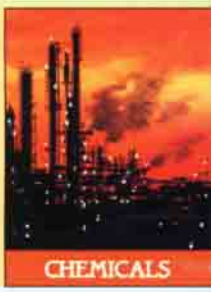





# Compoflex with Confidence

FLEXIBLE
COMPOSITE HOSES
FOR
CARGO TRANSFERS


## Compoflex the vital link in Cargo transfer

**The point of transfer is the most vulnerable in the chain of production, distribution and use of bulk hydrocarbons, chemicals and liquefied gases.**

**The flexible link from one bulk container to another must be reliable, easy to manoeuvre, resistant to internal and external wear and suitable for whatever product is being moved, however hazardous.**

**For nearly 50 years the vital link has been Compoflex.**

# Compoflex with Confidence

## Manufacturing and applications

Compoflex, part of United Flexible, have been at the forefront of composite hose design and manufacture for almost half a century and are acknowledged as world leaders.

All Compoflex hoses are manufactured to stringent quality standards to ensure the highest levels of reliability and durability.

At the Compoflex plant in Mid-Glamorgan, this commitment to quality has been backed by considerable financial investment in plant and advanced manufacturing techniques. In addition, Compoflex is backed by the vast resources of the Senior Engineering Group plc. Compoflex hoses are designed to meet the most demanding applications throughout the world and offer strength, light weight, flexibility and versatility for variations in pressure, temperature and compatibility.


In addition, all hoses incorporate unique safety features to ensure the health and safety of personnel during bulk liquid transfer of hazardous chemicals and hydrocarbons and to reduce the risk of environmental pollution and the cost of spillage.


## Product range

Compoflex produce a comprehensive range of composite hoses, specifically engineered to handle all kinds of transfer applications safely and easily.

Cryoflex hoses are designed for use with cryogenic products at temperatures down to -200°C or at pressures up to 25 bar.

Chemiflex hoses are chemically compatible and mechanically engineered to handle a wide range of hazardous chemicals.

Fuelmaster and Oilmaster hoses are specifically engineered for the transfer of hydrocarbons, including oils, petrol, diesel, lubricating oils, paraffin and 100% aromatics.

## Couplings

Compoflex offer a comprehensive range of end fittings for their hoses, normally supplied to customer requirements and available in a variety of materials, including carbon and stainless steel. The range also includes proprietary quick release couplings, adapters and accessories such as blank caps and dust plugs.

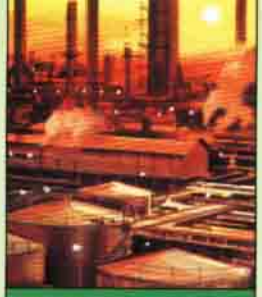
## Quality standards and testing

As Compoflex hoses form vital links in the transfer of often hazardous materials, they have to be totally reliable. All hoses, therefore, are manufactured under a stringent continuous quality management system, having been prototyped and certified by approval bodies such as Lloyds and the UK Marine Safety Agency in accordance with BS 5842 and IMO criteria. Full hose test certification is available to customers' requirements.

The latest manufacturing and quality assurance techniques have been selected because of their high and consistent quality standards whilst further quality assurance is guaranteed by the extensive use of systems such as Non-Destructive Testing and Statistical Process Control.

The rated working pressure of any Compoflex hose is based on a safety factor of at least 4:1 at ambient temperature when tested in accordance with ISO 1402/BS 5173 Part 102 Section 102.1 (1985). A hose rated at 100 psi, for example, is pressure tested to 150 psi, while burst pressure would be 400 psi, minimum.

Continuous quality management, recognised by the award ISO 9001 by Lloyds Register of Quality Assurance and rigorous testing of products ensure the consistency of excellence that is demanded by customers worldwide.



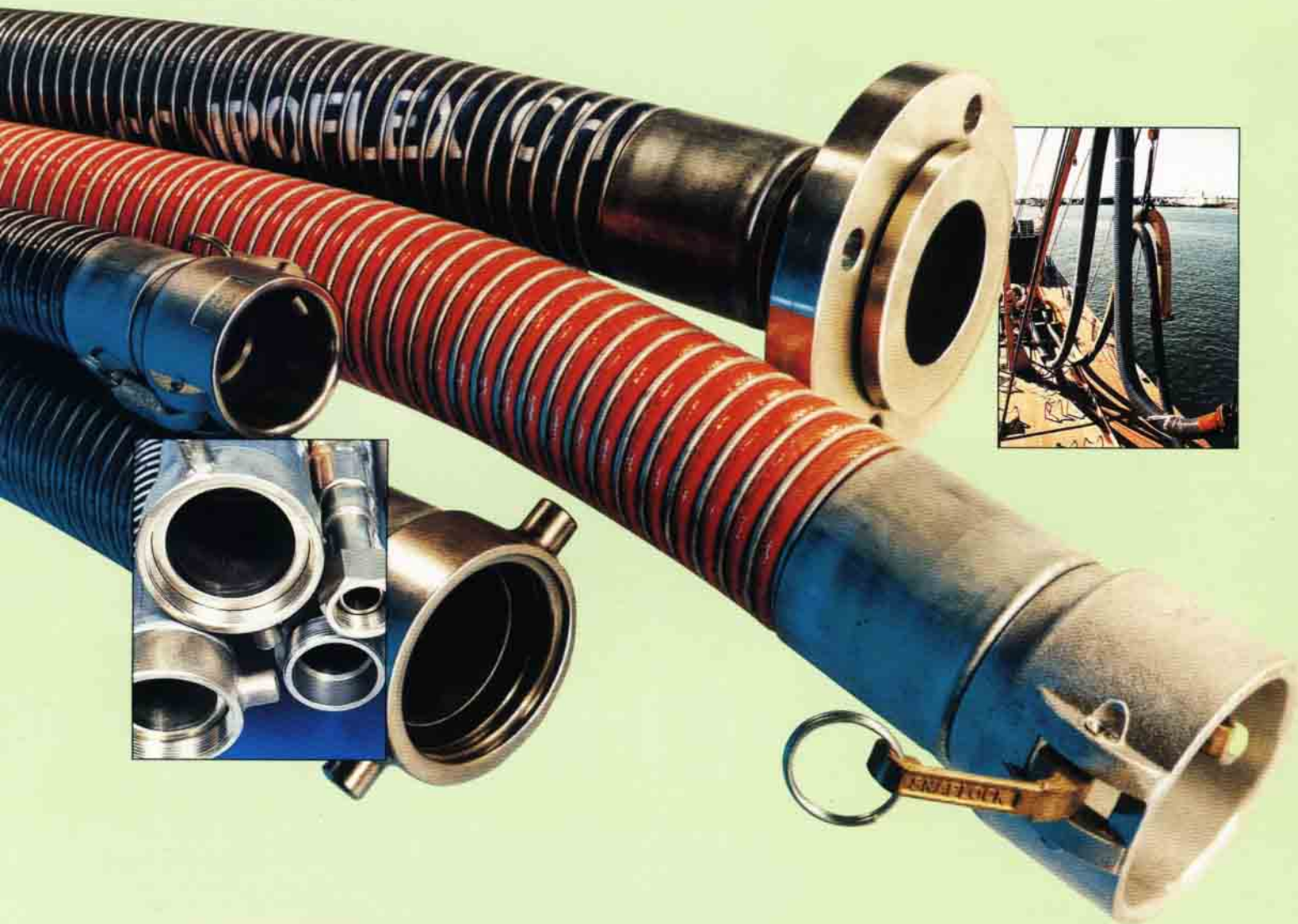
HYDROCARBONS

**Compoflex with Confidence**

## FLEXIBLE COMPOSITE HOSES FOR HYDROCARBONS TRANSFER

**The most vulnerable link in the chain of production, distribution and use of bulk hydrocarbons is the point of transfer.**

**Compoflex produce a comprehensive range of composite hoses, specifically engineered to safely and easily handle hydrocarbons, including oils, petrol, diesel, lubricating oils, paraffin and 100% aromatics, in all kinds of transfer.**







## HOSE TYPES AND APPLICATIONS

Standard Fuelmaster 0954 and Oilmaster 0901 hoses are designed as general purpose hoses for the transfer of a wide variety of hydrocarbon conveyant under suction or pressure.

Standard Duty Fuelmaster hoses are used in such applications as low pressure transfer for road and rail tanker loading and discharging, storage tank and in-plant use. Conveyants include light distillates such as petrol, diesel, paraffin/kerosene and 100% aromatics.

Where exceptionally low weight is indicated, Lightweight Fuelmaster 0955 substitutes an aluminium inner spiral. It is suitable for similar conveyants to the standard version and is also used for aviation spirit.

Standard Duty Oilmaster hoses, for road and rail tanker and in-plant applications, are used for black oils and heavier lubricating products in addition to the same conveyants as Fuelmaster.

Heavy Duty Oilmaster 0982 hoses, including bores up to 10", are suitable for ship-to-shore, dockside and general shipboard use.

## PRODUCT SPECIFICATIONS

| | Compoflex LIGHTWEIGHT FUELMASTER | Compoflex STANDARD DUTY FUELMASTER | Compoflex STANDARD DUTY OILMASTER | Compoflex HEAVY DUTY OILMASTER |
|---|---|---|---|---|
| **Colour** | RED | BLUE | BLACK | BLUE |
| **Code** | 0955 | 0954 | 0901 | 0982 |
| **Temperatures** | -20° to +80°C | -20° to +80°C | -20° to +80°C | -20° to +80°C |

All hoses are suitable for the temperature range -20° to +80°C but these are subject to pressure derating factors.
Higher temperatures are permitted for intermittent use subject to confirmation by Compoflex's Technical Department.

| **Construction** | | | | |
|---|---|---|---|---|
| **Inner Wire** | Aluminium | Galvanised Carbon Steel | Galvanised Carbon Steel | Galvanised Carbon Steel |
| **Wall Materials** | Polymeric fabrics and films selected according to resistance and strength. | | | |
| **Outer Wire** | Galvanised Steel | Galvanised Steel | Galvanised Steel | Galvanised Steel |

Manufacturing length
All hoses are manufactured in standard lengths of 20m except the Heavy Duty Oilmaster.

| Nominal Internal Diameter mm | in | Maximum Working Pressure bar | lb/in² | Minimum Bend Radius mm | in | Weight kg/m | lb/ft | Maximum Manufacturing Length m | ft |
|---|---|---|---|---|---|---|---|---|---|
| **COMPOFLEX FUELMASTER (0954)** | | | | | | | | | |
| 25 | 1 | 10.5 | 150 | 100 | 4 | 0.9 | 0.6 | 20 | 66 |
| 32 | 1¼ | 10.5 | 150 | 100 | 4 | 1.0 | 0.7 | 20 | 66 |
| 38 | 1½ | 10.5 | 150 | 125 | 5 | 1.2 | 0.8 | 20 | 66 |
| 50 | 2 | 10.5 | 150 | 125 | 5 | 1.6 | 1.1 | 20 | 66 |
| 65 | 2½ | 10.5 | 150 | 150 | 6 | 2.2 | 1.4 | 20 | 66 |
| 75 | 3 | 10.5 | 150 | 175 | 7 | 2.6 | 1.7 | 20 | 66 |
| 100 | 4 | 10.5 | 150 | 250 | 10 | 3.4 | 2.3 | 20 | 66 |
| **COMPOFLEX FUELMASTER (0955)/012** | | | | | | | | | |
| 50 | 2 | 10.5 | 150 | 125 | 5 | 1.0 | 0.7 | 20 | 66 |
| 65 | 2½ | 10.5 | 150 | 150 | 6 | 1.6 | 1.1 | 20 | 66 |
| 75 | 3 | 10.5 | 150 | 175 | 7 | 1.8 | 1.2 | 20 | 66 |
| 100 | 4 | 10.5 | 150 | 250 | 10 | 2.4 | 1.6 | 20 | 66 |
| **COMPOFLEX STANDARD DUTY OILMASTER (0901)** | | | | | | | | | |
| 25 | 1 | 14 | 200 | 100 | 4 | 0.9 | 0.6 | 20 | 66 |
| 32 | 1¼ | 14 | 200 | 125 | 5 | 1.0 | 0.7 | 20 | 66 |
| 38 | 1½ | 14 | 200 | 140 | 5½ | 1.3 | 0.9 | 20 | 66 |
| 50 | 2 | 14 | 200 | 180 | 7 | 2.2 | 1.4 | 20 | 66 |
| 65 | 2½ | 14 | 200 | 200 | 8 | 2.7 | 1.8 | 20 | 66 |
| 75 | 3 | 14 | 200 | 280 | 11 | 3.3 | 2.2 | 20 | 66 |
| 100 | 4 | 14 | 200 | 400 | 16 | 5.1 | 3.4 | 20 | 66 |
| **COMPOFLEX HEAVY DUTY OILMASTER (0982)** | | | | | | | | | |
| 75 | 3 | 14 | 200 | 280 | 11 | 3.75 | 2.5 | 15 | 50 |
| 100 | 4 | 14 | 200 | 400 | 16 | 6.5 | 4.3 | 15 | 50 |
| 150 | 6 | 14 | 200 | 500 | 20 | 11.0 | 7.4 | 15 | 50 |
| 200 | 8 | 14 | 200 | 740 | 29 | 15.0 | 10.0 | 15 | 50 |
| 250 | 10 | 10.5 | 150 | 920 | 36 | 21.0 | 14.0 | 12 | 40 |

**Standards: Both weights of Fuelmaster hoses comply with BS 3492 (1987) AX & BX and the standard Oilmaster hose attains both this and BS 5842 (1980).**

## CONSTRUCTION

Standard hydrocarbon hoses are manufactured from multi-layers of poly-propylene fabric and film with a weatherproof and abrasion resistant outer cover. The hose layers are held and tensioned between internal and external wire helices.

Computer-aided design has resulted in exceptional strength-to-weight ratios and extreme flexibility, giving the hoses excellent handling characteristics. This ensures ready operator acceptance and encourages good usage practice.

The standard production length is 20m (with the exception of 0982). All hoses are supplied with factory-fitted end connections to the customer's requirements.

Both weights of Fuelmaster hoses comply with BS 3492 (1987) AX + BX and the standard Oilmaster attains both this and BS 5842 (1980).

CHEMICALS

**Compoflex with Confidence**

## FLEXIBLE COMPOSITE HOSES FOR CHEMICALS TRANSFER

**The point of transfer is the most vulnerable link in the chain of production, distribution and use of bulk chemicals.**

**Compoflex produce an extensive range of composite hoses, chemically compatible and mechanically engineered to handle hazardous chemicals, safely and easily, in all kinds of transfer applications.**





## HOSE TYPES AND APPLICATIONS

Chemiflex 0951, the original standard product with a working pressure of 200 psi and bore diameters between 1" and 4", is suitable for road, rail tanker and in-plant applications.

For lighter duties, Chemiflex 0949 offers superior flexibility for ease of use.

Heavy duty Chemiflex 0969/0998 and Marine 1000 hoses are available in sizes up to 10" diameter, offering higher working pressures and suitability for very arduous operating conditions including ship-to-shore, dockside and general shipboard use.

The Chemiflex range incorporates as standard a polypropylene covered inner wire and galvanised steel outer wire. Stainless steel can be substituted where appropriate.

The full Compoflex range includes a number of specifically engineered hoses incorporating other thermoplastic and fluorocarbon materials. These hoses are suitable for particularly hazardous working conditions or difficult to handle conveyants.

| Chemiflex Hose | Compoflex 0949 STANDARD DUTY | Compoflex 0951 STANDARD DUTY | Compoflex 0998 HEAVY DUTY | Compoflex 0969 HEAVY DUTY |
|---|---|---|---|---|
| Colour | PURPLE | GREY | GREY | GREEN |
| Code | 0949 | 0951 | 0998 | 0969 |
| Temperatures | -20° to +80°C | -20° to +80°C | -20° to +80°C | -20° to +80°C |

Temperatures are subject to pressure derating factors.
Higher temperatures are permitted for intermittent use subject to confirmation from Compoflex's Technical Department.

| Construction | | | | |
|---|---|---|---|---|
| Inner Wire | Anti Static Polypropylene Covered Steel | Anti Static Polypropylene Covered Steel | Anti Static Polypropyelene Covered Steel | 316 Stainless Steel |
| Wall Materials | Polymeric fabrics and films selected according to chemical resistance and strength. | | | |
| Outer Wire | Galvanised Steel | Galvanised Steel | Galvanised Steel | Galvanised Steel |

| Nominal Internal Diameter mm | in | Maximum Working Pressure bar | lb/in² | Minimum Bend Radius mm | in | Weight kg/m | lb/ft | Maximum Manufacturing Length m | ft |
|---|---|---|---|---|---|---|---|---|---|
| **CHEMIFLEX 0949 STANDARD DUTY** | | | | | | | | | |
| 25 | 1 | 10.5 | 150 | 100 | 4 | 0.9 | 0.6 | 20 | 66 |
| 32 | 1¼ | 10.5 | 150 | 100 | 4 | 1.0 | 0.7 | 20 | 66 |
| 38 | 1½ | 10.5 | 150 | 125 | 5 | 1.2 | 0.8 | 20 | 66 |
| 50 | 2 | 10.5 | 150 | 125 | 5 | 1.6 | 1.1 | 20 | 66 |
| 64 | 2½ | 10.5 | 150 | 150 | 6 | 2.1 | 1.4 | 20 | 66 |
| 76 | 3 | 10.5 | 150 | 175 | 7 | 2.5 | 1.7 | 20 | 66 |
| 102 | 4 | 10.5 | 150 | 250 | 10 | 3.7 | 2.5 | 20 | 66 |
| **CHEMIFLEX 0951 STANDARD DUTY** | | | | | | | | | |
| 25 | 1 | 14 | 200 | 100 | 4 | 0.9 | 0.6 | 20 | 66 |
| 32 | 1¼ | 14 | 200 | 100 | 4 | 1.0 | 0.7 | 20 | 66 |
| 38 | 1½ | 14 | 200 | 127 | 5 | 1.2 | 0.8 | 20 | 66 |
| 50 | 2 | 14 | 200 | 178 | 7 | 1.8 | 1.2 | 20 | 66 |
| 64 | 2½ | 14 | 200 | 178 | 7 | 2.5 | 1.7 | 20 | 66 |
| 76 | 3 | 14 | 200 | 203 | 8 | 3.0 | 2.0 | 20 | 66 |
| 102 | 4 | 14 | 200 | 304 | 12 | 4.3 | 2.9 | 20 | 66 |
| **CHEMIFLEX 0969/0998 HEAVY DUTY** | | | | | | | | | |
| 75 | 3 | 14 | 200 | 280 | 11 | 3.4 | 2.3 | 15 | 50 |
| 100 | 4 | 14 | 200 | 400 | 16 | 6.5 | 4.3 | 15 | 50 |
| 150 | 6 | *14 | 200 | 500 | 20 | 11.0 | 7.4 | 15 | 50 |
| 200 | 8 | 14 | 200 | 740 | 29 | 15.0 | 10.0 | 15 | 50 |
| 250 | 10 | 10.5 | 150 | 920 | 36 | 21.0 | 14.0 | 12 | 40 |

## CONSTRUCTION

Compoflex chemical transfer hoses are constructed from multi-layers of thermoplastic films which form a sealing and permeation barrier, supported by fabric layers for mechanical strength. The hose layers are held and tensioned by internal and external steel wire helices.

Compoflex Chemiflex hoses comply with various national and international standards including BS 5842 (1980) and U.S. Coastguard Regulations and can be marked accordingly. Chemiflex Marine 1000 hoses, type approved to IMO Codes BCH and IBC requirements are available on request.

The standard production length is 20m (with the exception of 0969/0998).

Chemiflex hoses are supplied with factory-fitted end connections to the customers' requirements. An extensive range of couplings, either externally swaged or wire-whipped is available.

CRYOGENICS

**Compoflex with Confidence**

## FLEXIBLE COMPOSITE HOSES FOR CRYOGENICS TRANSFER

In the chain of production, distribution and use of liquefied gases, the combination of high pressure and low temperature makes the point of transfer the most vulnerable link. Compoflex produce a comprehensive range of Cryoflex Composite hoses for handling cryogenics products at temperatures down to -200°C or at pressures up to 25 bar. These are specifically engineered to handle all kinds of transfer applications, notably ship-to-shore, safely and easily.





## HOSE TYPES AND APPLICATIONS

Cryoflex hoses are suitable for the transfer of a wide variety of cryogenic materials under pressure at low temperatures.

Cryoflex hoses are used in such applications as road and rail tanker loading and discharging, storage tank and in-plant use. Larger bores are indicated for ship-to-shore and ship-to-ship transfers.

Fully refrigerated conveyants down to -50°C include the following as listed in Chap XIX Gas Carrier Code:

- ☐ Ammonia
- ☐ Acetaldehyde
- ☐ Butadiene
- ☐ Butane/propane mixes
- ☐ Butane ☐ Butylene
- ☐ Dimethylamine
- ☐ Ethylamine
- ☐ Ethyl Chloride
- ☐ Methyl Acetylene
- ☐ Methyl Bromide
- ☐ Propane ☐ Propadiene
- ☐ Propylene
- ☐ Vinyl Chloride
- ☐ Refrigerant Gases

Cryoflex 50 is also suitable for liquid ethane at -88°C and liquid ethylene at -108°C.

Cryoflex 200 hoses are designed for similar applications but with liquid gases, such as liquid nitrogen and L.N.G. (methane), at extremely low temperatures down to -200°C. Cryoflex 200 is not suitable for conveying ammonia.

| | Compoflex CRYOFLEX 50 | Compoflex CRYOFLEX 200 |
|---|---|---|
| Colour | WHITE/GREEN | WHITE |
| Code | 0940 | 0933 |
| Temperatures | -50° to +50°C | -200° to +50°C |

**Construction:** Inner & outer wires -316 stainless steel.
Wall materials – polymeric fabrics & films selected according to resistance and strength.

| Nominal Internal Diameter mm | in | Maximum Working Pressure bar | lb/in² | Minimum Bend Radius mm | in | Weight kg/m | lb/ft | Maximum Manufacturing Length m | ft |
|---|---|---|---|---|---|---|---|---|---|
| **COMPOFLEX CRYOFLEX 50 (0940)** | | | | | | | | | |
| 25 | 1 | 25 | 362 | 150 | 6 | 0.9 | 0.6 | 15 | 50 |
| 38 | 1½ | 25 | 362 | 175 | 7 | 1.6 | 1.1 | 15 | 50 |
| 50 | 2 | 25 | 362 | 200 | 8 | 2.4 | 1.6 | 15 | 50 |
| 75 | 3 | 25 | 362 | 250 | 10 | 4.5 | 3.0 | 15 | 50 |
| 100 | 4 | 21 | 300 | 500 | 20 | 7.5 | 5.0 | 15 | 50 |
| 150 | 6 | 21 | 300 | 660 | 25 | 13.8 | 9.3 | 14 | 45 |
| 200 | 8 | 15 | 215 | 910 | 36 | 18.7 | 12.5 | 12 | 40 |
| **COMPOFLEX CRYOFLEX 200 (0933)** | | | | | | | | | |
| 12 | ½ | 10.5 | 150 | 125 | 5 | 0.33 | 0.22 | 15 | 50 |
| 25 | 1 | 10.5 | 150 | 150 | 6 | 0.67 | 0.45 | 15 | 50 |
| 38 | 1½ | 10.5 | 150 | 175 | 7 | 1.2 | 0.8 | 15 | 50 |
| 50 | 2 | 10.5 | 150 | 200 | 8 | 2.0 | 1.3 | 15 | 50 |
| 75 | 3 | 10.5 | 150 | 250 | 10 | 3.3 | 2.2 | 15 | 50 |
| 100 | 4 | 10.5 | 150 | 500 | 20 | 7.5 | 5.0 | 15 | 50 |
| 150 | 6 | 10.5 | 150 | 660 | 26 | 13.8 | 9.3 | 15 | 45 |
| 200 | 8 | 10.5 | 150 | 910 | 36 | 18.7 | 12.5 | 12 | 40 |
| 250 | 10 | 10.5 | 150 | 2500 | 98 | 22.5 | 15.1 | 10 | 33 |

**Standards: Cryoflex assemblies in bore sizes 4", 6" and 8" are certified by the UK Marine Safety Agency as complying with paragraphs 5.4 and 5.7 of the IMO Gas Carrier Code.**

## CONSTRUCTION

Cryoflex 50 is manufactured from multi-layers of polyamide fabric and film whilst Cryoflex 200 utilises polyester fabric and BOPP film. Both can be further insulated by an additional rope lagging.

Cryoflex 50 and 200 hoses have 316 stainless steel inner and outer wires achieving dual wire electrical continuity by bonding to the end fittings thus safely dissipating static electrical charges which may be generated during the transfer of fluids.

Cryoflex hoses provide a high degree of safety with hose construction having complete product compatibility to allow LPG, LNG, and associated gases to be handled safely. In addition, working pressures across the temperature range are based on a safety factor of 5:1, minimum.

Cryoflex assemblies in 4", 6" and 8" bore sizes are certified by the UK Marine Safety Agency as complying with the IMO Gas Carrier Code.

Cryoflex hoses are supplied in standard lengths of 10 metres, with optional lengths up to a maximum of 15 metres depending on diameter. All hoses have factory-fitted end connections.

# COMPOSITE HOSE CONVEYANTS EXAMPLES LIST

The Compoflex range of polypropylene hose is designed to meet the most demanding applications throughout the world and to handle a wide variety of conveyants. The list below shows the suitability of the hoses for use with specific conveyants.

Though the information is based on the best data available, it must be appreciated that the recommendations are given only as a guide and apply only to the chemical compatibility of the hoses.

The description of a hose as "suitable" does not constitute a guarantee that the hose complies with any regulations or operating conditions governing the handling of the chemical or the use of

## HYDROCARBONS

| Conveyant | Hose 1 | 2 | 3 | End Fittings CS | SS | CA |
|---|---|---|---|---|---|---|
| Aviation fuel | C | C | C | ● | ● | ● |
| Coal tar naphtha | B | B | B | ● | ● | ● |
| Diesel oil | B | B | B | ● | ● | ● |
| Fuel oil | B | B | B | ● | ● | ● |
| Jet fuel | C | C | C | ● | ● | ● |
| Kerosene | B | B | B | ● | ● | ● |
| Motor fuel anti-knock compounds (leaded) | Refer to 0956 | | | ● | ● | × |
| Motor fuel anti-knock compounds (unleaded) | B | B | B | ● | ● | ● |
| Oils most commercial | B | B | B | ● | ● | ● |
| Paraffin wax | A | A | A | ● | ● | ● |
| Petroleum | A | A | A | ● | ● | ● |
| Petroleum ether | C | C | C | ● | ● | ● |
| Petroleum naphtha | C | C | C | ● | ● | ● |
| Transformer oil | B | B | B | ● | ● | ● |
| Transmission oil | B | B | B | ● | ● | ● |
| Turpentine | C | C | C | ● | ● | ● |
| Vaseline | A | A | A | ● | ● | ● |
| White spirit | B | B | B | ● | ● | ● |

## CHEMICALS

| Conveyant | Hose 1 | 2 | 3 | End Fittings CS | SS | CA |
|---|---|---|---|---|---|---|
| Acetaldehyde | C | C | D | × | ● | ● |
| Acetic acid (< 60%) | A | A | D | × | ● | ● |
| Acetic acid (Glacial) | B | B | D | × | ● | ● |
| Acetic anhydride | B | B | D | × | ● | ● |
| Acetoacetic ester | C | C | D | ● | ● | ● |
| Acetone | A | A | A | ● | ● | ● |
| Acetone cyanohydrin | B | B | D | ● | ● | × |
| Acetonitrile | B | B | B | ● | ● | ● |
| Acetophenone | B | B | B | ● | ● | ● |
| Acetylacetone | B | B | B | ● | ● | ● |
| Acetyl chloride | Refer to 0976/0977 | | | | | |
| Acetylene | Metallic | | | | | |
| Acetylene dichloride | B | B | B | ● | ● | ● |
| Acetylene tetrachloride | C | C | C | ● | ● | ● |
| Acrolein (acrylaldehyde) | B | B | B | ● | ● | ● |
| Acrylic acid | B | B | D | × | ● | ● |
| Acrylonitrile | A | A | D | ● | ● | ● |
| Adipic acid aqueous | A | A | A | × | ● | ● |
| Adiponitrile | B | B | B | ● | ● | ● |
| Allyl alcohol | A | A | A | ● | ● | ● |
| Allyl bromide | C | C | C | ● | ● | × |
| Allyl chloride | C | C | C | ● | ● | × |
| Alums aqueous (Saturated) | A | A | A | ● | ● | ● |
| Aluminium salts excluding halides (Saturated) | A | B | D | ● | ● | × |
| Aluminium chloride (Saturated) | A | D | D | Polypropylene | | |
| Aminoethyl ethanolamine | B | B | D | ● | ● | ● |
| Ammonia solution | A | A | D | ● | ● | × |
| Ammonium nitrate | Refer to 0946 | | | × | ● | × |
| Ammonium salts excluding halides (Saturated) | A | B | D | ● | ● | × |
| Ammonium chloride (Saturated) | A | C | D | ● | ● | × |
| Amyl acetate | C | C | C | ● | ● | ● |
| Amyl alcohol | B | B | B | ● | ● | ● |
| Amyl chloride | C | C | C | ● | ● | ● |
| Aniline (dedicated hose) | C | B | × | ● | ● | × |
| Animal oils | A | A | A | ● | ● | ● |
| Anisole | C | C | C | × | ● | × |
| Antimony chloride | B | D | D | × | ● | × |
| Aqua regia | C | D | D | Polypropylene | | |
| Barium salts (Saturated) | A | B | D | ● | ● | × |
| Beer | A | A | D | ● | ● | ● |
| Benzaldehyde | C | C | D | × | ● | × |
| Benzene | C | C | C | ● | ● | ● |
| Benzene sulphonic acid | C | C | D | × | ● | × |
| Benzoic acid | A | A | D | ● | ● | × |
| Benzoyl chloride | C | C | C | ● | ● | ● |
| Benzyl alcohol | A | A | A | ● | ● | ● |
| Benzyl butyl phthalate | B | B | B | ● | ● | ● |
| Benzyl chloride | C | C | C | × | ● | ● |
| Bleach (< 12.5% Cl) | C | C | D | ● | ● | × |
| Borax aqueous | A | A | A | ● | ● | × |
| Boric acid aqueous | A | A | D | × | ● | ● |
| Brine (Saturated) | A | C | D | × | ● | × |
| Bromine water (Saturated) | Metallic/PTFE | | | | | |
| Butadiene | B | B | B | ● | ● | ● |
| Butanediol | B | B | B | ● | ● | ● |
| Butyl alcohol | A | A | A | ● | ● | ● |
| Butyl acetate | C | C | C | ● | ● | ● |
| Butyl acrylate | B | B | B | ● | ● | ● |
| N-Butylamine | B | B | D | ● | ● | ● |
| Butyl benzene | B | B | B | ● | ● | ● |
| Butyl benyl phthalate | B | B | B | ● | ● | ● |
| Butyl bromide | Refer to 0976/0977 | | | | | |
| Butyl butyrate | B | B | B | ● | ● | ● |
| Butyl carbitol | A | A | A | ● | ● | ● |
| Butyl carbitol acetate | C | C | C | ● | ● | ● |
| Butyl cellosolve | A | A | A | ● | ● | ● |
| Butyl cellosolve acetate | C | C | C | ● | ● | ● |
| Butyl chloride | Refer to 0976/0977 | | | | | |
| Butylene glycol | A | A | A | ● | ● | ● |
| Butyl ether | B | B | B | ● | ● | ● |
| Butyl ethyl ether | B | B | B | ● | ● | ● |
| Butyl methacrylate | C | C | C | ● | ● | ● |
| Butyl methoxyethyl ether | C | C | C | ● | ● | ● |
| Butyl phthalate | A | A | A | ● | ● | ● |
| Butyl stearate | B | B | B | ● | ● | ● |
| Butyraldehyde | C | C | D | ● | ● | ● |
| Butyric acid (< 20%) | B | B | B | ● | ● | ● |
| Butyrolactone | C | C | C | ● | ● | ● |
| Calcium salts excluding halides and hypochlorite (Saturated) | A | B | D | ● | ● | × |
| Calcium alkyl salicylate solution | A | A | D | ● | ● | ● |
| Calcium chloride (Saturated) | A | C | D | × | ● | × |
| Calcium hypochlorite (< 12.5% Cl) | C | C | D | × | ● | ● |
| Camphor oil | C | C | C | ● | ● | ● |
| Caprylic acid | A | A | A | ● | ● | ● |
| Carbinols | B | B | B | ● | ● | ● |
| Carbitols | B | B | B | ● | ● | ● |
| Carbitol acetate | C | C | C | ● | ● | ● |
| Carbolic acid | A | A | D | × | ● | × |
| Carbolic oil (middle oil) | C | C | C | ● | ● | ● |
| Carbon disulphide | C | C | C | ● | ● | ● |
| Carbon tetrachloride | C | C | C | ● | ● | ● |
| Carbonic acid | A | A | D | × | ● | × |
| Cashew nut shell oil | B | B | B | ● | ● | ● |
| Caustic potash (< 50%) | A | B | D | ● | ● | × |
| Caustic soda (< 50%) | A | B | C | ● | ● | × |
| Cellosolve | B | B | B | ● | ● | ● |
| Chloroacetic acid | B | D | D | Polypropylene | | |
| Chlorine | Metallic/PTFE | | | | | |
| Chlorobenzene | C | C | C | ● | ● | ● |
| Chlorobutane | C | C | C | ● | ● | ● |
| Chloroform | C | C | C | ● | ● | ● |
| Chloroprene | C | C | C | × | ● | ● |
| Chloropropionic acid | C | C | D | × | ● | × |
| Chlorosulphonic acid | Metallic/PTFE | | | | | |
| Chlorotoluene | C | C | C | ● | ● | ● |
| Chrome alum (Saturated) | A | A | D | ● | ● | ● |
| Chromic acid aqueous (< 50%) | C | C | D | × | ● | × |
| Citric acid | A | A | D | × | ● | ● |
| Copper salts excluding halides (Saturated) | A | A | D | ● | ● | × |
| Copper chloride (Saturated) | A | D | D | Polypropylene | | |
| Creosote (wood or coal tar) | B | B | B | ● | ● | ● |
| Cresols (< 90%) | A | A | A | ● | ● | × |
| Crotonaldehyde | C | C | C | ● | ● | × |
| Cumene | B | B | B | ● | ● | ● |
| Cyclohexane | B | B | B | ● | ● | ● |
| Cyclohexanol | B | B | B | ● | ● | ● |
| Cyclohexanone | C | C | C | ● | ● | ● |
| Cyclohexylamine | B | B | D | ● | ● | × |
| Cyclopentane | B | B | B | ● | ● | ● |
| p-Cymene | B | B | B | ● | ● | ● |
| Decalin | Refer to 0976/0977 | | | | | |
| Decyl alcohol | B | B | B | ● | ● | ● |
| Decyl acrylate | B | B | D | ● | ● | ● |
| Detergents | A | A | A | ● | ● | ● |
| Dextrin | A | A | A | ● | ● | ● |
| Diacetone alcohol | B | B | B | ● | ● | ● |
| Diamnoethylamine | B | B | C | ● | ● | ● |
| Diamylamine | B | B | C | ● | ● | ● |
| Dibromoethane | B | B | D | ● | ● | ● |
| Dibutylamine | B | B | C | ● | ● | × |
| Dibutyl ether | C | C | C | ● | ● | ● |
| Dibutyl phthalate | B | B | B | ● | ● | ● |
| Dibutyl sebacate | B | B | B | ● | ● | ● |
| Dichloroacetic acid | C | D | D | Polypropylene | | |
| Dichlorobenzene | C | C | C | ● | ● | × |
| Dichlorobutane | C | C | C | ● | ● | ● |
| Dichlorodifluoromethane | Refer to 0940 | | | | | |
| Dichloroethane | C | C | C | ● | ● | ● |
| Dichloroethylene | C | C | C | ● | ● | ● |
| Dichloroethyl ether | C | C | C | ● | ● | × |
| Dichloromethane | C | C | C | ● | ● | ● |
| Dichloropropane | C | C | C | ● | ● | ● |
| Dichloropropylene | C | C | C | ● | ● | ● |
| Dichloropropionic acid | C | C | D | × | ● | × |
| Dicyclopentadiene | D | D | D | × | × | × |
| Diethanolamine | A | A | D | ● | ● | × |
| Diethylamine | B | B | D | ● | ● | × |
| Diethylaminoethanol | B | B | C | ● | ● | ● |
| Diethylbenzene | B | B | B | ● | ● | ● |
| Diethylene dioxide | B | B | B | ● | ● | ● |
| Diethylene glycol | A | A | A | ● | ● | ● |
| Diethylene glycol diethyl ether | B | B | B | ● | ● | ● |
| Diethylene glycol monobutyl ether | C | C | C | ● | ● | ● |
| Diethylene glycol monoethyl ether | C | C | C | ● | ● | ● |
| Diethylene glycol monoethyl ether acetate | C | C | C | ● | ● | ● |
| Diethylene glycol monobutyl ether acetate | C | C | C | ● | ● | ● |
| Diethylene glycol monomethyl ether | C | C | C | ● | ● | ● |
| Diethylene glycol monomethyl ether acetate | C | C | C | ● | ● | ● |
| Diethylenetriamine | B | B | D | ● | ● | × |
| Diethyl ethanolamine | B | B | D | ● | ● | × |
| Diethyl ether | B | B | B | ● | ● | ● |
| Diethyl ketone | B | B | B | ● | ● | ● |
| Diethyl oxalate | B | B | B | ● | ● | ● |
| Diethyl phthalate | A | A | A | ● | ● | ● |
| Diethyl sebacate | A | A | A | ● | ● | ● |
| Diethyl sulphate | B | B | D | ● | ● | ● |
| Diphenylamine (molten) | Dedicated hose Refer to 0367 | | | × | ● | × |
| Diisobutylamine | B | B | B | ● | ● | ● |
| Diisobutylene | B | B | B | ● | ● | ● |

the hose.

Due allowance must be made when selecting a hose for use in extreme conditions. It is not advisable to select a hose which would, during use, be subjected simultaneously to pressures, temperatures and bending radii all at the limit of its capabilities.

A hose conveying a chemical having an oxidising effect should be checked for internal discolouration, particularly if the hose may subsequently be used on a conveyant where colour contamination is not possible.

**Inner wire composition of hoses is indicated as such:**

1 Chemiflex with polypropylene-covered carbon steel.

2 Special polypropylene hoses with 316 stainless steel.

3 Oilmaster and Fuelmaster with galvanised steel.

**Suitability is indicated by the following categories:**

**A** Suitable for use at 60°C.

**B** Suitable for use at worldwide ambient temperatures.

| | | | | | | |
|---|---|---|---|---|---|---|
| Diisobutyl ketone | B | B | B | ● | ● | ● |
| Diisobutyl phthalate | B | B | B | ● | ● | ● |
| Diisooctyl adipate | B | B | B | ● | ● | ● |
| Diisooctyl phthalate | A | A | A | ● | ● | ● |
| Diisopropanolamine | B | B | D | ● | ● | × |
| Diisopropylamine | B | B | D | ● | ● | × |
| Diisopropyl ether | B | B | B | ● | ● | ● |
| Diisopropyl ketone | B | B | B | ● | ● | ● |
| Dimethylamine | B | B | D | ● | ● | × |
| Dimethyl ethanolamine | B | B | D | ● | ● | × |
| Dimethyl formamide | A | A | A | ● | ● | ● |
| Dimethyl ketone | A | A | A | ● | ● | ● |
| Dimethyl phthalate | B | B | B | ● | ● | ● |
| Dimethyl sulphate | B | B | D | ● | ● | ● |
| Dimethyl sulphide | B | B | B | ● | ● | ● |
| Dinitrobenzene | C | C | C | ● | ● | ● |
| Dioctylamine | B | B | D | ● | ● | × |
| Dioctyl phthalate | B | B | B | ● | ● | ● |
| Dioctyl sebacate | B | B | B | ● | ● | ● |
| Dioxane | C | C | C | ● | ● | ● |
| Dipentene | B | B | B | ● | ● | ● |
| Diphenyl ether | B | B | B | ● | ● | ● |
| Diphenylmethane diisocyanate | B | B | B | ● | ● | ● |
| Diphenyl phthalate | B | B | B | ● | ● | ● |
| Dipropylamine | B | B | B | ● | ● | ● |
| Dipropylene glycol | A | A | A | ● | ● | ● |
| Dipropylene glycol monomethyl ether | C | C | C | ● | ● | ● |
| Disulphuric acid | Refer to 0976/0977 | | | | | |
| Dodecyl alcohol | B | B | B | ● | ● | ● |
| Dodecyl benzene | B | B | B | ● | ● | ● |
| Dodecyl benzene sulphonic acid | C | C | D | × | ● | × |
| Dodecyl phenol | B | B | B | ● | ● | ● |
| Dodecyl methacrylate | D | D | D | × | × | × |
| Epichlorohydrin | B | B | B | ● | ● | ● |
| Ethyl alcohol | A | A | A | ● | ● | ● |
| Ethanolamine | A | A | B | ● | ● | ● |
| Ethoxy ethanol | C | C | C | ● | ● | ● |
| Ethoxyethyl acetate | C | C | C | ● | ● | ● |
| Ethoxy propanol | C | C | C | ● | ● | ● |
| Ethyl acetate | C | C | C | ● | ● | ● |
| Ethyl acrylate | B | B | B | ● | ● | ● |
| Ethyl aluminium dichloride | Refer to 0976/0977 | | | | | |
| Ethylamine | B | B | C | ● | ● | ● |
| Ethylbenzene | B | B | B | ● | ● | ● |
| Ethyl butanol | B | B | B | ● | ● | ● |
| Ethyl butylamine | B | B | C | ● | ● | ● |
| Ethyl chloride | C | C | C | ● | ● | ● |
| Ethyl cyclohexane | C | C | C | ● | ● | ● |
| Ethyl cyclohexylamine | C | C | C | ● | ● | ● |
| Ethylene carbonate | B | B | C | ● | ● | ● |
| Ethylene chloride | C | C | C | ● | ● | ● |
| Ethylene chlorohydrin | B | B | B | ● | ● | ● |
| Ethylene cyanohydrin | B | B | B | ● | ● | ● |
| Ethylene diamine | B | B | B | ● | ● | ● |
| Ethylene dibromide | B | B | C | ● | ● | ● |
| Ethylene dichloride | C | C | C | ● | ● | ● |
| Ethylene glycol | A | A | A | ● | ● | ● |
| Ethylene glycol monobutyl ether | A | A | A | ● | ● | ● |
| Ethylene glycol methyl butyl ether | B | B | B | ● | ● | ● |
| Ethylene glycol monobutyl ether acetate | B | B | B | ● | ● | ● |
| Ethylene glycol monoethyl ether | A | A | A | ● | ● | ● |
| Ethylene glycol monomethyl ether | B | B | B | ● | ● | ● |
| Ethyl ether | B | B | B | ● | ● | ● |
| Ethyl formate | B | B | D | ● | ● | ● |
| Ethylene oxide (dedicated hose) | B | B | D | × | ● | × |
| Ethylene glycol monomethyl ether acetate | B | B | B | ● | ● | ● |
| Ethyl hexanoic acid | B | B | D | × | ● | × |
| Ethyl hexyl alcohol | A | A | A | ● | ● | ● |
| Ethylene glycol monophenyl ether | B | B | B | ● | ● | ● |
| Ethyl hexyl acrylate | B | B | C | ● | ● | ● |
| 2-Ethyl hexylamine | B | B | C | ● | ● | ● |
| Ethyl iodide | C | C | C | ● | ● | ● |
| Ethyl isobutyl ether | B | B | D | ● | ● | ● |
| Ethyl methacrylate | C | C | C | ● | ● | ● |
| 2-Ethyl-3-propylacrolein | C | C | C | ● | ● | ● |
| Ethyl propyl ether | B | B | B | ● | ● | ● |
| Ethyl propyl ketone | C | C | C | ● | ● | ● |
| Ethyl silicate | A | A | A | ● | ● | ● |
| Ethyl sulphate | B | B | B | ● | ● | ● |
| Ethyl vinyl ether | B | B | B | ● | ● | ● |
| Fatty acids | A | A | D | × | ● | ● |
| Fatty alcohols | A | A | A | ● | ● | ● |
| Ferrous, ferric salts excluding halides | A | B | D | ● | ● | ● |
| Fluorine | PTFE | | | | | |
| Fluosilicic acid | A | A | D | × | ● | × |
| Formaldehyde solution (< 45%) | A | A | A | ● | ● | ● |
| Formamide | A | B | D | × | ● | ● |
| Formic acid | A | A | D | × | ● | ● |
| Fruit juices | A | A | D | ● | ● | ● |
| Fructose | A | A | A | ● | ● | ● |
| Furfural | B | B | B | ● | ● | ● |
| Furfuryl alcohol | B | B | B | ● | ● | ● |
| Gallic acid solution | A | A | C | ● | ● | ● |
| Gasoline | B | B | B | ● | ● | ● |
| Gelatine aqueous | A | A | A | ● | ● | ● |
| Gluconic acid | A | A | C | ● | ● | ● |
| Glucose aqueous | A | A | A | ● | ● | ● |
| Glycerine | A | A | A | ● | ● | ● |

| | | | | | | |
|---|---|---|---|---|---|---|
| Green sulphate liquor | B | B | D | × | ● | × |
| Glycols aqueous | A | A | A | ● | ● | ● |
| Glycolic acid aqueous (< 37%) | A | A | D | ● | ● | ● |
| Heptane | B | B | B | ● | ● | ● |
| Heptanoic acid | B | B | D | × | ● | × |
| Heptanol | A | A | A | ● | ● | ● |
| Heptanone | B | B | B | ● | ● | ● |
| Heptene | A | A | A | ● | ● | ● |
| Hexamethylene diamine | B | B | C | ● | ● | ● |
| Hexane | B | B | B | ● | ● | ● |
| Hexanol | A | A | A | ● | ● | ● |
| Hexylamine | B | B | D | ● | ● | ● |
| Hexene | A | A | A | ● | ● | ● |
| Hexylene glycol | A | A | A | ● | ● | ● |
| Hydrazine hydrate | B | B | D | × | ● | × |
| Hydrobromic acid (< 50%) | A | D | D | Polypropylene or PVDF coated steel | | |
| Hydrochloric acid (< 37%) | C | D | D | | | |
| Hydrofluoric acid (< 50%) | C | D | D | | | |
| Hydrofluosilicic acid | A | A | D | × | ● | ● |
| Hydrogen peroxide (< 50%) | B | B | D | × | ● | × |
| Hydrogen sulphide aqueous (Saturated) | A | D | D | × | ● | × |
| Hexamethylene diamine | B | B | D | ● | ● | ● |
| Hexamethylene tetramine | B | B | D | ● | ● | ● |
| Hydroquinone | A | A | A | ● | ● | × |
| Iodine solution | B | D | D | ● | ● | × |
| Iron salts excluding halides (Saturated) | A | B | D | ● | ● | ● |
| Iron halides | A | D | D | Polypropylene | | |
| Isoamyl acetate | B | B | B | ● | ● | ● |
| Isoamyl alcohol | B | B | B | ● | ● | ● |
| Isoamyl bromide | B | D | D | × | ● | × |
| Isoamyl butyrate | B | B | B | ● | ● | ● |
| Isoamyl chloride | C | C | D | × | ● | × |
| Isoamyl ether | B | B | B | ● | ● | ● |
| Isobutyl alcohol | A | A | A | ● | ● | ● |
| Isobutyl acetate | B | B | B | ● | ● | ● |
| Isobutyl acrylate | B | B | B | ● | ● | ● |
| Isobutylamine | B | B | D | ● | ● | ● |
| Isobutyl bromide | B | D | D | × | ● | × |
| Isobutyl chloride | B | D | D | × | ● | × |
| Isobutyl formate | C | C | C | ● | ● | ● |
| Isobutyl methyl ketone | B | B | B | ● | ● | ● |
| Isobutyraldehyde | B | B | D | ● | ● | ● |
| Isobutyl ether | C | C | C | ● | ● | ● |
| Isooctane | C | C | C | ● | ● | ● |
| Isodecyl alcohol | A | A | A | ● | ● | ● |
| Isopentane | C | C | C | ● | ● | ● |
| Isopentene | C | C | C | ● | ● | ● |
| Isophorone | B | B | B | ● | ● | ● |
| Isoprene | B | B | B | ● | ● | × |
| Isopropyl alcohol | A | A | A | ● | ● | ● |
| Isopropanolamine | B | B | D | ● | ● | ● |
| Isopropyl acetate | C | C | C | ● | ● | ● |
| Isopropylamine | B | B | D | ● | ● | ● |
| Isopropylbenzene | B | B | B | ● | ● | ● |
| Isopropyl chloride | B | D | D | × | ● | × |
| Isopropyl ether | C | C | C | ● | ● | ● |
| Isopropyl toluene | B | B | B | ● | ● | ● |
| Jatta | A | A | B | ● | ● | ● |
| Ketones | B | B | B | ● | ● | ● |
| Lactic acid (< 20%) | A | B | D | ● | ● | ● |
| Lanolin | A | A | A | ● | ● | ● |
| Lard | A | A | A | ● | ● | ● |
| Latex (Low viscosity) | A | A | A | ● | ● | ● |
| Lauryl alcohol | B | B | B | ● | ● | ● |
| Lead alkyls | Refer to 0958 | | | ● | ● | × |
| Lead salts (Saturated) | A | B | D | × | ● | × |
| Lignin | C | C | C | ● | ● | ● |
| Limonene | B | B | B | ● | ● | ● |
| Linseed oil | A | A | A | ● | ● | ● |
| Lubricating oil | B | B | B | ● | ● | ● |
| Magnesium salts (Saturated) | A | B | D | × | ● | × |
| Maleic acid in solution | A | B | D | × | ● | ● |
| Maleic anhydryde in solution | B | B | D | × | ● | ● |
| Malic acid in solution | B | B | D | × | ● | × |
| Manganese salts (Saturated) | A | B | D | × | ● | × |
| Mercuric chloride (Saturated) | A | D | D | Polypropylene | | |
| Mesityl oxide | A | A | B | ● | ● | ● |
| Methacrylic acid | B | B | D | ● | ● | ● |
| Methyl alcohol | A | A | A | ● | ● | ● |
| Methyl acetate | C | C | C | ● | ● | ● |
| Methyl aceto acetate | C | C | D | × | ● | ● |
| Methyl acetone | B | B | B | ● | ● | ● |
| Methyl acrylate | B | B | B | ● | ● | ● |
| Methylamine | B | B | C | ● | ● | ● |
| Methylamyl acetate | C | C | C | ● | ● | ● |
| Methylamyl alcohol | B | B | B | ● | ● | ● |
| Methyl amylketone | B | B | B | ● | ● | ● |
| Methyl tert-butyl ether | C | C | C | ● | ● | ● |
| Methyl butyl ketone | B | B | B | ● | ● | ● |
| Methyl butyraldehyde | Refer to 0976/0977 | | | | | |
| Methyl cellosolve | B | B | B | ● | ● | ● |
| Methyl cellosolve acetate | C | C | C | ● | ● | ● |
| Methyl chloride | Refer to 0976/0977 | | | | | |
| Methyl cyanide | B | B | B | ● | ● | ● |
| Methyl cyclohexane | B | B | B | ● | ● | ● |
| 2-methyl pentene | C | C | C | ● | ● | ● |
| Methylene bromide | C | C | D | ● | ● | ● |
| Methylene chloride | C | C | C | ● | ● | ● |

**C** Suitable for intermittent use only at worldwide ambient temperatures. Intermittent use is defined as that typical of ship-to-shore or road tanker transfer operations where the hose is not left full of product after use.

**D** Unsuitable or no data available.

**End fitting material is indicated by:**

**CS** for Carbon Steel

**SS** for Stainless Steel

**CA** for Copper Alloy

**Suitability is indicated by the following categories:**

● End fitting material is suitable for the operating conditions applicable to the hose.

× End fitting material is unsuitable or no data.

**For conveyants not listed or service conditions outside the scope of those described in this brochure, please consult the Compoflex Technical Department.**

| | | | | | | |
|---|---|---|---|---|---|---|
| Methyl ethyl ketone | C | C | C | ● | ● | ● |
| Methyl ethylpyridine | C | C | C | ● | ● | × |
| Methyl formate | C | C | C | ● | ● | ● |
| Methyl isobutyl ketone | C | C | C | ● | ● | ● |
| Methyl methacrylate | C | C | C | ● | ● | ● |
| Methyl nitrobenzene | B | B | B | ● | ● | ● |
| Methyl pentene | B | B | B | ● | ● | ● |
| Methyl pyridene | B | B | B | ● | ● | ● |
| Methylstyrene | B | B | B | ● | ● | ● |
| Mineral jelly | A | A | A | ● | ● | ● |
| Mineral oil | B | B | B | ● | ● | ● |
| Mineral spirits | B | B | B | ● | ● | ● |
| Mineral wax | D | D | D | | | |
| Molasses | A | A | A | ● | ● | ● |
| Monoethanolamine | A | A | B | ● | ● | ● |
| Monoethylamine | B | B | C | ● | ● | ● |
| Monoisopropanolamine | B | B | D | ● | ● | ● |
| Mononitrobenzene | B | B | B | ● | ● | ● |
| Morpholine | B | B | C | ● | ● | ● |
| Naphtha | B | B | B | ● | ● | ● |
| Naphtha solvent | C | C | C | ● | ● | ● |
| Naphthalene (in solution) | A | A | A | ● | ● | ● |
| Naphthalene molten | D | D | D | × | × | × |
| Neohexane | B | B | B | ● | ● | ● |
| Nickel chloride (Saturated) | A | D | D | × | ● | × |
| Nickel salts, excluding chloride (Saturated) | A | B | D | × | ● | × |
| Nitric acid (< 10%) | A | A | D | × | ● | × |
| Nitric acid (10-60%) | C | C | D | × | ● | × |
| Nitric acid (> 60%) | Refer to 0976/0977 | | | × | ● | × |
| Nitrobenzene | B | B | B | ● | ● | × |
| O-nitrophenol (soln) | A | A | D | ● | ● | ● |
| Nitropropane | B | B | B | ● | ● | ● |
| Nitrotoluene | B | B | B | ● | ● | ● |
| Nonane | B | B | B | ● | ● | ● |
| Nonyl alcohol | B | B | B | ● | ● | ● |
| Nonylphenol | B | B | C | ● | ● | ● |
| Octane | B | B | B | ● | ● | ● |
| Octanol | B | B | B | ● | ● | ● |
| Octyl acetate | C | C | C | ● | ● | ● |
| Octyl acrylate | B | B | B | ● | ● | ● |
| Oleic acid | B | B | D | × | ● | × |
| Oleum | Refer to 0976/0977 | | | × | ● | × |
| Oxalic acid (< 50%) | B | B | D | × | ● | × |
| Palm oil | B | B | B | ● | ● | ● |
| Paraldehyde | C | C | C | ● | ● | ● |
| Pentachloroethane | C | C | C | ● | ● | × |
| 1, 3-pentadiene | C | C | C | ● | ● | ● |
| Pentane | B | B | B | ● | ● | ● |
| Pentanol | A | A | A | ● | ● | ● |
| Pentanone | B | B | B | ● | ● | ● |
| Pentene | B | B | B | ● | ● | ● |
| Perchloric acid (< 50%) | B | D | D | × | ● | × |
| Perchloroethylene | C | C | C | × | ● | ● |
| Petrolatum | A | A | A | ● | ● | ● |
| Phenol | A | A | B | × | ● | ● |
| Phenoxyethanol | C | C | C | ● | ● | ● |
| Phenylhydrazine | C | C | D | × | ● | × |
| Phosphoric acid (< 95%) | A | A | D | × | ● | × |
| Phosphorus oxychloride | C | D | D | Polypropylene | | |
| Phosphorus pentoxide | A | B | D | × | ● | × |
| Phosphorus trichloride | B | D | D | × | ● | × |
| Phosphorus | D | D | D | × | × | × |
| Phthalic acid (< 50%) | B | B | D | × | ● | × |
| Phthalic anhydride | D | D | D | × | × | × |
| Picric acid (1%) | B | B | D | × | ● | × |
| Pinene | B | B | B | ● | ● | ● |
| Pine oil | B | B | B | ● | ● | ● |
| Plasticisers most commercial | B | B | B | ● | ● | ● |
| Polyethylene glycol | B | B | B | ● | ● | ● |
| Polypropylene glycol | B | B | B | ● | ● | ● |
| Polymethylene polyphenyl isocyanate | B | B | B | ● | ● | ● |
| Potassium salts excluding halides (Saturated) | A | B | D | × | ● | × |
| Potassium halides | A | D | D | | | |
| Propyl alcohol | A | A | A | ● | ● | ● |
| Propenoic acid | B | B | D | × | ● | ● |
| Propiolactone | C | C | C | ● | ● | ● |
| Propionaldehyde | C | C | C | ● | ● | ● |
| Propionic acid | B | B | D | × | ● | ● |
| Propionic anhydride | C | C | D | × | ● | ● |
| Propyl acetate | C | C | C | ● | ● | ● |
| Propylamine | B | B | D | ● | ● | ● |
| Propylene glycol | A | A | A | ● | ● | ● |
| Propylene glycol monomethyl ether | B | B | B | ● | ● | ● |
| Propylene glycol monoethyl ether | B | B | B | ● | ● | ● |
| Propylene oxide (dedicated hose) | B | B | D | ● | ● | ● |
| Propylene (tetramer & trimer) | C | C | C | × | ● | ● |
| Prussic acid | A | A | D | × | ● | × |
| Pyridine | B | B | D | ● | ● | ● |
| Pyrosulphuric acid | Refer to 0976/0977 | | | × | ● | × |
| Salt solutions excluding halides | A | B | D | ● | ● | ● |
| Sea water | A | D | D | × | ● | ● |
| Sewage | B | B | D | ● | ● | ● |
| Silicon oil | A | A | A | ● | ● | ● |
| Silver salts excluding halides (Saturated) | A | B | D | ● | ● | ● |
| Silver halides (Saturated) | A | D | D | Polypropylene | | |
| Soap solutions | A | A | B | ● | ● | ● |
| Sodium salts excluding halides (Saturated) | A | B | D | ● | ● | ● |
| Sodium chlorate (solution of 50% or less) | A | A | D | × | ● | ● |
| Sodium chloride (Saturated) | A | B | D | × | ● | ● |
| Sodium chromate | B | B | B | ● | ● | ● |
| Sodium hydrosulphide | A | B | D | ● | ● | ● |
| Sodium hypochlorite (< 15%) | C | C | D | × | ● | × |
| Sodium hydroxide solution | A | A | C | ● | ● | ● |
| Stannous, stannic salts excluding halides | A | B | D | ● | ● | ● |
| Starch aqueous | A | A | B | ● | ● | ● |
| Styrene monomer | B | B | B | ● | ● | ● |
| Sugar syrup | A | A | A | ● | ● | ● |
| Sulphamic acid | A | A | D | × | ● | × |
| Sulpholane | D | D | D | × | × | × |
| Sulphonyl chloride<br>Sulphur chloride | Metallic /PTFE | | | | | |
| Sulphur dioxide | C | C | D | × | ● | × |
| Sulphur molten | Refer to 0939 | | | × | × | × |
| Sulphuric acid (< 20%) | B | B | D | ● | ● | × |
| Sulphuric acid (20-85%) | B | D | D | Polypropylene | | |
| Sulphuric acid (> 85%) | C | C | D | ● | ● | × |
| Sulphurous acid | B | B | D | ● | ● | × |
| Sulphuryl chloride | D | D | D | × | × | × |
| Tall oil | A | A | A | ● | ● | ● |
| Tallow | A | A | A | ● | ● | ● |
| Tannic acid (< 10%) | A | A | D | × | ● | ● |
| Tartaric acid | A | B | D | × | ● | ● |
| Tetrachloromethane | C | C | C | ● | ● | ● |
| Tetrachloroethylene | C | C | C | ● | ● | ● |
| Tetraethylene glycol | B | B | B | ● | ● | ● |
| Tetrahydrofuran | C | C | C | ● | ● | ● |
| Thionyl chloride | Metallic/PTFE | | | | | |
| Tin salts excluding halides (Saturated) | A | B | D | ● | ● | ● |
| Tin halides | A | D | D | Polypropylene | | |
| Titanium tetrachloride | C | D | D | Polypropylene | | |
| Toluene | C | C | C | ● | ● | ● |
| Toluene diisocyanate | B | B | B | ● | ● | ● |
| p-Toluidine | B | B | C | ● | ● | × |
| Tributylamine | B | B | B | ● | ● | ● |
| Tributyl phosphate | B | B | B | ● | ● | ● |
| Trichloroacetic acid (< 10%) | A | B | D | Polypropylene | | |
| Trichlorobenzene | C | C | C | ● | ● | ● |
| Trichloroethane | C | C | C | ● | ● | ● |
| Trichloroethylene | C | C | C | ● | ● | ● |
| Trichloropropane | C | C | C | ● | ● | ● |
| Tricresyl phosphate | B | B | B | ● | ● | ● |
| Tridecanol | B | B | B | ● | ● | ● |
| Triethanolamine | B | B | D | ● | ● | ● |
| Triethylamine | B | B | D | ● | ● | ● |
| Triethylbenzene | B | B | B | ● | ● | ● |
| Triethylene glycol | A | A | A | ● | ● | ● |
| Triethylene tetramine | B | B | D | ● | ● | ● |
| Triisopropanolamine | B | B | D | ● | ● | ● |
| Trimethyl acetic acid | A | A | D | ● | ● | ● |
| Trimethylbenzene | B | B | B | ● | ● | ● |
| Trioctyl phosphate | B | B | B | ● | ● | ● |
| Tripropylene glycol | A | A | A | ● | ● | ● |
| Tripropylene glycol monomethyl ether | C | C | C | ● | ● | ● |
| Tritolyl phosphate | B | B | B | ● | ● | ● |
| Truxylenyl phosphate | B | B | B | ● | ● | ● |
| Urea aqueous | A | B | B | ● | ● | × |
| Urea/ammonium salt solns | A | B | B | ● | ● | × |
| Urea/ammonia solution | A | B | B | ● | ● | × |
| Valeraldehyde | C | C | C | ● | ● | ● |
| Varsol | A | A | A | ● | ● | ● |
| Vegetable oils | A | A | A | ● | ● | ● |
| Vinegar | A | A | D | × | ● | ● |
| Vinyl acetate | B | B | C | ● | ● | ● |
| Vinyl chloride | Refer to 0940 | | | | | |
| Vinyl ethyl ether | C | C | C | ● | ● | ● |
| Vinylidene chloride | C | C | C | ● | ● | ● |
| Vinyl toluene | B | B | C | ● | ● | ● |
| Water | A | A | A | ● | ● | ● |
| Wine | B | B | D | × | ● | × |
| Xylene | C | C | C | ● | ● | ● |
| Xylenols | B | B | B | ● | ● | ● |
| Yeast aqueous | A | A | D | × | ● | ● |
| Zinc salts aqueous excluding halides | A | B | D | ● | ● | ● |
| Zinc halides | A | D | D | Polypropylene | | |

## CRYOGENICS

| Conveyant | Hose 1 | 2 | 3 | End Fittings CS | SS | CA |
|---|---|---|---|---|---|---|
| Butane liquid | Refer to 0940 | | | | | |
| Fluorinated refrigerants | Refer to 0940 | | | | | |
| Freons | Refer to 0940 | | | | | |
| Ammonia | Refer to 0940 | | | | | |
| Acetaldehyde | Refer to 0940 | | | | | |
| Butadiene | Refer to 0940 | | | | | |
| Butane/propane mixes | Refer to 0940 | | | | | |
| Butane | Refer to 0940 | | | | | |
| Butylene | Refer to 0940 | | | | | |
| Dimethylamine | Refer to 0940 | | | | | |
| Ethylamine | Refer to 0940 | | | | | |
| Ethyl chloride | Refer to 0940 | | | | | |
| Methyl acetylene | Refer to 0940 | | | | | |
| Methyl bromide | Refer to 0940 | | | | | |
| Propane | Refer to 0940 | | | | | |
| Propadiene | Refer to 0940 | | | | | |
| Propylene | Refer to 0940 | | | | | |
| Vinyl chloride | Refer to 0940 | | | | | |
| Refrigerant gases | Refer to 0940 | | | | | |

Compoflex with Confidence

# MAINTAINING THE VITAL LINK

## THE INSPECTION, CLEANING AND TESTING OF COMPOSITE HOSES

Compoflex hoses are designed to ensure the highest levels of reliability, durability and safety but, to maintain these levels, regular inspection, cleaning and testing are essential.

## INSPECTION

Worn or damaged hoses may be dangerous, so they should be visually checked before each operation and given a more rigorous examination at least every six months.

The inspection should pay attention to:

- ☐ Dents or kinks.
- ☐ Displacement of inner and outer reinforcing wires from their normal pitch.
- ☐ Corrosion or abrasion of the outer wire.
- ☐ Displacement of end fittings or signs of leakage from the ends.
- ☐ Other abnormal features including wear or damage to end fittings.
- ☐ Chemical attack, deterioration or physical damage to outer cover and carcass generally.

Hoses with any significant defects of the above type should be retired from service. Moderate abrasion of the outer cover is acceptable if the reinforcing fabrics below the cover are undamaged.

## CLEANING

Hoses should be cleaned after use and always before testing or prolonged storage. The most appropriate method will depend on the hose use and its location.

Flushing out is often sufficient, with fluids such as clean water, hot water, detergents, common solvents at ambient temperatures and sea-water. If sea-water is used, it must be thoroughly drained afterwards to minimise risk of corrosion on carbon steel end fittings or galvanised steel internal wires.

It is essential that any strong acid conveyants are thoroughly drained prior to cleaning, to avoid exothermic reaction. It is also important to fully drain the hose afterwards to ensure puddles of cleaning fluid are not left within the assembly. This avoids any possibility of chemical reaction when the hose re-enters service.

Loose steam may be used but the hose must be open-ended and its maximum working temperature must not be exceeded, since damage to the fabric or film may occur. Compressed air may be used, but again the hose must be open-ended.

During cleaning the hose must be electrically earthed to avoid static charge build-up, especially near flammable areas.

Pigging must not be used under any circumstances.

## TESTING

At least annually, hoses should be hydraulically tested as follows:

- ☐ Drain and thoroughly clean hose and check end-to-end electrical continuity.
- ☐ Inspect visually. Hoses failing visual inspection should not be tested.
- ☐ Lay hose straight out on supports or roller bed that allow free movement under pressure.
- ☐ Blank off ends and fill the hose completely with water. Ensure trapped air is released by tilting slightly.
- ☐ Pressurise the assembly to 1.5 times the maximum rated working pressure and hold at this pressure for 10 minutes while examining for leaks. Also test electrical continuity between ends to ensure that it is the same as initially checked.
- ☐ Release pressure and drain hose.
- ☐ On completion of the test, the hose should again be tested for electrical continuity.

It should be noted that with thermoplastic composite hose, elongation under pressure can be high relative to rubber. This is a feature of composite hoses and unlike rubber hoses, it cannot be taken as an indication of failure or used to assess the condition of the hose reinforcements.

## ELECTRICAL CONTINUITY TESTS

To prevent the accumulation of static charge generated in use, all metal parts of the assembly have been electrically bonded during manufacture. At intervals not exceeding six months, the following test should be carried out:

- ☐ Lay hose flat on the ground.
- ☐ Check that it is electrically continuous end-to-end with a simple battery and bulb test or an ohm meter.

Hoses not having electrically continuity should be retired from service.

## REPAIRS

Dependent on the overall condition, it may be possible to repair hoses which have been damaged in service. Please consult Compoflex's Technical Department or your authorised Compoflex distributor. The repair of polypropylene hoses requires specialist knowledge and should only be undertaken by trained personnel.

Full certification of what the hose has conveyed should be provided along with de-contamination certification before any hose is repaired.

Specialist advice on all aspects of hose inspection, testing and handling is freely available from Compoflex's Technical Department.

# Compoflex with Confidence

## MAINTAINING THE VITAL LINK

### COMPOFLEX HOSE HANDLING GUIDE

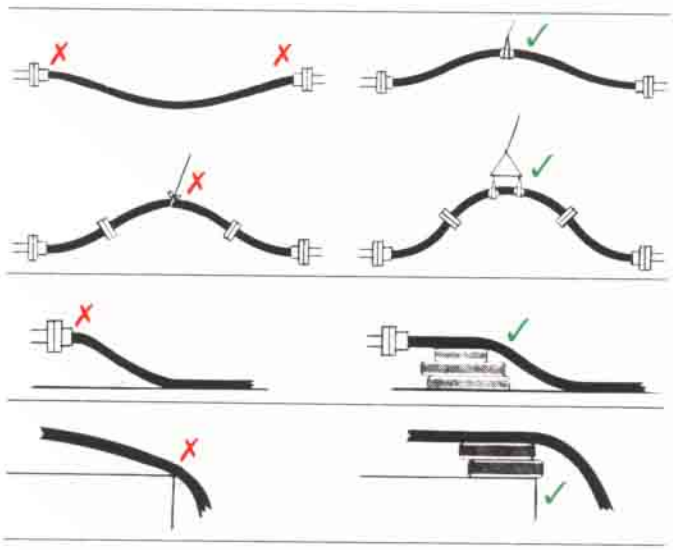
Compoflex hoses are noted for their durability but their life can be determined by how they are used in operation. To ensure maximum service life, follow these simple guidelines:

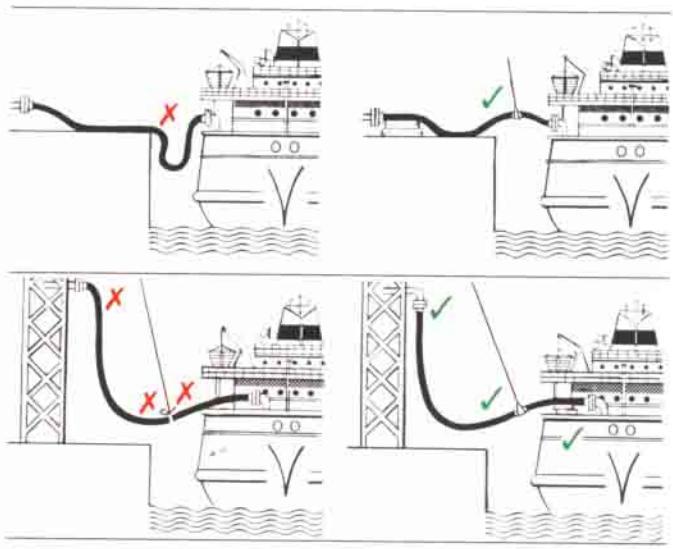
ALWAYS

- Support hose at appropriate points with slings.
- Support hose near manifold connections.
- Protect hose against sharp edges such as jetty edges and a ship's guard rail.
- Store hose in a straight line raised off the ground, preferably in a cool, dark area.

NEVER

- Use hose unsupported.
- Support hose with a single rope.
- Allow hose to droop between ship and jetty.
- Over bend hose.





## TECHNICAL ADVICE AND SPECIAL APPLICATIONS

United Flexible's Technical Department can offer expert advice on the selection of hose for particular applications. In addition, special versions of all Compoflex hoses can be produced to meet individual customer requirements.

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