# HYDROCARBON - OIL

COMPOTEC® is a multi-layer thermoplastic hose manufactured from Polypropylene, Polyethylene and Polyester films and Polypropylene fabrics, with a weatherproof and abrasion resistant outer cover made of Polymeric coated Polyester fabric. Outer cover is also available in ELASTAR, a special PU coated fabric; its UV, Ozone, Sunlight and weathering resistance, offers superior temperature and abrasion characteristics.

All the different layers are wrapped together and tensioned between internal and external wire spirals. This enables our product to meet the requirement of the Petrol-chemical industry and those of the oil tank truck industry.

COMPOTEC<sup>®</sup> assemblies are fitted with an extensive range of couplings readily available, externally swaged with crimping ferrules.

COMPOTEC® assemblies are tested at 1 1/2 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 engraving, with manufacturer's name, nominal bore, the hose assembly serial number and the test date. The marking of hose assemblies is made in compliance with PED Directive (97/23/ CE). Full test certification can be supplied on request. COMPOTEC<sup>®</sup> hoses can be supplied in the FIRETEC version with ADR self-estinguish CL2 cover.

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 COMPO-TEC<sup>®</sup> hoses in accordance to the Dire ctive 94/9/EC "ATEX", with a special outer antistatic black cover.

COMPOTEC® OIL 800 HD and OIL SD hoses are specially engineered for the transfer of hydrocarbons, including oils, petrol, diesel, lubricating oils, paraffin and 100% aromatics, in all kinds of transfer. Suitable for MTBE and Unleaded petrol.

### **OIL 800 HD - HEAVY DUTY**

Applications: Heavy Duty construction for the transfer of a wide variety of hydrocarbon conveyant under suction or pressure. Used for black oils and heavier lubricating products, Ship to Shore and Ship to Ship, Dockside and in general for the most arduous Industrial and Marine applications. Commonly used for all hose loading arms in Bottom Loading operations, thanks to the special reinforcement for minimal elongation.

Construction: High strength polypropylene and polyester films and fabrics, high density polyethylene films reinforcement, includes in the construction an High Density UHMW PLT seamless tubular extruded film, to avoid any possible leak and guarantee a gas-tight construction, Vinyl coated polyester fabric cover, fire resistant, abrasion, weather and ozone resistant. Available in 40 mt coils from 3/4" to 8" and 25 mt length up to 12".

COMPOTEC<sup>®</sup> OIL 800 HD hose assemblies are certified by D N V as complying the requirements of CE Directive 97/23 "PED" and are manufactured in accordance with the requirements of Paragraphs 2:12 and 5:7 of the IMO Chemical Carrier Code

### **OIL SD - STANDARD DUTY**

Applications : General purpose Standard Duty hose suitable for the safe transfer of a wide variety of hydrocarbons, including fuel oils, petrol, diesel, lubricating oils, kerosene, and 100% aromatics under suction or pressure. Commonly used for road and rail tanker loading and discharging, storage tank and in-plant use. Suitable as flexible hose for Top Loading arms. Available in 40 mt coils from 3/4" up to 8".

Construction: High strength polypropylene films and fabrics, high density polyethylene films reinforcement, Vinyl coated polyester fabric cover, fire resistant, abrasion, weather and ozone resistant

### LIGHT WEIGHT OIL LD - VAPOUR RECOVERY

Applications: General purpose Light Duty hose is ideal for use in petroleum and petrochemical vapor recovery systems. Type with Aluminium wire is significantly lighter making it particularly suitable for petrol forecourt deliveries. Meets BS 3492 - BX Class 1 for Aviation fuels. Complies with USCG Marine Vapour control system 33CFR Part 154.810

100% Antistatic - Electrically continuous

Meets EN, CE, U.S. Coast Guard requirements, NAHAD Guidelines, DNV Approved. ATEX on request.





**COMPOTEC**<sup>®</sup>

					and the second sec									
Si	ize	Maxim	num W.P.	Safety Factor	Bend F (ENISC	Radius 01746)	Weight	Maximu	ım Lenght					
mm	Inch	Bar	P.S.I.		mm	Inch	Kg. / mt	Mt.	Feet					
20	33	15	200	5:1	75	3	0,78	40	132					
25	1"	15	200	5:1	100	4	0,94	40	132					
32	1"	15	200	5:1	125	5	1,26	40	132					
40	1 ‴	15	200	5:1	140	5 1/2	1,48	40	132			<b>•</b>		
50	2"	15	200	5:1	180	7	2,16	40	132			<b>O</b>	<b>IL 80</b>	UHD
65	2 ‴	15	200	5:1	220	8,5	3	40	132					••••
75/80	3"	15	200	5:1	280	11	3,56	40	132	Code	OIL 800HD ZZ	OIL 800HD ZX	OIL 800HD XZ	OIL 800HD XX
100	4"	15	200	5:1	400	16	5,19	40	132	Applications		Fuel / O	il Liquids	
150	6"	15	200	5:1	575	23	11,52	40	132	Colour		Blue /	Black	
200	8"	15	200	5:1	800	32	16,2	40	132	Temperatures		-40 +	100°C	
250	10"	15	200	5:1	1000	40	22,78	25	82	Inner wire	Galv. Steel	Galv. Steel	Stain. Steel	Stain. Steel
300	12"	15	200	5:1	1200	48	31,57	25	82	Outer wire	Galv. Steel	Stain. Steel	Galv. Steel	Stain. Steel

## STANDARD DUTY HYDROCARBON SUCTION & DISCHARGE HOSE EN 13765:2010 TYPE 2

				1											
	Si	ze	Max	imum W.P.	Safety Factor	Bend R (ENISO	adius 1746)	Weight	Maximur	m Lenght					
m	m	Inch	Bar	P.S.I.		mm	Inch	Kg. / mt	Mt.	Feet					
2	5	1"	10	150	5:1	75	3	0,92	40	132					
3	2	1"	10	150	5:1	80	3	1,03	40	132				U	
4	0	1 ‴	10	150	5:1	100	4	1,21	40	132					
5	0	2"	10	150	5:1	150	6	1,62	40	132	Code	OIL SD ZZ	OIL SD ZX	OIL SD XZ	OIL SD XX
6	i5	2 ‴	10	150	5:1	200	8	2,05	40	132	Applications		Fuel / O	il Liquids	
75	/80	3"	10	150	5:1	250	10	2,42	40	132	Colour		BI	ue	
10	00	4"	10	150	5:1	300	12	4,02	40	132	Temperatures		-30 +	- 80°C	
15	50	6"	10	150	5:1	500	20	9,6	40	132	Inner wire	Galv. Steel	Galv. Steel	Stain. Steel	Stain. Steel
20	00	8"	10	150	5:1	740	29	13,59	40	132	Outer wire	Galv. Steel	Stain. Steel	Galv. Steel	Stain. Steel
5	LI	GTH		IGTH	I HYDI	ROCAR	BON	SUCT		& DIS	SCHAR	GE HOSE	EN 137	6 <b>5:2010</b>	FYPE 1
	Siz	ze	Maxim	um W.P.	Safety Factor	Bend Radius (ENISO1746)	۷ AZ	Veight AA	Max Le	kimum enght					
m	nm	Inch	Bar	P.S.I.		mm Inc	n Kg./mt	Kg. / m	nt Mt.	Feet			11	O	IL LD
4	10	1 ‴	10	150	4:1	100 4	0,96	0,65	40	132					
5	50	2"	10	150	4:1	150 6	1.32	0.94	40	132	Code	VAPOROIL ZZ	VAPOROIL ZX	OIL LD AZ	OIL LD AA

1.2						E /									
s	ize	Maxim	num W.P.	Safety Factor	Bend F (ENISC	Radius 01746)	W AZ	eight AA	Max Le	imum nght					
mm	Inch	Bar	P.S.I.		mm	Inch	Kg. / mt	Kg. / mt	Mt.	Feet		and the second s			
40	1 ‴	10	150	4:1	100	4	0,96	0,65	40	132					
50	2"	10	150	4:1	150	6	1,32	0,94	40	132	Code	VAPOROIL ZZ	VAPOROIL ZX	OIL LD AZ	OIL LD AA
65	2 ‴	10	150	4:1	200	8	1,67	1,23	40	132	Applications		Fuel / Oil	- Vapours	
75/80	3"	10	150	4:1	250	10	1,98	1,49	40	132	Colour		Orange	/ Yellow	
100	4"	10	150	4:1	300	12	3,21	2,31	40	132	Temperatures		-20 +	80°C	
150	6"	10	150	4:1	500	20	7,50	6,52	40	132	Inner wire	Galv. Steel	Galv. Steel	Aluminium	Aluminium
200	8"	10	150	4:1	740	29	10,70	9,40	40	132	Outer wire	Galv. Steel	Stain. Steel	Galv. Steel	Aluminium









### Test procedures:

BS 5173-102.10:1990 section 102.10 - (EN ISO 1402) AS1180.5-1999 (method 5) AS 1180.13B (Electrical resistance) AS1180.13C (Electrical continuity)

### Type Approval

Lloyd's Register Type Approved - Cert. N° 13/00002 DNV - Det Norske Veritas - Type Approval Cert. N° P-12369 RINA - Registro Italiano Navale - Cert. N° MAC/81398/1/TO/99 Russian Maritime Register of Shipping IBC Code Chapter 5 - Ship's Cargo hoses IMO Chemical Carrier Code - Paragraphs 2:12 and 5:7

### Welding Process

in according to EN 15608:2005 - EN 439:1996 - EN 15614-1:2005 - EN 6848:2005 - EN 12072:2001 certified by DNV - Det Norske Veritas in according to ASME IX certified by RINA



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# HYDROCARBONS OILS



# CHEMICALS - CHEM

COMPOTEC® is a multi-layer thermoplastic hose manufactured from Polypropylene, Polyethylene and Polyester films and Polypropylene fabrics, with a weatherproof and abrasion resistant outer cover made of Polymeric coated Polyester fabric. Outer cover is also available in ELASTAR, a special PU coated fabric; its UV, Ozone, Sunlight and weathering resistance, offers superior temperature and abrasion characteristics.

All the different layers are wrapped together and tensioned between internal and external wire spirals. This enables our product to meet the requirement of the Petrol-chemical industry and those of the oil tank truck industry.

COMPOTEC<sup>®</sup> assemblies are fitted with an extensive range of couplings readily available, externally swaged with crimping ferrules.

COMPOTEC<sup>®</sup> assemblies are tested at 1 1/2 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 engraving, with manufacturer's name, nominal bore, the hose assembly serial number and the test date. The marking of hose assemblies is made in compliance with PED Directive (97/23/ CE). Full test certification can be supplied on request.  $\textbf{COMPOTEC}^{\texttt{®}}$  hoses can be supplied in the <code>FIRETEC</code> version with ADR self-estinguish CL2 cover.

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 COMPO-TEC® hoses in accordance to the Dire ctive 94/9/EC "ATEX", with a special outer antistatic black cover.

COMPOTEC<sup>®</sup> CHEM 700 HD and CHEM SD are chemically compatible and mechanically engineered to handle a wide range of hazardous chemicals. Extremely flexible, easy to handle and bend, All hoses are 100% aromatic resistant, antistatic and can be used for suction or discharge. Vacuum rating is 0,9 bar, according to the EN ISO 7233 method B.

### CHEM 700 HD - HEAVY DUTY

Applications: Heavy Duty construction for the transfer of a wide range of chemicals under suction or pressure. Used for Ship to Shore and Ship to Ship, Dockside and in general for the most arduous Industrial and Marine applications.

Construction: High strength polypropylene and polyester films and fabrics, high density polyethylene films reinforcement, includes in the construction an High Density UHMW PLT seamless tubular extruded film, to avoid any possible leak and guarantee a gas-tight construction, Vinyl coated polyester fabric cover,fire resistant, abrasion, weather and ozone resistant. Available in 40 mt coils from 3/4" to 8" and 25 mt length up to 12".

COMPOTEC<sup>®</sup> CHEM 700 HD hose assemblies are certified by D N V as complying the requirements of CE Directive 97/23 "PED" and are manufactured in accordance with the requirements of Paragraphs 2:12 and 5:7 of the IMO Chemical Carrier Code

### **CHEM SD - STANDARD DUTY**

Applications : General purpose Standard Duty hose suitable for the safe transfer of a wide variety of Chemicals under suction or pressure. Commonly used for loading and unloading of road and rail tankers, storage tank and in-plant applications. Suitable as flexible hose for Top Loading arms. Available in 40 mt coils from 3/4" up to 8".

Construction: High strength polypropylene films and fabrics, high density polyethylene films reinforcement, Vinyl coated polyester fabric cover, fire resistant, abrasion, weather and ozone resistant.

### LIGHT WEIGHT CHEM LD - VAPOUR RECOVERY HOSE

Applications: General purpose Light Duty hose is ideal for use in petrochemical vapor recovery systems. It's commonly used in vapour return lines in tank truck operations. Complies with USCG Marine Vapour control system 33CFR Part 154.810

### 100% Antistatic - Electrically continuous

Meets EN, CE, U.S. Coast Guard requirements, NAHAD Guidelines, DNV Approved. ATEX on request









### HEAVY DUTY CHEMICAL SUCTION & DISCHARGE HOSE EN 13765:2010 TYPE 3

Si	ze	Maxin	num W.P.	Safety	Bend F (ENISC	Radius 01746)	Weight	Maximu	ım Lenght					
mm	Inch	Bar	P.S.I.	Factor	mm	Inch	Kg. / mt	Mt.	Feet					
20	**	15	200	5:1	75	3	0,67	40	132					
25	1"	15	200	5:1	100	4	0,81	40	132					
32	1"	15	200	5:1	125	5	1,05	40	132					
40	1 ‴	15	200	5:1	140	5 1/2	1,33	40	132					
50	2"	15	200	5:1	180	7	2,03	40	132			СПС	<b>IVI 7 U</b> U	υΠυ
65	2 ‴	15	200	5:1	220	8,5	2,69	40	132					
75/80	3"	15	200	5:1	280	11	3,08	40	132	Code	CHEM 700HD PZ	CHEM 700HD PX	CHEM 700HD XZ	CHEM 700HD >
100	4"	15	200	5:1	400	16	4,66	40	132	Applications		Chemicals / S	ovents Liquids	
150	6"	15	200	5:1	575	23	9,66	40	132	Colour		Green	/ Black	
200	8"	15	200	5:1	800	32	13,35	40	132	Temperatures		-40 +	100°C	
250	10"	15	200	5:1	1000	40	21,08	25	82	Inner wire	PP Coat. Steel	PP Coated Steel	Stainless Steel	Stainless Stee
300	12"	15	200	5:1	1200	48	31,48	25	82	Outer wire	Galv. Steel	Stainless Steel	Galv. Steel	Stainless Stee

## STANDARD DUTY CHEMICAL SUCTION & DISCHARGE HOSE EN 13765:2010 TYPE 2

S	ize	Maxin	num W.P.	Safety	Bend F (ENISC	Radius 01746)	Weight	Maximu	m Lenght	-		-		
mm	Inch	Bar	P.S.I.	Factor	mm	Inch	Kg. / mt	Mt.	Feet				15	
25	1"	10	150	5:1	75	3	0,78	40	132			100		
32	1"	10	150	5:1	80	3	0,88	40	132			50 0	CUEN	ก อบ
40	1 ‴	10	150	5:1	100	4	1,02	40	132			1.00	-	
50	2"	10	150	5:1	150	6	1,52	40	132	Code	CHEM SD PZ	CHEM SD PX	CHEM SD XZ	CHEM SD XX
65	2 ‴	10	150	5:1	200	8	2	40	132	Applications		Chemicals / S	ovents Liquids	
75/80	3"	10	150	5:1	250	10	2,5	40	132	Colour		Gr	een	
100	4"	10	150	5:1	300	12	3,54	40	132	Temperatures		-30 +	- 80°C	
150	6"	10	150	5:1	500	20	8,67	40	132	Inner wire	PP Coat. Steel	PP Coated Steel	Stainless Steel	Stainless Stee
200	8"	10	150	5:1	740	29	11,43	40	132	Outer wire	Galv. Steel	Stainless Steel	Galv. Steel	Stainless Stee
200		1					N					191		101
LIG	HT V	VEIG	HT CI	HEMIC		UCTIC	ON & E	DISCH	HAR	GE HOS	E EN 137	765:2010	TYPE 1	-
LIG	HT V	VEIG	HT CI	HEMIC	AL S	UCTIC		DISCI	HAR	GE HOS	E EN 137	765:2010		0. 0.
LIG	HT V	VEIG	IHT CI	HEMIC Safety	Bend F	UCTIC Radius D1746)	ON & C	DISCI	HAR C	GE HOS	E EN 137	765:2010	TYPE 1 CHE	MLC
LIG	HT V ize Inch	VEIG Maxin Bar	IHT CI	HEMIC Safety Factor	Bend F (ENISC mm	UCTIC Radius D1746) Inch	Weight Kg. / mt	DISCH Maximu Mt.	HARC Im Lenght Feet	GE HOS	E EN 137	765:2010 VAPORCHEM PX	TYPE 1 CHE	M LD VAPORCHEM X
LIG s mm 40	HT V ize Inch 1 <sup>-</sup> "	VEIG Maxin Bar 10	HT CI num W.P. P.S.I. 150	HEMIC Safety Factor 4:1	Bend F (ENISC mm 100	UCTIC Radius 01746) Inch 4	Weight Kg. / mt 0,98	Maximu Mt. 40	HARC Im Lenght Feet 132	SE HOS	E EN 137	765:2010 VAPORCHEM PX Chemicals / So	TYPE 1 CHEI VAPORCHEM XZ Wents Vapours	
LIG s mm 40 50	HT V ize Inch 1 <sup>-71</sup> 2"	VEIG Maxin Bar 10 10	HT CI num W.P. P.S.I. 150 150	Safety Factor 4:1 4:1	Bend F (ENISC mm 100 150	UCTIC Radius 01746) Inch 4 6	Weight Kg. / mt 0,98 1,34	Maximu Mt. 40	HARC Im Lenght Feet 132 132	SE HOS	E EN 137	765:2010 VAPORCHEM PX Chemicals / So Orange	TYPE 1 CHEI VAPORCHEM XZ Vvents Vapours / Yellow	M LD VAPORCHEM X
LIG s mm 40 50 65	HT V ize Inch 1 <sup>~~</sup> 2 <sup>~</sup> 2 <sup>~</sup>	VEIG Maxin Bar 10 10 10	HT Cl num W.P. P.S.I. 150 150 150	Safety Factor 4:1 4:1	Bend F (ENISC mm 100 150 200	UCTIC Radius D1746) Inch 4 6 8	Weight Kg. / mt 0,98 1,34 1,85	Maximu Mt. 40 40 40	HARC m Lenght Feet 132 132 132	Code Applications Colour Temperatures	E EN 137	765:2010 VAPORCHEM PX Chemicals / So Orange -20 +	TYPE 1 CHEE VAPORCHEM XZ Vvents Vapours / Yellow 80°C	VAPORCHEM X
LIG s mm 40 50 65 75/80	HT V	VEIG Maxin Bar 10 10 10 10	HT CI num W.P. P.S.I. 150 150 150	Safety     Factor     4:1     4:1	Bend F (ENISC) mm 100 150 200 250	UCTIC Radius 01746) Inch 4 6 8 10	Weight Kg. / mt 0,98 1,34 1,85 2,11	Maximu Mt. 40 40 40	HARC m Lenght Feet 132 132 132 132	Code Applications Colour Temperatures Inner wire	E EN 137 VAPORCHEM PZ PP Coated Steel	765:2010 VAPORCHEM PX Chemicals / So Orange -20 + PP Coated Steel	TYPE 1 CHEE VAPORCHEM XZ Vents Vapours /Yellow 80°C Stainless Steel	M LD VAPORCHEM X Stainless Stee

S	ize	Maxim	num W.P.	Safety	Bend F	Radius 01746)	Weight	Maximu	m Lenght	-		_		
mm	Inch	Bar	P.S.I.	Factor	mm	Inch	Kg. / mt	Mt.	Feet	-			11	
25	1"	10	150	5:1	75	3	0,78	40	132			1 1	CUEN	
32	1"	10	150	5:1	80	3	0,88	40	132			100 100	CUEN	<b>N 2D</b>
40	1 ‴	10	150	5:1	100	4	1,02	40	132			1.00	-	
50	2"	10	150	5:1	150	6	1,52	40	132	Code	CHEM SD PZ	CHEM SD PX	CHEM SD XZ	CHEM SD XX
65	2 ‴	10	150	5:1	200	8	2	40	132	Applications		Chemicals / So	ovents Liquids	
75/80	3"	10	150	5:1	250	10	2,5	40	132	Colour		Gre	een	
100	4"	10	150	5:1	300	12	3,54	40	132	Temperatures		-30 +	80°C	
150	6"	10	150	5:1	500	20	8,67	40	132	Inner wire	PP Coat. Steel	PP Coated Steel	Stainless Steel	Stainless Steel
200	8"	10	150	5:1	740	29	11,43	40	132	Outer wire	Galv. Steel	Stainless Steel	Galv. Steel	Stainless Steel
-	1						N					1991		010
LIG	нт у	VEIG	нт сі	HEMIC	AL SI	UCTIC	ON & D	DISCI	HARC	SE HOS	E EN 137	765:2010 <sup>-</sup>	TYPE 1	0
LIG	HT V	VEIG	HT CI	HEMIC	AL SI	UCTIO	ON & E	DISCI	HARC	SE HOS	E EN 137	765:2010 <sup>-</sup>		
LIG	HT V	VEIG	i <b>HT CI</b>	HEMIC Safety	Bend F	UCTIC Radius D1746)	ON & C	DISCI	HAR (	SE HOS	E EN 137	65:2010	TYPE 1 CHE	MLD
LIGI	HT V ize Inch	VEIG Maxin Bar	HT CI	HEMIC Safety Factor	Bend F (ENISC mm	UCTIC Radius D1746) Inch	ON & C	DISCI Maximu Mt.	HARC Im Lenght Feet	SE HOS	E EN 137	765:2010 VAPORCHEM PX	TYPE 1 CHE	M LD VAPORCHEM X
LIG s mm 40	HT V ize Inch 1 <sup>71</sup>	VEIG Maxin Bar 10	HT CI	HEMIC Safety Factor 4:1	Bend F (ENISC mm 100	UCTIC Radius D1746) Inch 4	Weight Kg. / mt 0,98	Maximu Mt. 40	HARC Im Lenght Feet 132	Code Applications	E EN 137	765:2010 VAPORCHEM PX Chemicals / So	TYPE 1 CHEI VAPORCHEM XZ Vents Vapours	M LD VAPORCHEM X
LIG S mm 40 50	HT V ize Inch 1 <sup>-71</sup> 2"	VEIG Maxin Bar 10 10	HT CI num W.P. P.S.I. 150 150	HEMIC Safety Factor 4:1 4:1	Bend F (ENISC mm 100 150	UCTIC Radius D1746) Inch 4 6	Weight Kg. / mt 0,98 1,34	Maximu Mt. 40 40	HARC Im Lenght Feet 132 132	Code Applications Colour	E EN 137	765:2010 VAPORCHEM PX Chemicals / So Orange	TYPE 1 CHE VAPORCHEM XZ Vents Vapours / Yellow	M LD VAPORCHEM X
LIG S mm 40 50 65	HT V ize Inch 1 <sup>-79</sup> 2 <sup>°°</sup>	VEIG Maxin Bar 10 10 10	HT CI num W.P. P.S.I. 150 150	Safety Factor 4:1 4:1 4:1	Bend F (ENISC mm 100 150 200	UCTIC Radius D1746) Inch 4 6 8	Weight Kg./mt 0,98 1,34 1,85	Maximu Mt. 40 40 40	HARC m Lenght Feet 132 132 132	Code Applications Colour Temperatures	E EN 137	765:2010 WAPORCHEM PX Chemicals / So Orange -20 +	TYPE 1 CHE VAPORCHEM XZ Vents Vapours / Yellow 80°C	M LD VAPORCHEM X
LIG S mm 40 50 65 75/80	HT V ize Inch 1 <sup>-71</sup> 2 <sup>-71</sup> 3"	VEIG Maxin Bar 10 10 10 10	HT Cl num W.P. P.S.I. 150 150 150	Safety Factor 4:1 4:1 4:1 4:1	Bend F (ENISC mm 100 150 200 250	UCTIC Radius 01746) Inch 4 6 8 10	Weight Kg. / mt 0,98 1,34 1,85 2,11	Maximu Mt. 40 40 40 40	HAR( m Lenght Feet 132 132 132 132	Code Applications Colour Temperatures Inner wire	E EN 137 VAPORCHEM PZ PP Coated Steel	765:2010 VAPORCHEM PX Chemicals / So Orange -20 + PP Coated Steel	TYPE 1 CHEE VAPORCHEM XZ Vents Vapours / Yellow 80°C Stainless Steel	M LD VAPORCHEM X Stainless Steel



Test procedures:

BS 5173-102.10:1990 section 102.10 - (EN ISO 1402) AS1180.5-1999 (method 5) AS 1180.13B (Electrical resistance) AS1180.13C (Electrical continuity)

Type Approval

Lloyd's Register Type Approved - Cert. N° 13/00002 DNV - Det Norske Veritas - Type Approval Cert. N° P-12369 RINA - Registro Italiano Navale - Cert. N° MAC/81398/1/TO/99 Russian Maritime Register of Shipping IBC Code Chapter 5 - Ship's Cargo hoses IMO Chemical Carrier Code - Paragraphs 2:12 and 5:7

Welding Process

in according to EN 15608:2005 - EN 439:1996 - EN 15614-1:2005 - EN 6848:2005 - EN 12072:2001 certified by DNV - Det Norske Veritas in according to ASME IX certified by RINA



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# CHEMICALS

# AGGRESSIVE CHEMICALS - PTFE

The superior chemically inert quality of Fluoropolymers, makes COMPOTEC® PTFE hoses ideals for the transfer of a wide range of very hazardous chemicals. This universal hose can help eliminate the costly redundancy of inventory to maintain the various hose constructions usually required.

PTFE SD, the Standard Duty hose with a WP of 10 Bar and bore diameters between " and 8", is constructed around ECTFE inner liner, whilst Heavy Duty PTFE 300 HD, up to 12", WP 15 Bar, is manufactured around the new PTFE laminate film NANOTEC®, obtained with the latest and highest standard of Nanotechnology, ensuring unique mec hanical strength and ZERO porosity, NANOTEC® technology is a Patented Design exclusive and unique, belonging to MATEC GROUP. All the different layers are wrapped together and tensioned between inner and outer spirals.

COMPOTEC® assemblies are fitted with an extensive range of couplings that can also be PTFE tafted or treated, readily available, externally swaged with crimping ferrules. COMPOTEC® assemblies are tested in accordance with EN ISO 1402. The securing ferrule is permanently engraved, with hose datas, in compliance with PED Directive (97/23/ CE). COMPOTEC® hoses can be supplied in the FIRETEC version with ADR self-estinguish CL2 cover.

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 EN ISO 8031. Upon request it's possibile to manufacture COMPOTEC® hoses in accordance to the Directive 94/9/EC "ATEX", with a special outer antistatic black cover.

### PTFE 300 HD - HEAVY DUTY AGGRESSIVE CHEMS - NANOTEC® INSIDE

Applications: PTFE 300 HD, Heavy Duty construction for aggressive chemicals Suction & Delivery. Used for Ship to Shore and Ship to Ship, Dockside and in general for the most arduous Industrial and Marine applications. This type of hose uses as a first layer the new patended NANOTEC® PTFE film, for superior chemical inertness.

Construction: COMPOTEC® PTFE 300 HD is a multi-layer thermoplastic hose designed with NANOTEC® PTFE laminate film. NANOTEC® is a flexible, tear resistant material with superior capabilities compared to other PTFE products . NANOTEC® is made of 100% PTFE making it impervious to "chemical attack" and eliminating the need for reinforcements. Regardless of the chemical environment Nanotec retains all of its physical properties. NANOTEC® a ZERO porosity material!!! Using an innovative nanotechnology cross-lamination process results in NANOTEC® having an incredible 360° tear strength, superb durability and operating temps of up to 316°C/600°F.

COMPOTEC® PTFE HD includes in the construction an FEP tubular extruded film to avoid any possible leak and guarantee a gas-tight construction. All the different layers are wrapped together and tensioned between internal and external wire spirals. Available in 40 mt coils from 3/4" to 8" and 25 mt up to 12".

Outer cover is also available in ELASTAR, a special PU coated fabric; its UV, Ozone, sunlight and weather resistance, offers superior temperature and abrasion resistance.

### CHEMCHLOR 900 HD - HIGHLY AGGRESSIVE CHEMS - NANOTEC INSIDE

Applications: CHEMCHLOR 900 is a specific hose designed for very aggressive chemicals suction or delivery. It is used in such applications as transfer of all the Chlorine derivates, Hydrochloric acid, Nitric and Sulphuric acid. Heavy Duty construction, can be used for Ship to Shore and Ship to Ship, Dockside and in general for the most arduous Industrial and Marine applications. This type of hose use as a first layer the new patended NANOTEC® PTFE film, for superior chemical inertness.

Construction: Inner first layer in contact with the wet parts, is made with the unique NANOTEC®, PTFE film, ensuring the highest mechanical strength and ZERO porosity, high strength polypropylene and MYLAR films and fabrics, high density polyethylene films reinforcement, includes in the construction an FEP seamless tubular extruded film, to avoid any possible leak and guarantee a gastight construction, Vinyl coated polyester fabric cover, fire resistant, abrasion, weather and ozone resistant. Available in 40 mt coils from 3/4" to 8" and 25 mt length up to 12". Outer cover is also available in ELASTAR, a special PU coated fabric; its UV, Ozone, Sunlight and weathering resistance, offers superior temperature and abrasion characteristics.

### PTFE SD - STANDARD DUTY AGGRESSIVE CHEMS

Applications : General purpose Standard Duty hose suitable for the safe transfer of a wide variety of Chemicals under suction or pressure where the chemical resistance of polypropylene is inadequate. Commonly used for loading and unloading of road and rail tankers, storage tank and in-plant applications. Available in 40 mt coils from 3/4" up to 8".

Construction: Inner first laver in contact with the fluid is made with ECTFE films. High strength polypropylene films and fabrics, high density polyethylene films reinforcement, Vinyl coated polyester fabric cover, fire resistant, abrasion, weather and ozone resistant.







### HEAVY DUTY PTFE SUCTION & DISCHARGE HOSE EN 13765:2010 TYPE 3

S	ize	Maxim	num W.P.	Safety	Bend F (ENISC	Radius 01746)	Weight	Maximu	m Lenght			
mm	Inch	Bar	P.S.I.	Factor	mm	Inch	Kg. / mt	Mt.	Feet			
20	33	15	200	5:1	75	3	0,89	40	132			
25	1"	15	200	5:1	100	4	1,12	40	132		PIFE	- 300 HD
32	1"	15	200	5:1	125	5	1,45	40	132			
40	1 ‴	15	200	5:1	140	5 1/2	1,69	40	132	N	IANOTEC	
50	2"	15	200	5:1	180	7	2,4	40	132		NANUIEU	
65	2 ‴	15	200	5:1	220	8,5	3,36	40	132			
75/80	3"	15	200	5:1	280	11	3,96	40	132	Code	PTFE 300 HD XZ	PTFE 300 HD XX
100	4"	15	200	5:1	400	16	5,73	40	132	Applications	Aggressive Che	micals Liquids
150	6"	15	200	5:1	575	23	12,41	40	132	Colour	Re	d
200	8"	15	200	5:1	800	32	17,18	40	132	Temperatures	-40 + 1	20°C
250	10"	15	200	5:1	1000	40	24,77	25	82	Inner wire	Stainless Steel	Stainless Steel
300	12"	15	200	5:1	1200	48	33,97	25	82	Outer wire	Galvanised Steel	Stainless Steel

## HIGHLY AGGRESSIVE HEAVY DUTY PTFE SUCTION & DISCH. HOSE EN 13765:2010 TYPE 3

Size   Maximum W.P.   Safety   Bend Radius (ENSOTA4)   Weight   Maximum Length (ENSOTA4)     mm   Inch   Bar   P.S.I.   Factor   mm   Inch   Kg. / mt   Mt.   Feet Peet   Feet													
Inch   Bar   PS.I.   Factor   mm   Inch   Kg./mt   Mt.   Feet     20   *   15   200   5:1   100   4   1.17   40   132     32   1   15   200   5:1   100   4   1.17   40   132     40   1   15   200   5:1   125   5   1.45   40   132     50   2'   15   200   5:1   180   7   2.51   40   132     65   2''   15   200   5:1   280   3.5   40   132     7500   3'   15   200   5:1   400   182   Colour   Mapilications     100   4''   15   200   5:1   800   32   15   40   132     200   8'1   900   51   800   32   1mer wire   PVDF Coat. Stainless Steel   PVDF Coated Stainless Steel     300	Size	e	Maxim	num W.P.	Safety	Bend F (ENISC	Radius 01746)	Weight	Maximur	m Lenght		1	
20 " 15 200 5:1 75 3 0.93 40 132   25 1" 15 200 5:1 100 4 1,17 40 132   40 1" 15 200 5:1 125 5 1,145 40 132   40 1" 15 200 5:1 140 512 1.69 40 132   65 2" 15 200 5:1 280 13 39 40 132   65 2" 15 200 5:1 280 11 3.9 40 132   75/80 3" 15 200 5:1 400 132 Code CHEMCHLOR 900HDFX CHEMCHLOR 90 PP   40 152 200 5:1 800 32 15.5 40 132 Temperatures -40 + 120°C 100 40 122 10 100 120 5.5 40 132 Temperatures -40 + 120°C Code Stainless Steel PVDF Coated Stainless Steel PUDF Coated St	mm l	Inch	Bar	P.S.I.	Factor	mm	Inch	Kg. / mt	Mt.	Feet			
25 1" 15 200 5:1 100 4 1,17 40 132   32 1 " 15 200 5:1 125 5 1,45 40 132   30 1 " 15 200 5:1 140 5 140 132   50 2" 15 200 5:1 140 7 2.51 40 132   55 2" 15 200 5:1 200 5:1 200 11 3.9 40 132   56 2" 15 200 5:1 200 16 5.5 40 132 Code CHEMCHLOR 900HDFX CHEMCHLOR 900 FP   100 4" 15 200 5:1 800 32 15.5 40 132   200 8" 15 200 5:1 1000 40 22 25 82   300 12" 15 200 5:1 1000 40 22 25 82   Stri 100 40 1	20	**	15	200	5:1	75	3	0,93	40	132			
32 1 15 200 5:1 125 5 1.45 40 132   40 1 1 15 200 5:1 140 51/2 1.69 40 132   65 2." 15 200 5:1 200 8:5 3.35 40 132   65 2." 15 200 5:1 200 8:5 3.35 40 132   75/80 3" 15 200 5:1 280 11 3.9 40 132   75/80 3" 15 200 5:1 400 16 5:5 40 132   75/80 6" 15 200 5:1 575 23 11 40 132   200 8" 15 200 5:1 100 40 122 25 82   300 12" 15 200 5:1 120 48 29.19 25 82 Outer wire Stainless Steel PDF Coated Stainless Steel   300 12" 15	25	1"	15	200	5:1	100	4	1,17	40	132	CHE	-мсні об	
40 1" 15 200 5:1 140 5 1/2 1.69 40 132   50 2" 15 200 5:1 180 7 2.51 40 132   75%0 3" 15 200 5:1 280 11 3.9 40 132   75%0 3" 15 200 5:1 280 11 3.9 40 132   100 4" 15 200 5:1 400 16 5.5 40 132 Code CHEMCHLOR 900HDFX CHEMCHLOR 900 FP   100 4" 15 200 5:1 800 32 15.5 40 132   200 8" 15 200 5:1 100 40 22 25 82   010'' 15 200 5:1 100 40 22 25 82   Outer wire VDT PTFE SUCTION & DISCHARGE HOSE EN 13765 : 2010 TYPE 2   Stanless Steel PVD Coated Stanless Steel   012 150 5:1 75 <th< td=""><td>32 1</td><td>1"</td><td>15</td><td>200</td><td>5:1</td><td>125</td><td>5</td><td>1,45</td><td>40</td><td>132</td><td></td><td></td><td></td></th<>	32 1	1"	15	200	5:1	125	5	1,45	40	132			
50 2" 15 200 5:1 180 7 2.51 40 132   65 2." 15 200 5:1 220 8.5 3.35 40 132   7580 3" 15 200 5:1 220 8.5 3.35 40 132   100 4" 15 200 5:1 200 16 5.5 40 132 Applications Highly aggressive Chemicals Liquids   100 4" 15 200 5:1 575 23 11 40 132 Code CHEMCHLOR 900HDFX CHEMCHLOR 900 FP   200 8" 15 200 5:1 800 32 15.5 40 132   300 12" 15 200 5:1 1000 40 22 25 82   300 12" 15 200 5:1 1000 40 22 82 137 13765 2010 TYPE 2   Statel Maximum W.P. Safety Bend Radius (ENSO1746) Weight (ENSO1746) Max	40 1	1 ‴	15	200	5:1	140	5 1/2	1,69	40	132		IANOTE/	
65 2 <sup>-n</sup> 15 200 5.11 220 8.5 3.35 40 132   75/80 3 <sup>-1</sup> 15 200 5.11 280 11 3.9 40 132   75/80 3 <sup>-1</sup> 15 200 5.11 280 11 3.9 40 132 Applications Highly aggressive Chemicals Liquids   100 4 <sup>+1</sup> 15 200 5.11 575 2.3 11 40 132 Applications Highly aggressive Chemicals Liquids   200 8 <sup>+1</sup> 15 200 5.11 800 3.2 15.5 40 132 Colour Yellow   200 8 <sup>+1</sup> 15 200 5.11 1000 40 22 25 82 Outer wire PVDF Coat. Stainless Steel PVDF Coated Stainless Steel   300 12 <sup>+1</sup> 10 50 5.11 100 44 29.19 25 82 Outer wire Stainless Steel PVDF Coated Steel   Size Maximum W.P. Safety Bend Radius (ENISO1746) Weight (ENISO1746) <th< td=""><td>50</td><td>2"</td><td>15</td><td>200</td><td>5:1</td><td>180</td><td>7</td><td>2,51</td><td>40</td><td>132</td><td></td><td>NAINUTEU</td><td></td></th<>	50	2"	15	200	5:1	180	7	2,51	40	132		NAINUTEU	
T5/80 3* 15 200 5.1 280 11 3.9 40 132 Code CHEMCHLOR 900HDFX CHEMCHLOR 900 FP   100 4* 15 200 5.1 400 16 5.5 40 132 Applications Highly aggressive Chemicals Liquids   200 8* 15 200 5.1 800 32 15.5 40 132 Colour Yellow   200 8* 15 200 5.1 800 32 15.5 40 132 Colour Yellow   200 8* 15 200 5.1 1000 40 22 25 82 Inner wire PVDF Coat. Stainless Steel PVDF Coated Stainless Steel PVDF Coated Stainless Steel PP Coated Steel   300 12* 15 200 5.1 1200 48 29.19 25 82 Outer wire Stainless Steel PVDF Coated Stainless Steel PP Coated Steel   Intervine PSI. Factor mm Inch Kg./mt Mt Feet 40 132 <	65 2	2 ‴	15	200	5:1	220	8,5	3,35	40	132			
100 4" 15 200 5:1 400 16 5.5 40 132 Applications Highly aggressive Chemicals Liquids   150 6' 15 200 5:1 575 23 11 40 132 Colour Yellow   200 8' 15 200 5:1 100 32 15,5 40 132 Colour Yellow   200 8' 15 200 5:1 100 40 22 25 82 Inner wire PVDF Coat. Stainless Steel PVDF Coated Stainless Steel   300 12" 15 200 5:1 1200 48 29,19 25 82 Outer wire Stainless Steel PP Coated Steel   State Maximum W.P. Safety Bend Radius (ENISO1746) Weight Maximum Lenght Applications Aggressive Chemicals Liquids   32 1 * 10 150	75/80	3"	15	200	5:1	280	11	3,9	40	132	Code	CHEMCHLOR 900HDFX	CHEMCHLOR 900 FP
150 6" 15 200 5:1 575 23 11 40 132 Colour Yellow   200 8" 15 200 5:1 800 32 15.5 40 132 Temperatures -40+120°C   250 10" 15 200 5:1 1000 40 22 25 82 Inner wire PVDF Coat. Stainless Steel PVDF Coated Stainless Steel   300 12" 15 200 5:1 1200 48 29.19 25 82 Outer wire Stainless Steel PVDF Coated Stainless Steel   PSIL PTFE SUCTION & DISCHARGE HOSE EN 13765: 2010 TYPE 2   Size Maximum W.P. Safety Bend Radius (ENISO1746) Weight Maximum Lenght (ENISO1746) Maximum Lenght Feet ECTFEE INSCIDE ECTFEE INSCIDE   23 1" 10 150 5:1 75 3 1 40 132 Ecte PTE SD PZ PTFE SD PZ   40 1"" 10 150 5:1 100 4 1,31 40 132	100	4"	15	200	5:1	400	16	5,5	40	132	Applications	Highly aggressive	Chemicals Liquids
200 8" 15 200 5:1 800 32 15,5 40 132   250 10" 15 200 5:1 1000 40 22 25 82   300 12" 15 200 5:1 1200 48 29,19 25 82   STANDARD DUTY PTFE SUCTION & DISCHARGE HOSE EN 13765: 2010 TYPE 2   State water with the state of the sta	150	6"	15	200	5:1	575	23	11	40	132	Colour	Ye	llow
250 10" 15 200 5:1 1000 40 22 25 82 Inner wire PVDF Coat. Stainless Steel PVDF Coated Stainless Steel PVDF Coated Stainless Steel   300 12" 15 200 5:1 1200 48 29,19 25 82 Outer wire PVDF Coat. Stainless Steel PVDF Coated Stainless Steel   Stainless Steel PUTY PTFE SUCTION & DISCHARGE HOSE EN 13765: 2010 TYPE 2   mm Inch Bar P.S.I. Factor Mn Mch. Feet   25 1" 10 150 5:1 100 4 1,31 40 132   40 1" 10 150 5:1 100 4 1,31 40 132   50 2" 10 150 5:1 100 4 1,31 40 132   65 2" 10 150 5:1 100 8 2,2 40 132   75/80 3" 10 150 5:1 300 12 4,26 40 132   10	200	8"	15	200	5:1	800	32	15,5	40	132	Temperatures	-40 +	120°C
300 12" 15 200 5:1 1200 48 29,19 25 82 Outer wire Stainless Steel PP Coated Steel   STANDARD DUTY PTFE SUCTION & DISCHARGE HOSE EN 13765:2010 TYPE 2   Size Maximum W.P. Safety Bend Radius (ENISO1746) Weight Maximum Lenght Mt. Feet Feet PTFE SUCTION & DISCHARGE HOSE EN 13765:2010 TYPE 2   mm Inch Bar P.S.I. Factor mm Inch Kg./mt Mt. Feet   25 1" 10 150 5:1 75 3 1 40 132   32 1" 10 150 5:1 100 4 1,31 40 132   50 2" 10 150 5:1 100 4 1,32 Applications Aggressive Chemicals Liquids   75/80 3" 10 150 5:1 200 10 2.6 40 132 Colour Red   100 4" 10 150 5:1 200 10 2.6 40 132 Colour	250	10"	15	200	5:1	1000	40	22	25	82	Inner wire	PVDF Coat. Stainless Steel	PVDF Coated Stainless Steel
STANDARD DUTY PTFE SUCTION & DISCHARGE HOSE EN 13765: 2010 TYPE 2   Size Maximum W.P. Safety Bend Radius (NISO1746) Weight Maximum Lenght   mm Inch Bar P.S.I. Factor mm Inch Kg./mt Mt. Feet   23 1 10 150 5:1 75 3 1 40 132   40 1.11 10 150 5:1 100 4 1,31 40 132   50 2.2" 10 150 5:1 100 6 1,75 40 132   50 2.7" 10 150 5:1 100 6 1,75 40 132   75/80 3" 10 150 5:1 200 8 2.2 40 132 Colour Red   100 4" 10 150 5:1 200 8 2.2 40 132 Colour Red   100 4" 10 150 5:1 200 12 Applications Aggressive Chemicals Liquids	300	12"	15	200	5:1	1200	48	29,19	25	82	Outer wire	Stainless Steel	PP Coated Steel
Size   Maximum W.P.   Safety   Bend Radius (ENISO1746)   Weight   Maximum Lenght     mm   Inch   Bar   P.S.I.   Factor   mm   Inch   Kg./mt   Mt.   Feet     25   1"   10   150   5:1   75   3   1   40   132     32   1<"   10   150   5:1   80   3   1,12   40   132     50   2"   10   150   5:1   100   4   1,31   40   132     50   2"   10   150   5:1   100   4   1,32     50   2"   10   150   5:1   200   8   2,2   40   132     50   2"   10   150   5:1   200   8   2,2   40   132   Code   PTFE SD PZ   PTFE SD PX     75/80   3"   10   150   5:1   200   12   4,26   40   132   Colour </th <th></th> <th></th> <th></th> <th></th> <th></th> <th>1</th> <th>1</th> <th></th> <th></th> <th></th> <th>2</th> <th></th> <th></th>						1	1				2		
mm   Inch   Bar   P.S.I.   Factor   mm   Inch   Kg./mt   Mt.   Feet     25   1"   10   150   5:1   75   3   1   40   132     32   1<"	STAN	NDA	RD	DUTY	PTFE	SUCT		& DIS	CHAF	RGE	HOSE EN 1:	3765:2010 TYPE	2
25 1" 10 150 5:1 75 3 1 40 132   32 1 10 150 5:1 80 3 1,12 40 132   40 1" 10 150 5:1 100 4 1,31 40 132   50 2" 10 150 5:1 100 4 1,31 40 132   65 2" 10 150 5:1 150 6 1,75 40 132 Code PTFE SD PZ PTFE SD PX   65 2" 10 150 5:1 200 8 2,2 40 132 Coler Regressive Chemicals Liquids   75/80 3" 10 150 5:1 250 10 2,6 40 132 Colour Red   100 4" 10 150 5:1 300 12 4,26 40 132 Temperatures -30 + 80°C   150 6" 10 150 5:1 500 20 9,72 40<	STAN Size	NDA	RD	DUTY	PTFE	SUCT Bend R (ENISC	CION Radius 1746)	& DISC Weight	CHAR	RGE I	HOSE EN 1:	3765:2010 TYPE	2 PTFE SD
32 1 10 150 5:1 80 3 1,12 40 132   40 1 <sup>m</sup> 10 150 5:1 100 4 1,31 40 132   50 2 <sup>m</sup> 10 150 5:1 100 4 1,31 40 132   65 2 <sup>m</sup> 10 150 5:1 150 6 1,75 40 132 Code PTFE SD PZ PTFE SD PX   65 2 <sup>m</sup> 10 150 5:1 200 8 2,2 40 132 Code PTFE SD PZ PTFE SD PX   65 2 <sup>m</sup> 10 150 5:1 200 8 2,2 40 132 Cole PTFE SD PZ PTFE SD PX   65 2 <sup>m</sup> 10 150 5:1 200 8 2,2 40 132 Colour Red   100 4 <sup>m</sup> 10 150 5:1 300 12 4,26 40 132 Temperatures -30 + 80°C   150 6 <sup>m</sup> 10 150<	STAN Size mm I	NDA a	RD Maxim Bar	DUTY num W.P. P.S.I.	PTFE Safety Factor	Bend R (ENISC mm	CION adius 11746) Inch	& DISC Weight Kg. / mt	CHAF Maximun Mt.	RGE	HOSE EN 1	3765:2010 TYPE	PTFE SD
40 1 "" 10 150 5:1 100 4 1,31 40 132   50 2" 10 150 5:1 150 6 1,75 40 132 Code PTFE SD PZ PTFE SD PX   65 2 " 10 150 5:1 200 8 2,2 40 132 Applications Aggressive Chemicals Liquids   75/80 3" 10 150 5:1 250 10 2,6 40 132 Colour Red   100 4" 10 150 5:1 300 12 4,26 40 132 Colour Red   100 4" 10 150 5:1 300 12 4,26 40 132 Temperatures -30 + 80°C   150 6" 10 150 5:1 500 20 9,72 40 132 Inner wire PP Coated Steel PP Coated Steel PP Coated Steel PP Coated Steel PU coated	STAN Size mm I 25	NDA a Inch 1"	RD Maxim Bar 10	DUTY num W.P. P.S.I. 150	PTFE Safety Factor 5:1	Bend R (ENISC mm 75	CION Radius 17746) Inch 3	& DISC Weight Kg. / mt 1	CHAR Maximun Mt. 40	n Lenght Feet 132	HOSE EN 1:	B765:2010 TYPE	PTFE SD
50 2" 10 150 5:1 150 6 1,75 40 132 Code PTFE SD PZ PTFE SD PX   65 2 "" 10 150 5:1 200 8 2,2 40 132 Applications Aggressive Chemicals Liquids   75/80 3" 10 150 5:1 250 10 2,6 40 132 Colour Red   100 4" 10 150 5:1 300 12 4,26 40 132 Colour Red   100 4" 10 150 5:1 300 12 4,26 40 132 Temperatures -30 + 80°C   150 6" 10 150 5:1 500 20 9,72 40 132 Inner wire PP Coated Steel PP Coated Steel PP Coated Steel PP Coated Steel PO control Steel PC of the Steel	STAN Size mm I 25 32 1	Inch 1"	RD Maxim Bar 10 10	DUTY num W.P. P.S.I. 150 150	Safety Factor 5:1 5:1	Bend R (ENISC mm 75 80	CION Cadius 10746) Inch 3 3	& DISC Weight Kg. / mt 1 1,12	Maximun Mt. 40 40	n Lenght Feet 132 132	HOSE EN 1:	3765:2010 TYPE ECTFE	2 PTFE SD E INSIDE
65 2 <sup>-ni</sup> 10 150 5:1 200 8 2,2 40 132 Applications Aggressive Chemicals Liquids   75/80 3" 10 150 5:1 250 10 2,6 40 132 Colour Red   100 4" 10 150 5:1 300 12 4,26 40 132 Colour Red   150 6" 10 150 5:1 300 12 4,26 40 132 Temperatures -30 + 80°C   150 6" 10 150 5:1 500 20 9,72 40 132 Inner wire PP Coated Steel PP Coated Steel   150 6" 10 150 5:1 700 20 40 132 Inner wire PP Coated Steel PP Coated Steel PP Coated Steel PP Coated Steel PU contents Structure	STAN Size mm 1 25 32 1 40 1	<b>IDA</b> 1" 1" 1"	Maxim Bar 10 10 10	DUTY num W.P. P.S.I. 150 150 150	Safety Factor 5:1 5:1 5:1	Bend R (ENISC mm 75 80 100	CION Cadius 11746) Inch 3 3 4	& DIS( Weight Kg./mt 1 1,12 1,31	Maximun Mt. 40 40 40	RGE n Lenght Feet 132 132 132	HOSE EN 1:	B765:2010 TYPE	2 PTFE SD INSIDE
75/80   3"   10   150   5:1   250   10   2,6   40   132   Colour   Red     100   4"   10   150   5:1   300   12   4,26   40   132   Temperatures   -30 + 80°C     150   6"   10   150   5:1   500   20   9,72   40   132   Inner wire   PP Coated Steel   PP Coated Steel   PC Coated S	STAN Size mm 1 25 32 1 40 1 50	Inch 1" 1 " 2"	RD Maxim Bar 10 10 10 10	DUTY num W.P. P.S.I. 150 150 150 150	Safety     Factor     5:1     5:1     5:1     5:1	Bend R (ENISC mm 75 80 100 150	CION adius 17746) Inch 3 3 4 6	& DIS( Weight Kg. / mt 1 1,12 1,31 1,75	Maximum     Mt.     40     40     40     40     40     40	RGE n Lenght Feet 132 132 132 132 132	HOSE EN 1	3765:2010 TYPE ECTFE PTFE SD PZ	2 PTFE SD INSIDE PTFE SD PX
100   4"   10   150   5:1   300   12   4,26   40   132   Temperatures   -30 + 80°C     150   6"   10   150   5:1   500   20   9,72   40   132   Inner wire   PP Coated Steel   PP Coated Steel     000   6"   10   150   5:1   500   20   9,72   40   132   Inner wire   PP Coated Steel   PP Coated Steel   PC coated Steel	STAN Size mm 1 25 32 1 40 1 50 65 2	<b>IDA</b> 1" 1" 1" 2" 2"	Maxim Bar 10 10 10 10 10 10	DUTY num W.P. P.S.I. 150 150 150 150 150	Safety     Factor     5:1     5:1     5:1     5:1     5:1     5:1	Bend R (ENISC mm 75 80 100 150 200	CION Cadius 1746) Inch 3 3 4 6 8	& DIS Weight Kg./mt 1,12 1,31 1,75 2,2	Maximum     Mt.     40     40     40     40     40     40     40	RGE   n Lenght 132 132 132 132 132 132	HOSE EN 1:	3765:2010 TYPE ECTFE PTFE SD PZ Aggressive Chu	2 PTFE SD INSIDE PTFE SD PX emicals Liquids
150   6"   10   150   5:1   500   20   9,72   40   132   Inner wire   PP Coated Steel   PP Coated Steel     000   001   4007   40   132   Outputies   004 miles   004 m	STAN Size mm 1 25 32 1 40 1 50 65 2 75/80	<b>Inch</b> 1" 1" 2" 2" 3"	Maxim Bar 10 10 10 10 10 10 10 10	DUTY P.S.I. 150 150 150 150 150 150	Safety     Factor     5:1     5:1     5:1     5:1     5:1     5:1     5:1     5:1	Bend R (ENISC mm 75 80 100 150 200 250	radius 1746) Inch 3 3 4 6 8 10	& DIS Weight Kg./mt 1 1,12 1,31 1,75 2,2 2,6	Maximum     Mt.     40     40     40     40     40     40     40     40     40     40     40     40	RGE   n Lenght Feet 132 132 132 132 132 132 132	HOSE EN 1:	3765:2010 TYPE ECTFE PTFE SD PZ Aggressive Chr	2 PTFE SD INSIDE PTFE SD PX emicals Liquids ed
	STAN Size mm 1 25 32 1 40 1 50 65 2 75/80 100	DDA Inch 1" 1" 2" 2" 3" 4"	RD Maxim Bar 10 10 10 10 10 10 10 10	DUTY P.S.I. 150 150 150 150 150 150 150	Safety     Factor     5:1     5:1     5:1     5:1     5:1     5:1     5:1     5:1     5:1	Bend R (ENISC mm 75 80 100 150 200 250 300	Eadius 11746) Inch 3 3 4 6 8 10 12	& DISC Weight Kg. / mt 1 1,12 1,31 1,75 2,2 2,6 4,26	Maximun     Mt.     40     40     40     40     40     40     40     40     40     40     40     40	RGE   n Lenght 132 132 132 132 132 132 132 132	HOSE EN 1: Code Applications Colour Temperatures	B765:2010 TYPE ECTFE ECTFE PTE SD PZ Aggressive Chu Ra -30 +	E 2 PTFE SD PTE SD PX emicals Liquids ed 80°C
200 8 10 150 5:1 740 29 13,87 40 132 Outer wire Galvanised Steel Stainless Steel	STAN Size mm 1 25 32 1 40 1 50 65 2 75/80 100 150	DDA Inch 1" 1" 2" 2" 2" 3" 4" 6"	RD Maxim Bar 10 10 10 10 10 10 10 10 10 10	DUTY P.S.I. 150 150 150 150 150 150 150 150	Safety     Factor     5:1     5:1     5:1     5:1     5:1     5:1     5:1     5:1     5:1     5:1     5:1     5:1     5:1     5:1     5:1     5:1     5:1	Bend R (ENISC mm 75 80 100 150 200 250 300 500	CION (1746) (1746) (1nch 3 3 4 6 6 8 10 12 20	& DISC Weight Kg. / mt 1,12 1,31 1,75 2,2 2,6 4,26 9,72	Maximun     Mt.     40	RGE n Lenght Feet 132 132 132 132 132 132 132 132	HOSE EN 1: Code Applications Colour Temperatures Inner wire	B765:2010 TYPE ECTFE PTFE SD PZ Aggressive Chu Ra -30 + PP Coated Steel	PTFE SD PX PTFE SD PX PTFE SD PX emicals Liquids ad 80°C PP Coated Steel

S	170	Movin	ouro W/ P	Safoty	Bend F	Radius	Woight	Maximu	m Longht		it.	
5		IVIDAIII	DOI	Jalety	(ENISC	D1746)	weight	IVIAAIITIU			-	
mm	Inch	Bar	P.S.I.	Factor	mm	Inch	Kg. / mt	Mt.	Feet			
20		15	200	5:1	75	3	0,93	40	132	0110		
25	1″	15	200	5:1	100	4	1,17	40	132	CHE	ENCHLO	<b>X 900 HD</b>
32	1 "	15	200	5:1	125	5	1,45	40	132			
40	1 ""	15	200	5:1	140	5 1/2	1,69	40	132		ΝΛΝΟΤΕ	
50	2"	15	200	5:1	180	7	2,51	40	132			CINGIDE
65	2 ***	15	200	5:1	220	8,5	3,35	40	132			
75/80	3"	15	200	5:1	280	11	3,9	40	132	Code	CHEMCHLOR 900HDFX	CHEMCHLOR 900 FP
100	4"	15	200	5:1	400	16	5,5	40	132	Applications	Highly aggressive	e Chemicals Liquids
150	6"	15	200	5:1	575	23	11	40	132	Colour	Ye	ellow
200	8"	15	200	5:1	800	32	15,5	40	132	Temperatures	-40 -	+ 120°C
250	10"	15	200	5:1	1000	40	22	25	82	Inner wire	PVDF Coat. Stainless Steel	PVDF Coated Stainless Steel
200	4.0"	45	()()()				214 I.14	~~				
300 STA	12"			DTEE	SUCT		23,19 8 DIG	СПУС			2765-2010 TVD	
300 STA	12"		DUTY	PTFE	SUCT	TION	& DIS	CHAF	RGE	HOSE EN 1	3765:2010 TYPI	E 2
300 STA	12"	15 ARD Maxim	DUTY	Safety	SUCT Bend F (ENISC	TION Radius 01746)	& DIS Weight	CHAF	NGE I	HOSE EN 1	3765:2010 TYPI	E 2 PTFE SD
300 STA Si mm	12"	15 ARD Maxim Bar	DUTY	Safety Factor	Bend F (ENISC mm	TION Radius 01746) Inch	Weight Kg. / mt	CHAF Maximur Mt.	n Lenght Feet	HOSE EN 1	3765:2010 TYPI	E 2 PTFE SD
300 STA Si mm 25	12" NDA ize Inch 1"	15 ARD Maxim Bar 10	DUTY num W.P. P.S.I. 150	Safety Factor 5:1	Bend F (ENISC mm 75	TION Radius 01746) Inch 3	& DIS Weight Kg./mt 1	Maximur Mt. 40	n Lenght Feet 132	HOSE EN 1	3765:2010 TYPI	E 2 PTFE SD F INSIDE
300 STA Si mm 25 32	12" NDA ize Inch 1"	15 ARD Maxim Bar 10 10	200 DUTY num W.P. P.S.I. 150 150	Safety Factor 5:1 5:1	Bend F (ENISC mm 75 80	Radius D1746) Inch 3 3	Weight Kg. / mt 1 1,12	Maximur Mt. 40 40	n Lenght Feet 132 132	HOSE EN 1	3765:2010 TYPI ECTFI	E 2 PTFE SD E INSIDE
300 STA Si mm 25 32 40	12" NDA ze Inch 1" 1 " 1 "	15 ARD Maxim Bar 10 10 10	200 DUTY num W.P. P.S.I. 150 150 150	Safety Factor 5:1 5:1 5:1	Bend F (ENISC mm 75 80 100	Radius D1746) Inch 3 3 4	Weight Kg. / mt 1,12 1,31	LS     CHAF     Maximur     Mt.     40     40     40	n Lenght Feet 132 132 132	HOSE EN 1	3765:2010 TYPI ECTFI	E 2 PTFE SD E INSIDE
230 300 STA Si mm 25 32 40 50	12" NDA ze Inch 1" 1 " 1 " 2"	15 ARD Maxim Bar 10 10 10 10 10	200 DUTY P.S.I. 150 150 150 150	5:1 PTFE Safety Factor 5:1 5:1 5:1 5:1	Bend F (ENISC mm 75 80 100 150	Radius D1746) Inch 3 4 6	Weight Kg. / mt 1 1,12 1,31 1,75	23 CHAF Maximur Mt. 40 40 40	n Lenght Feet 132 132 132 132	HOSE EN 1	3765:2010 TYPI ECTFI PTFE SD PZ	E 2 PTFE SD PX
230 300 STA Si mm 25 32 40 50 65	12" NDA ze Inch 1" 1 " 1 " 2" 2 "	15 RD Maxim Bar 10 10 10 10 10 10	200 DUTY P.S.I. 150 150 150 150 150	5:1 PTFE Safety Factor 5:1 5:1 5:1 5:1 5:1	Bend F (ENISC mm 75 80 100 150 200	40 <b>FION</b> Radius 01746) Inch 3 3 4 6 8	Weight Kg. / mt 1 1,12 1,31 1,75 2,2	23 CHAF Maximur Mt. 40 40 40 40 40	62 RGE I n Lenght 132 132 132 132 132	HOSE EN 1	3765:2010 TYPI ECTFI PTFE SD PZ Aggressive Ch	E 2 PTFE SD E INSIDE PTFE SD PX nemicals Liquids
230 300 STA Si mm 25 32 40 50 65 75/80	12" NDA ze Inch 1" 1" 2" 2" 3"	15 <b>RD</b> Maxim Bar 10 10 10 10 10 10 10 10 10 10	200 DUTY P.S.I. 150 150 150 150 150 150	5:1 PTFE Safety Factor 5:1 5:1 5:1 5:1 5:1 5:1	Bend F (ENISC) mm 75 80 100 150 200 250	40 <b>TION</b> Radius 01746) Inch 3 3 4 6 8 10	Weight Kg. / mt 1,12 1,31 1,75 2,2 2,6	Maximur     Mt.     40     40     40     40     40     40	62 RGE I n Lenght Feet 132 132 132 132 132 132	HOSE EN 1	3765:2010 TYPI ECTFI PTFE SD PZ Aggressive Ch	E 2 PTFE SD E INSIDE PTE SD PX hemicals Liquids Red
250 300 STA Si mm 25 32 40 50 65 75/80 100	12" NDA ze Inch 1 " 1 " 2 " 2 " 2 " 3" 4"	15 RD Maxim Bar 10 10 10 10 10 10 10 10 10	200 DUTY P.S.I. 150 150 150 150 150 150 150	5:1 PTFE Safety Factor 5:1 5:1 5:1 5:1 5:1 5:1 5:1 5:1	Ecoloria SUCT Bend F (ENISC mm 75 80 100 150 200 250 300	40 TION Radius 01746) Inch 3 4 6 8 10 12	Weight Kg. / mt 1,12 1,31 1,75 2,2 2,6 4,26	Maximur     Mt.     40     40     40     40     40     40	n Lenght Feet 132 132 132 132 132 132 132 132	HOSE EN 1	3765:2010 TYPI ECTFI PTFE SD PZ Aggressive Ct F -30 ·	E 2 PTFE SD PTFE SD PX hemicals Liquids Red + 80°C
230 300 STA Si mm 25 32 40 50 65 75/80 100 150	12" NDA ize Inch 1" 1" 1" 2" 2" 2" 3" 4" 6"	15 ARD Maxim Bar 10 10 10 10 10 10 10 10 10 10	200 DUTY P.S.I. 150 150 150 150 150 150 150 150 150	5:1 PTFE Safety Factor 5:1 5:1 5:1 5:1 5:1 5:1 5:1 5:1 5:1	E200 Bend F (ENISC) mm 75 80 100 150 200 2250 300 500	40 TION Radius 01746) Inch 3 4 6 8 10 12 20	Weight Kg. / mt 1,12 1,31 1,75 2,2 2,6 4,26 9,72	Maximur     Mt.     40     40     40     40     40     40     40     40     40     40     40     40     40	n Lenght Feet 132 132 132 132 132 132 132 132 132	HOSE EN 1 Code Applications Colour Temperatures Inner wire	3765:2010 TYPI ECTFI PTFE SD PZ Aggressive CH F -30 · PP Coated Steel	E 2 PTFE SD PX hemicals Liquids Red + 80°C PP Coated Steel



Test procedures:

BS 5173-102.10:1990 section 102.10 - (EN ISO 1402) AS1180.5-1999 (method 5) AS 1180.13B (Electrical resistance) AS1180.13C (Electrical continuity)

### Type Approval

Lloyd's Register Type Approved - Cert. N° 13/00002 DNV - Det Norske Veritas - Type Approval Cert. N° P-12369 RINA - Registro Italiano Navale - Cert. N° MAC/81398/1/TO/99 Russian Maritime Register of Shipping IBC Code Chapter 5 - Ship's Cargo hoses IMO Chemical Carrier Code - Paragraphs 2:12 and 5:7

# AGGRESSIVE CHEMICALS PTFE







# CRYOTEC

COMPOTEC® CRYOTEC hoses are designed for use with cryogenic products at temperatures down to -200°C and pressures up to 25 bar.

COMPOTEC® CRYOTEC hoses has been designed around multy-layers of polyamide fabrics and films, polyester films, reinforced with inner & outer wire spirals in 316 Stainless Steel. 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 hoses includes in the construction FEP extruded tubular and Mylar<sup>®</sup> films. Outer extra protection, to prevent accidental burns, can be provided if required. COMPOTEC® CRYOTEC hoses are manufactured in two types, each type is subdivided into two classes, one for onshore duties, and the other for offshore

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 low 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 group. The hoses are certified by DNV as complying the requirements of CE Directive 97/23 "PED" and are made to comply the requirements of EN13766 and Paragraphs 5:4 and 5:7 of the IMO Gas Carrier Code, and 5:3 and 5:7 of the IMO Chemical Carrier Code. Meets EN, CE, PED, U.S. Coast Guard requirements, DNV Approved. ATEX Cert. Directive 94/EC on request.

CRYOTEC 660 LG is suitable for transferring fully refrigerated conveyants such as LPG, Propane and Buthane down to -50°C, as well as liquid Ethane at -88°C and liquid Ethylene at -105°C. Suitable for fluids included in Chap XIX, Gas carrier Code.

CRYOTEC 661 N hose is suitable for handling LNG Liquefied Natural Gas, Liquid Methane at -163 °C and liquid Nitrogen at -175°C.

COMPOTEC® CRYOTEC hoses assemblies are tested, in accordance with EN ISO 1402. The ferrule is embossed, with manufacturer's name, nominal bore, serial number and test date. Burst pressure indicated, is at ambient temperature when tested in accordance with 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 EN ISO 8031.

### CRYOTEC Cryogel<sup>®</sup> Z – Patented design by Matec<sup>®</sup> Group FLEXIBLE COMPOTEC HOSE WITH INTEGRAL INSULATION VAPOR BAR-**RIER FOR SUB-AMBIENT AND CRYOGENIC APPLICATIONS.**

Cryogel<sup>®</sup> Z is flexible aerogel blanket insulation with an integral vapor barrier. It is engineered to deliver maximum thermal protection with minimal weight and thickness, and zero water vapor permeability. Cryogel® Z's unique properties, extremely low thermal conductivity, superior flexibility, compression resistance, hydrophobicity, and ease of use, make it essential for those seeking the ultimate in thermal protection for cryogenic applications. Using patented nanotechnology, Cryogel® Z insulation combines a silica aerogel with reinforcing fibers to deliver industry-leading thermal performance in an easy-to-handle and environmentally safe product. Cryogel<sup>®</sup> Z's extremely low thermal conductivity reduces heat gain and liquid boil-off, its blanket form minimizes installation labor, and its inherent flexibility makes the product durable and resistant to mechanical abuse. Additional Rope lagging on the outer diameter is available to mimimize the abrasion damages and for further protection and insulation. CRYOTEC Hoses with Cryogel<sup>®</sup> Z patented insulation, can achieve an outer temperature of 23°C on hoses carrying LNG at -175 inside

**ADVANTAGES** 

- Superior Thermal Performance
- Up to 5 times better thermal performance than competing insulation products • Reduced Thickness and Profile
- · Equal thermal resistance at a fraction of the thickness
- Zero Permeability due to Integral Vapor Barrier
- · Provides redundant moisture protection in an easy-to-install package Physically Robust
- Soft and flexible but with excellent springback, Cryogel® Z recovers its thermal performance even after compression.
- · Eliminates Contraction Joints because it remains flexible even at cryogenic temperatures.
- Environmentally Safe
- · Landfill disposable, shot-free, with no respirable fiber content
- Flexible hoses are usually uninsulated due to severe stresses of cycling between ambient and LNG (-175°C) temperatures. This can result in heavy ice formation during operation, and dangerous ice falls during the subsequent warm up. CRYOTEC hoses insulated with Cryogel® Z are impervious to cryogenic cycling







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

S	ize	Maxin	num W.P.	Safety	Bend F (ENISC	Radius 01746)	Weight	Maximu	ım Lenght				
mm	Inch	Bar	P.S.I.	Factor	mm	Inch	Kg. / mt	Mt.	Feet				
20	33	25	360	5:1	80	3	0,8	40	132				
25	1"	25	360	5:1	150	6	1,2	40	132				
32	1"	25	360	5:1	175	7	1,3	40	132				
40	1 ‴	25	360	5:1	175	7	1,8	40	132		CRV	DTEC 6	SEU 1 C
50	2"	25	360	5:1	200	8	2,3	40	132		UNIC		
65	2 ‴	25	360	5:1	200	8	3,3	40	132				
75/80	3"	25	360	5:1	250	10	3,9	40	132	Code	CRYOTEC 660 ZZ	CRYOTEC 660 ZX	CRYOTEC 660 XX
100	4"	25	360	5:1	500	20	5,8	40	132	Applications	L	iquid Petroleum Gas LF	°G
150	6"	25	360	5:1	660	26	13,2	40	132	Colour		White	
200	8"	25	360	5:1	910	36	18,0	40	132	Temperatures		-50 + 80°C	
250	10"	15	200	5:1	1250	50	26,0	25	82	Inner wire	Galv. Steel	Galv. Steel	Stain. Steel
300	12"	10	150	5:1	1500	60	34,0	25	82	Outer wire	Galv. Steel	Stain. Steel	Stain. Steel

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

S	ize	Maxin	num W.P.	Safety	Bend I (ENISC	Radius D1746)	Weight	Maximu	ım Lenght				
mm	Inch	Bar	P.S.I.	Factor	mm	Inch	Kg. / mt	Mt.	Feet				
20	**	13	185	5:1	80	3	0,8	40	132				
25	1"	13	185	5:1	150	6	1,2	40	132				
32	1"	13	185	5:1	175	7	1,3	40	132				
40	1 ‴	13	185	5:1	175	7	1,8	40	132				
50	2"	13	185	5:1	200	8	2,3	40	132		CRY	OTEC:	661 N
65	2 ‴	13	185	5:1	200	8	3,3	40	132			UILU	00111
75/80	3"	13	185	5:1	250	10	3,9	40	132	Code	CRYOTEC 661 ZZ	CRYOTEC 661 ZX	CRYOTEC 661 XX
100	4"	13	185	5:1	500	20	5,8	40	132	Applications	Liquified Natural	Gas LNG at extremely	low temperatures
150	6"	13	185	5:1	660	26	13,2	40	132	Colour		White	
200	8"	13	185	5:1	910	36	18,0	40	132	Temperatures		-175 + 80°C	
250	10"	13	185	5:1	1250	50	26,0	25	82	Inner wire	Galv. Steel	Galv. Steel	Stain. Steel
300	12"	13	185	5:1	1500	60	34,0	25	82	Outer wire	Galv. Steel	Stain. Steel	Stain. Steel



### Test procedures:

BS 5173-102.10:1990 section 102.10 - (EN ISO 1402) AS1180.5-1999 (method 5) AS 1180.13B (Electrical resistance) AS1180.13C (Electrical continuity)

PHARMACEUTICAL

NAHAD Guidelines (NAHAD 600/2005)

### Type Approval

Lloyd's Register Type Approved - Cert. N° 13/00002 DNV - Det Norske Veritas - Type Approval Cert. N° P-12369 RINA - Registro Italiano Navale - Cert. N° MAC/81398/1/TO/99 Russian Maritime Register of Shipping IBC Code Chapter 5 - Ship's Cargo hoses IMO Chemical Carrier Code - Paragraphs 2:12 and 5:7

### Welding Process

in according to EN 15608:2005 - EN 439:1996 - EN 15614-1:2005 - EN 6848: in according to ASME IX certified by RINA

ENERGY

OFFSHORE



CRIDGENI LNG/LPG

CHEMICAL

IRON & STEEL INDUSTRY

SHIPBUILDING

## Ticon Sp. z o.o. Jasin, ul. Pozna ska 37, 62-020 Swarz dz www.ticon.pl info@ticon.pl tel. (61) 81 87 234





# CRYOGENICS

# DRAINTEC For external FloatingRoof Tanks

Draining rain water from an external floating roof is important to make sure the external floating roof will not built up too much water on top, which could even cause sinking of the roof. COMPOTEC® has developed an excellent solution by introducing Tank Drain hoses for this application. The major advantage of a hose is that it does have a minimum number of connections, therefore eliminating much of the potential problems with other draining systems.

As the **COMPOTEC<sup>®</sup> DRAINTEC** hose is a complete system, including the connections, the lead ballast cable and the suspension system, it is easily installed by a contractor crew. Each hose is individually tested prior the shipment, to ensure its performance. As a result of the flexible nature of the drain hose, it will even be able to deal with frozen rain water inside.

Product description: COMPOTEC® Draintec Hose system is designed for immersion inside storage tanks to drain rain water from a floating roof, to ensure the proper drainage of water from the aboveground storage tank's floating roof. Specially compounded covers are used to resist immersion in high aromatic or corrosive liquids.

Lining: Mandrel built, Polypropylene lined hose, depending on the type of hose specified or required

Reinforcement: Textile reinforcement with a double high tensile wire helix to resist collapsing by external pressure when immersed.

Pressure: Although these hoses are rainwater drains experiencing low pressures when in use, the integrity of the hose assemblies is checked, after ballasting, by testing to 15 bar with water and vacuum testing to - 1 bar.

Full and detailed test and material certificates are supplied as a standard.

Cover: Wrapped fabric finish in following options: Polypropylene fabrics, to resist at aromatic content up to 100% - NANOTEC® Pure Teflon Cross laminate film (MATEC® Deposited Patent) resistant to all solvents, Chemicals and aromatics at any concentration

Lead ballast: Each hose assembly incorporates (inside) a permanently attached stainless steel cable and lead discs to prevent the hose from floating in the stored product.

Repeatable lay pattern: COMPOTEC® Draintec hoses are installed to form a single coil repeating lay pattern with a 360° coil.

Antistaticity: All hoses are supplied electrically continuous

Installation: 2 Polyurethane SCUFFRING Support saddles and chains for roof attachment, are supplied and the roof end of each hose is marked as follows: "ATTACH THIS END TO ROOF"

Flanges: Generally mild steel nipples with fixed ASA150 R/F flanges are supplied. Other flanged drillings and material types are available including swivel flanges and bronze flanges. The ballast connection is a stainless steel wire rope section permanently welded to the hose nipple.

COMPOTEC<sup>®</sup> DRAINTEC hoses are designed, tested and manufactured to customer specifications to offer the following features:

Draintec hoses are installed to form a single coil repeating lay pattern (360° coil) Draintec hose is installed with polyurethane support saddles, clevis and chain to be fixed to the underside of the floating roof

- Draintec features compression sealed, full flow steel fittings permanently fitted. Draintec system ensures less maintenance, less product loss, reduced
- shutdowns and maximum service life. Draintec hose is designed for continuous service (both internally and externally)
- in a wide range of PH solutions and chemicals. Internal ballast is highly recommended to ensure negative buoyancy in the tank
- (to be specified in case of order)
- Draintec hoses are tested at 15 bar for 1 hour and certified acc to EN 13765:2010.







### DRAINTEC HOSE SYSTEM



### DRAINTEC PIVOT SYSTEM



### HEAVY DUTY DRAINTEC EN 13765:2010 TYPE 3

	Si	ize	Maxin	num W.P.	Safety	Min Wo Radius (El	rk Bend NISO1746)	Wei	ght	Vacuum Rating	Vacuum Rating	Maximun Mt	n Lenght		DRA	
	75	3"	15	200	5:1	300	11,81	3,6	2,41	29	735,5	40	132	Code	DRAINTEC XZ	DRAINTEC XX
	100	4"	15	200	5:1	400	15,75	5,5	3,69	29	735,5	40	132	Applications	For ExternalFlo	atingRoof Tanks
-	150	6"	15	200	5:1	575	22,64	9,5	6,37	29	735,5	40	132	Colour	W	hite
	200	8"	15	200	5:1	800	31,5	14	9,38	29	735,5	40	132	Temperatures	-40 + 60(°C)	/ -40+212 (°F)
	250	10"	15	200	5:1	1200	48	22,5	15,05	29	735,5	25	82	Inner wire	Stainless Steel	Stainless Steel
	300	12"	15	200	5:1	1500	60	31	20,73	29	735,5	25	82	Outer wire	Galvanised Steel	Stainless Steel

## **COMPOTEC<sup>®</sup> Pivot Draintec Floating Roof Drain Systems**

The COMPOTEC® PIVOT DRAINTEC SYSTEM was designed to innovatively provide better solution to floating roof drainage problems. It combines both the flexibility of con posite and hose systems with the strength found in rigid pipe/swivel join systems. The PIVOT DRAINTEC SYSTEM is basically a steel pipe drain system with flexible joints th withstand an extremely wide range of service conditions.

COMPOTEC® PIVOT DRAINTEC SYSTEM offers Long Maintenance-Free Service and effectively provides positive roof drainage with maintenance-free and worry-free oper tion. This results in extended service life, with no hose kinking or clogging, and there no stress loading on O-rings, bearings or seals. Instead of costly swivels, the PIVC DRAINTEC SYSTEM employs unique flexible joints in a straight-line design, with offsets to cause unbalanced loading.

The COMPOTEC® PIVOT DRAINTEC SYSTEM is easily installed in a fixed position requiring a minimal operating area. With a designed continuous slope, the Pivot do not allow sediment to become trapped in the system. It is designed for submerged service ce with no lubrication required, and there are no corrosion freeze-ups. Pivot compo nents are compatible with 100% aromatic products and can withstand high design pre SUIRAS

### Advantages of COMPOTEC® Pivot Draintec System compared to Swivel Joi Systems

- Straight-line design no offsets to cause unbalanced loading
- No O-rings, bearings or seals
- No moving parts to lubricate
- Designed for submerged service
- No flow restrictions
- Load Stresses transferred across joint, not through it Easy installation

### Advantages of COMPOTEC® Pivot Draintec Compared to Hose Drain Systems:

- Continuous slope design no sediment traps
- Small operating area no tank layout required, minimizing downtime
- Fixed position no damage due to interference
- 100% aromatic resistant components Higher design pressure
- No kinking or collapsing
- No dragging or scraping action across tank bottom
- No ballasting needed



e a	Other Advantages of COMPOTEC <sup>®</sup> Pivot Draintec System:
m-	Ease of design and installation
he	No measuring of roof legs, other internals required prior to design
nat	Immediate delivery system components reducing tank downtime
h.,	Minimal field welding required for system installation
nd	Ne minimal neur werdung required for system installation
ra-	No piping runs required on underside of floating root
DT	<b>COMPOTEC</b> <sup>®</sup> <b>Pivot Draintec</b> flexible joints can be used for internal floating suctions
no	
	COMPOTEC <sup>®</sup> Pivot Draintec Roof Drain Systems can be designed
on,	for dual use Fire Fighting Foam Delivery Systems
es	
vi-	Construction Features:
0-	COMPOTEC <sup>®</sup> Draintec flexible joint is designed with inner and outer
es-	stainless steel wire helixes to maintain hose rigidity when subjected to
	internal or external pressures. Multiple inner layers of polar and non-
	polar elastomeric materials in the flexible joint prevent product perme-
mt	ation through the nose, even from such products as MIBE. The
	bigh design processing also makes the COMPOTEC <sup>®</sup> Draintee Divet
	System suitable for use with fire fighting form delivery systems
1	The Draintee flexible joint nivet-nin design uses stainless steel &
	Teflon hushings and spacers to eliminate hinding and assure flexibi-
	lity. No lubrication is required. The reinforced side plates transfer the
	load around the flexible hose, eliminating stress on the hose end
	connections and minimizing the possibility of hose end failure.

These side plates are available carbon steel (galvanized or prime) coated) and stainless steel materials. Diameters from 2" to 12" are available

### Test procedures:

BS 5173-102.10:1990 section 102.10 - (EN ISO 1402) AS1180.5-1999 (method 5) AS 1180.13B (Electrical resistance) AS1180.13C (Electrical continuity)

### Type Approval

Lloyd's Register Type Approved - Cert. N° 13/0002 DNV - Det Norske Veritas - Type Approval Cert. N° P-12369 RINA - Registro Italiano Navale - Cert. N° MAC/81398/1/TO/99 Russian Maritime Register of Shipping IBC Code Chapter 5 - Ship's Cargo hoses IMO Chemical Carrier Code - Paragraphs 2:12 and 5:7

### Welding Process

in according to EN 15608:2005 - EN 439:1996 - EN 15614-1:2005 - EN 6848:2005 - EN 12072:2001 certified by DNV - Det Norske Veritas in according to ASME IX certified by RINA



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