

CRYOTEC 660



COLOUR	White
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CONSTRUCTION

TYPE LG: LG= Hoses for Liquid Petroleum Gas (LPG) handling

Temperature range : -50°C + 80°C

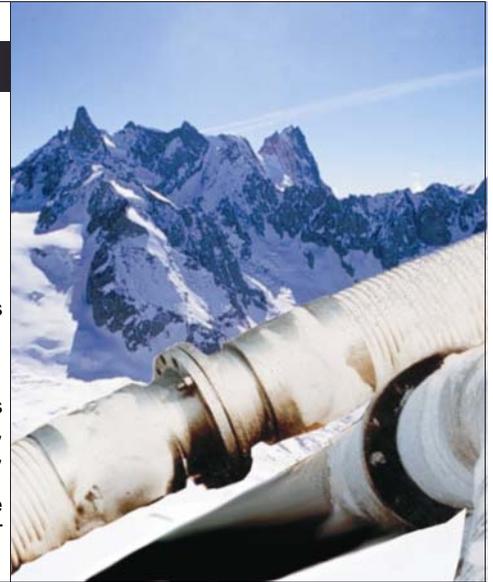
Working Pressure : a) 25 Bar for use on shore (EN 13766:2003 classified as Type 1 Class A)
 b) 20 Bar for use offshore (EN 13766:2003 classified as Type 1 Class B)

Liquid Petroleum Gas, can be Propane, butane, butylenes, propylenes mixed in any proportions, or as a separate components

LPG can be handled in bulk either by :

* Refrigeration down to minus 50°C - * Pressurisation (usually around 20 Bar) at ambient temperature. Cryogenic conveyants down to - 50 °C include the following products, as listed in Chap XIX IMO 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.*

Additional Polyamide fabrics and specific bi-oriented Polypropilene films are provided to guarantee flexibility even at minus 50°C, ensuring the assemblies better performances than other type of hoses or loading arms, when accommodating for vessel movements during transfer operation.



TYPE N: N= hoses for Liquefied Natural Gas (LNG) at extremely low temperatures

Temperature range : -175°C + 80°C

Working Pressure : a) 13 Bar for use on shore (EN 13766:2003 classified as Type 2 Class A)
 b) 10,5 Bar for use offshore (EN 13766:2003 classified as Type 2 Class B)

CRYOTEC 660 N hoses are similar in design but designed for liquid gases such as Liquid Nitrogen and LNG liquefied natural gas (Methane) at extremely low temperatures down to -175°C.

Additional Polyester fabrics and specific bi-oriented Polypropilene films are provided to guarantee flexibility even at minus 200°C, ensuring the assemblies better performances than other type of hoses or loading arms, when accommodating for vessel movements during transfer operation.

COMPOTEC® CRYOTEC 660 has been designed around several multi-layers of polyamide fabrics and films, or polyester fabric and films, reinforced with internal and external wire spirals of 316 Stainless Steel, achieving dual wire electrical continuity by bonding to the end fittings thus safely dissipating static electrical charges which maybe generated during the fluids transfer. CRYOTEC 660 offers superior low temperature and high pressure characteristics. CRYOTEC 660 includes in the construction FEP extruded tubular and Mylar® films. An outer protection, against accidental burns, can be provided if required (Rope lagging). All CRYOTEC 660 hoses have factory fitted end connections. COMPOTEC® CRYOTEC 660 are manufactured in two types, each type is subdivided into two classes, one for onshore duties, and the other for offshore:

CHARACTERISTICS AND APPLICATIONS

Specifically engineered as a transfer hose in the production, distribution and use of cryogenic conveyants and liquefied gasses under pressure at low temperatures. CRYOTEC 660 hoses are used in such applications as transfer for rail and road tanker loading and unloading, storage tank and in-plant applications. Larger bore hoses are used for ship to shore and ship to ship applications.

To transport LPG or LNG gases it is standard economic practice to liquefy them either by means of pressure or refrigeration. Hoses for this application must be ductile at cryogenic temperatures. COMPOTEC® CRYOTEC hoses for liquid gas transfer form an important part of the extensive range on non-metallic flexible hoses offered by the COMPOTEC® division of Matec Industriale group. CRYOTEC LG hose is certified by D N V as complying the requirements of CE Directive 97/23 "PED" and is manufactured complying the requirements of EN 13766 and Paragraphs 5:4 and 5:7 of the IMO Gas Carrier Code, and Paragraphs 5:3 and 5:7 of the IMO Chemical Carrier Code for working temperatures down to -50°C

CRYOTEC N hose is also suitable for handling Liquefied Natural Gas (LNG), Liquid Methane at -163 °C and liquid Nitrogen at -175°C.

SAFETY

COMPOTEC® CRYOTEC assemblies are tested at 1 ½ times rated working pressures for safety and reliability, in accordance with BS 5842:1980 clause 6.4 (EN ISO 1402). The securing ferrule, at one end of the hose, is permanently marked by embossing, with manufacturer's name, nominal bore, serial number and the test date . Full test certification can be supplied on request.

Burst pressure indicated, is at ambient temperature when tested in accordance with BS 5173 section 102.10:1990 (EN ISO 1402). Electrical continuity is achieved by the two wires bonded to the end fittings, this helps dissipate accumulated charge and to avoid static flash. The electric resistance of hose assemblies is less than 10 ohms, as required by BS 5842:1980 clause 6.2 (EN ISO 8031). Upon request it's possibile to manufacture CRYOTEC 660 hoses in accordance to the Directive 94/9/EC "ATEX", with a special outer antistatic black cover.

CRYOTEC 660



COMPOTEC®

INSULATION

The multi-layered thermoplastic wall of CRYOTEC 660 hoses, offers good insulation properties, especially if compared to metallic hoses, and this can be further enhanced by optional rope lagging.

FEATURES

Flexibility: compared to metal and rubber hoses, Cryotec 660 LG hose is easier to handle and will retain its flexibility at low temperatures thus offering superior dynamic response compared to loading arms and other hoses when compensating for ships movement during transfer operations

Resistance: Cryotec 660 hoses are resistant to attack of Marine corrosion from salt air or salt water. The special construction ensures that ice cannot built up between corrugations.

Electrical Continuity: All hoses are electrically continuous from end to end, through both, inner and outer wires.

Weight: Cryotec 660 hoses are significantly lighter than metallic and rubber hoses

Size		Maximum W.P. bar		Min. Burst (bar) EN ISO 1402		Bend Radius (mm) EN ISO 1746		Weight	Max length	
mm	inch	660 LG	660 N	660 LG	660 N	mm	inch	Kg/mt	Mt	Ft
20	¾"	25	13	100	52,5	80	3	1,0	35	120
25	1"	25	13	100	52,5	150	6	1,1	35	120
32	1 ¼"	25	13	100	52,5	175	7	1,5	35	120
40	1 ½"	25	13	100	52,5	175	7	1,8	35	120
50	2"	25	13	100	52,5	200	8	2,5	35	120
65	2 ½"	25	13	100	52,5	200	8	3,9	35	120
75	3"	25	13	100	52,5	250	10	4,2	35	120
80	3 5/32"	25	13	100	52,5	250	10	4,3	35	120
100	4"	25	13	100	52,5	500	20	5,3	35	120
150	6"	25	13	100	52,5	660	26	13,5	20	66
200	8"	25	13	100	52,5	910	36	21,0	20	66
250	10"	15	13	60	52,5	1250	50	31,0	12	40



- All hoses are available in an assortment of colours and it is possible, on request, and with a minimum purchase order, to add a "customer labelling" or "product labelling" to the outside wall
- Burst pressure indicated is at ambient temperature. Maximum temperature rating can only be maintained when working within limits of working pressure
- Each hose assembly is permanently marked on the ferrule at one end according to EN 13766:2003.