G	G	G	-	C	E
PANOLIN EP Gear Synth 30 VDT	HEES	G	C	G	C	G	G
PANOLIN GRO Sint 46	HEES	G	G	G	X	-	E
PANOLIN HLP SYNTH 46	HEES	E	C	G	X	G	E
PENTOSIN CHF 11 S (ATF fluid)	HS	G	G	C	E	C	-
PETRO CANADA Hydrex aw 46	HH	G	G	C	G	G	-
PETRO CANADA HYDREX MV 60	HH	G	G	G	G	G	-
PETROFER Ultra Safe 620	HFC	E	E	E	X	E	-
Q8 Handel 68	HH	G	G	C	E	G	E
Q8 Heller 46	HH	E	G	G	E	G	-
Q8 Hogart 46	HH	G	C	C	G	G	-
Q8 Holbein	HEES	E	G	G	G	G	-
Q8 T720 15W-40	HH	E	G	G	E	G	-
QUAKER Greensave N 40	HETG	G	G	G	C	G	G

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FLUID	TYPE	WIRE SPIRAL	SPECIAL WIRE BRAIDED	WIRE BRAIDED	HT WIRE BRAIDED	TEXTILE BRAIDED	TPE TEXTILE BRAIDED	
QUAKER Quintolubric 888	HFDU	G	G	G	G	C	-	-
QUAKER QUINTOLUBRIC 888-46	HFDU	G	C	C	C	-	-	-
QUAKER QUINTOLUBRIC 888-68	HFDU	G	C	C	C	-	-	-
QUAKER Quintolubric N 822-300	HFDU	G	C	C	-	G	-	-
RAISIO Biosafe SE 46	HEES	G	G	G	X	G	-	-
RAUTIO ERGO MIX	HH	G	G	C	E	-	-	-
SHAEFFER 112 NZ HTC 32	HH	G	G	C	G	C	-	-
SHAEFFER 254 SUPREME ISO 32 TH 220	HS	G	C	C	G	C	-	-
SHAFFER 112 HTC	HS	G	G	G	E	-	-	-
SHAFFER 275S DILEX SUPREME MEHF HYD	HS	G	C	C	E	-	-	-
SHELL Arctic 32	HH	G	G	E	G	E	E	E
SHELL ATF III	HH	E	G	G	E	G	-	-
SHELL Cassida HF 46	HS	G	G	G	E	G	G	G
SHELL Corena D	HH	G	G	G	E	G	G	G
SHELL Donax TD	HH	E	G	G	E	-	-	-
SHELL Helix Ultra 5W40	HS	G	G	G	E	G	-	-
SHELL Irus Fluid DU-NA 68	HFDU	G	G	G	G	G	-	-
SHELL NATURELLE HF-E15	HEES	E	G	G	G	E	G	G
SHELL Rimula R3	HH	E	G	G	E	G	E	E
SHELL Rimula X30	HH	G	G	G	E	-	-	-
SHELL ROTELLA TMG SAE 15W-40	HH	G	G	G	E	G	-	-
SHELL SPIRAX ASX GEAR SAE 80W-140	HS	G	G	G	G	G	-	-
SHELL Tegula V32	HH	E	G	G	E	G	E	E
SHELL Tellus 46	HH	E	G	G	E	G	E	E
SHELL Tellus 68	HH	E	G	G	E	C	-	-
SHELL Tellus 100	HH	G	G	G	E	G	-	-
SHELL Tellus EE	HS	E	C	C	G	X	-	-
SHELL TELLUS H 46	HH	G	G	G	-	-	-	-
SHELL Tellus S 46	HH	E	G	G	E	G	E	E
SHELL Tellus T 32	HH	E	G	G	E	G	-	-
SHELL Tellus T 46	HH	E	G	G	E	-	-	-
SHELL Tellus T 68	HH	E	G	G	E	G	-	-
SHELL Tellus TX 68	HH	G	C	G	G	G	-	-
SHELL V oil 1404	HH	G	G	G	G	G	G	G
SOLUTIA Skydroll 500	HFDU	X	X	X	X	X	X	X
STATOIL HYDRAWAY EXTREME46	HH	E	G	G	E	-	-	-
STUART Hydrocor CC44	HFC	C	C	C	X	G	-	-
STUART Isocore E68 Plus	HPG	E	E	G	G	E	-	-
SUNOCO Sunvis 746	HH	E	G	G	E	C	G	G
SUNOCO Sunvis 846	HH	G	G	G	G	G	G	G
TAMOIL ATF II D	HH	G	G	G	G	-	-	-
TAMOIL Green Hydro Safety 46	HETG	E	E	E	-	E	G	G
TEBOIL Hydraulic arctic	HH	G	G	E	G	E	E	E
TEBOIL Eco 46	HEES	E	E	E	C	G	G	G

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FLUID	TYPE	WIRE SPIRAL	SPECIAL WIRE BRAIDED	WIRE BRAIDED	HT WIRE BRAIDED	TEXTILE BRAIDED	TPE TEXTILE BRAIDED
TEXACO Biostar Hydraulic 32	HETG	E	G	E	G	E	-
TEXACO Rando HD 46	HH	E	G	G	E	C	G
TEXACO Rando HDZ 46	HH	E	C	G	E	C	G
TEXACO Rando HD VZ 46	HS	G	G	G	C	G	G
TOTAL AZOLLA HZS 46	HH	E	G	G	E	-	-
TOTAL Azolla ZS 46	HH	G	G	G	E	G	E
TOTAL Biohydram SE 46	HEES	E	C	G	C	E	G
TOTAL DACNIS SH 46	HS	G	G	G	G	-	-
TOTAL Dacnis VS 45	HH	G	G	C	E	C	-
TOTAL EQUIVIS ZS 46	HH	G	G	G	-	C	-
UNIL HYDRO S46	HH	G	G	G	E	C	G
UNIL OPAL HV 46	HH	G	G	G	E	-	-
UNIL OPAL HVB 46	HH	G	G	G	E	-	-
VALVOLINE ULTRAMAX HVLP 68	HH	G	G	C	E	-	-
Water Glycol emulsion (50%)	HFC	E	E	E	X	E	E
WUSURA WM3021 2,8% in H ₂ O	HFA	E	E	E	G	E	E
YORK 777	HEES	G	G	G	C	G	E

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CHEMICALS COMPATIBILITY

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FLUID	WIRE SPIRAL	SPECIAL WIRE BRAIDED	WIRE BRAIDED	HT WIRE BRAIDED	TEXTILE BRAIDED	TPE TEXTILE BRAIDED
A Acetaldehyde	C	C	C	C	C	-
Acetic Acid, 10%	C	C	C	G	C	E
Acetic Acid, 25% 100°C	C	C	C	C	C	G
Acetic Acid glacial	C	C	C	C	C	G
Acetone	C	C	C	C	C	E
Air (80°C)	G	G	G	E	G	G
Air (100°C)	G	G	C	E	C	X
Air (150°C)	X	X	X	E	X	X
Ammonia, gaseous	G	G	E	G	E	X
Ammonia, liquid	C	C	G	C	G	X
Ammonium Hydroxide, 10%	E	E	G	E	G	-
Ammonium Hydroxide, conc	E	E	C	E	C	-
Ammonium nitrate (aqueous solutions)	G	G	G	G	G	G
Ammonium phosphate, mon-di-tri basic (aq. Sol)	E	E	E	E	E	G
Ammonium sulphate (aqueous solution)	E	E	E	E	E	G
Aniline	C	C	C	C	C	X
Aqua regia	C	C	C	X	C	-
ASTM oil n°1, 100°C	E	E	E	E	E	E
ASTM oil n°2, 100°C	G	G	E	G	E	E
ASTM oil n°3, 100°C	E	C	E	C	E	E
B Benzene	C	X	C	X	C	E
Boric acid 10% 100°C	E	E	E	E	E	E
Brake fluid (SAE J 1703d)	X	-	X	G	X	-
Butanol	E	E	E	E	E	E
C Calcium bicarbonate	E	E	E	E	E	-
Calcium hydroxide (Aqueous suspensions)	E	E	E	E	E	-
Carbonic anhydride	G	G	G	G	G	E
Chlorine	C	C	C	G	C	X
Chloroform	C	C	C	C	C	X
Citric Acid, 33%	G	G	G	G	G	E
Crude oil	E	C	E	C	E	G
D Dibenzyl ether	X	X	X	X	X	-
Dibutyl phthalate (DBP)	C	X	C	X	C	E
Diesel fuel (70°C)	G	G	G	C	E	E
Diesel fuel Bio RME	C	X	C	X	E	G
E Epichlorhydrine	X	X	X	X	X	X
Ethyl acetate	C	X	C	C	C	G
Ethyl alcohol	E	E	E	E	E	E
Ethyl ether (70°C)	G	C	G	-	G	-
Ethylene	E	E	E	-	E	G
Ethylene glycole	E	E	E	G	E	E
Ethylene glycole (100°C)	E	G	E	G	E	G
F Formaldehyde	C	G	C	C	C	G
Formic acid 23°C (saturated solution)	G	G	G	G	G	G

HOSES - FLUID COMPATIBILITY CHART

CHEMICALS COMPATIBILITY

	GOLDENSPIR DIAMONDSPIR SHIELDMASTER ROCKMASTER XTRAFLEX GOLDENISO LL	ETERNITY NOZONE 2K	TRACTOR SHIELDMASTER ROCKMASTER HARVESTER/17 PILOT LYTEFLEX COVER GOLDENISO AW TWINPOWER	EQUATOR	ASTRO SPIREX/K MULTITEX PUSH FIT	HYDROPLAST HYDROTWIN
FLUID	WIRE SPIRAL	SPECIAL WIRE BRAIDED	WIRE BRAIDED	HT WIRE BRAIDED	TEXTILE BRAIDED	TPE TEXTILE BRAIDED
Formic acid 75°C (saturated solution)	C	C	C	C	C	C
Fuel A (iso-octane)	E	G	E	G	E	E
Fuel B (70% iso-octane, 30% toluene)	G	C	G	C	E	E
Fuel C (50% iso-octane, 50% toluene)	C	X	C	X	G	E
G Glycerine	E	E	E	E	E	E
H Heptane	E	C	E	C	E	E
Hydraulic oils (see detailed table)	*	*	*	*	*	*
Hydrochloric acid, 10%	G	G	G	G	G	G
Hydrochloric acid, 37%	G	C	G	G	G	X
Hydrochloric acid, 37% 70°C	X	X	X	X	X	X
Hydrocyanic acid 20%	C	C	C	-	C	-
Hydrogen sulphide	X	G	X	C	X	E
I Isobutyl alcohol	G	E	G	E	G	E
Isopropyl alcohol	G	E	G	E	G	E
Iso-octane	E	G	E	G	E	E
K Kerosene (aromatics 40%max, 70°C)	G	C	G	C	E	-
L Lead free petrol	E	G	E	C	E	G
M Magnesium hydroxide (aqueous solutions)	G	E	G	E	G	-
Mercury	E	E	E	E	E	E
Methanol	G	E	G	E	G	G
Methyl methacrylate	X	X	X	X	X	-
Methylethylketone (MEK)	X	C	X	C	X	E
N Nitric acid, concentrated 65%	X	X	X	C	X	X
Nitric acid, diluted 10% 50°C	C	X	C	C	C	X
Nitric acid fuming	X	X	X	X	X	X
Nitrogen	G	G	G	G	G	G
O Oleic acid	C	C	C	G	C	E
Oleum	G	C	G	C	G	X
Oxalic acid 25% 80°C	G	G	G	G	G	-
Oxygen (80°C)	C	G	C	E	C	E
P Paraffin	E	E	E	E	E	E
Pentane	E	C	E	C	E	E
Petrol	E	C	E	C	E	E
Petroleum, 70°C	E	G	E	C	E	E
Phenol	C	C	C	C	C	C
Phosphoric acid 20%	G	C	G	C	G	-
Phosphoric acid 60% 50°C	C	X	C	X	C	-
Phosphoric acid 85%	C	X	C	X	C	-
Phosphorous tri-chloride	X	X	X	X	X	-
Picric acid 10% 100°C	C	C	C	G	C	-
Potassium chloride (aqueous solution)	E	E	E	E	E	-
Potassium hydroxide 70°C (medium high conc.)	G	G	G	E	G	E
Potassium sulphate (aqueous solution)	E	E	E	E	E	-
S Sea water	E	E	E	C	E	E

