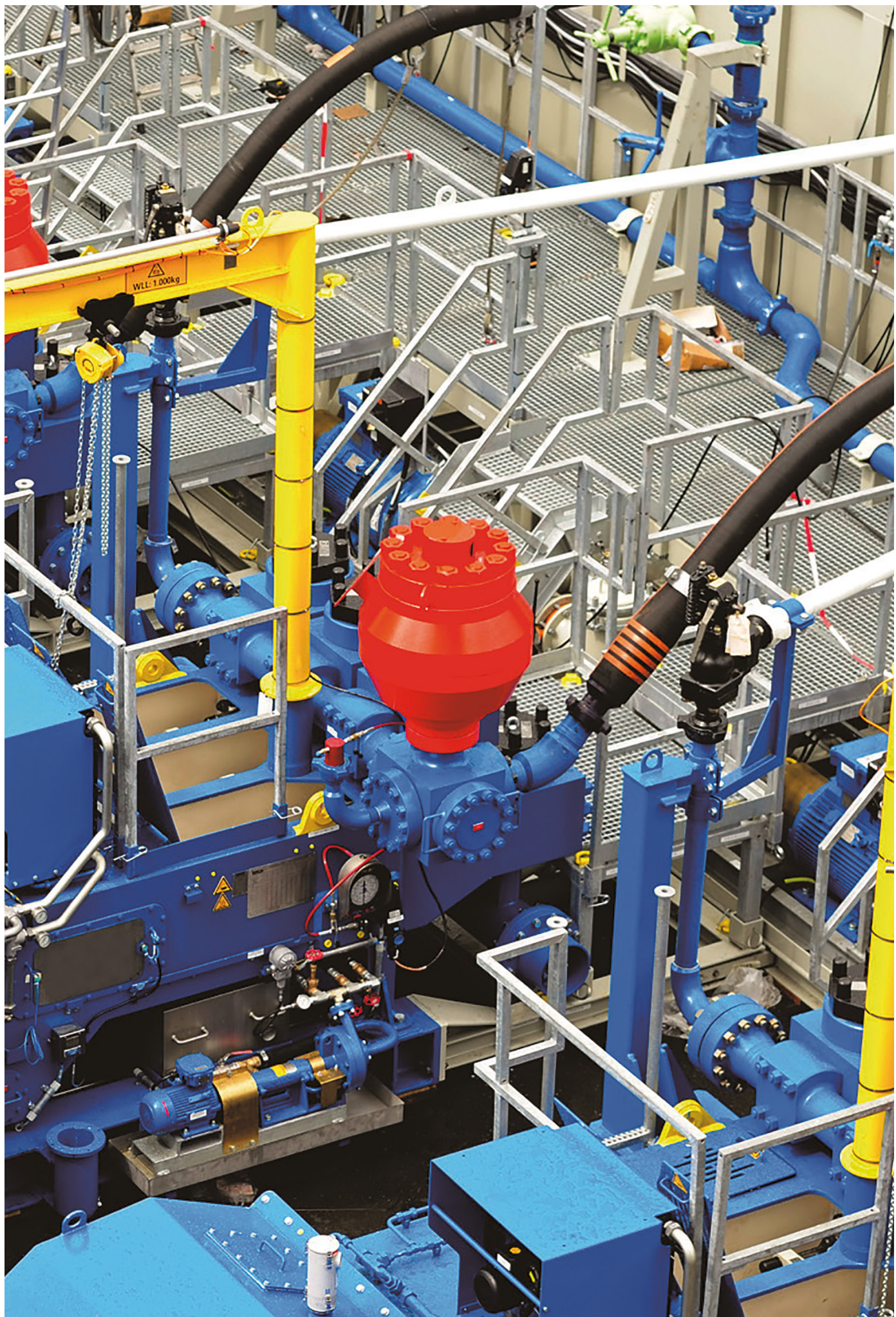




High Pressure Flexible Lines for Drilling Applications



High Performance Flexible Hoses

Continental is a global leader in the design, manufacture and supply of flexible lines.

We have over 50 years of experience in the field of bonded flexible pipes, and we are continuously striving to extend the performance boundaries of our products in order to meet the ever more challenging demands of our global customers.

All of our high performance hose products are certified to relevant industry/API standards for high pressure rubber hoses and flexible pipes – API 7K, API 16C and API 17K.

Using top quality raw materials, sophisticated process control and the very latest R&D systems and processes, our expert teams are able to draw on a comprehensive knowledge base, ranging from material science, mathematics, and physics to advanced engineering and work together with our customers to offer viable solutions for the most demanding applications. Our hose designs assure long service life and outstanding operational and environmental safety.

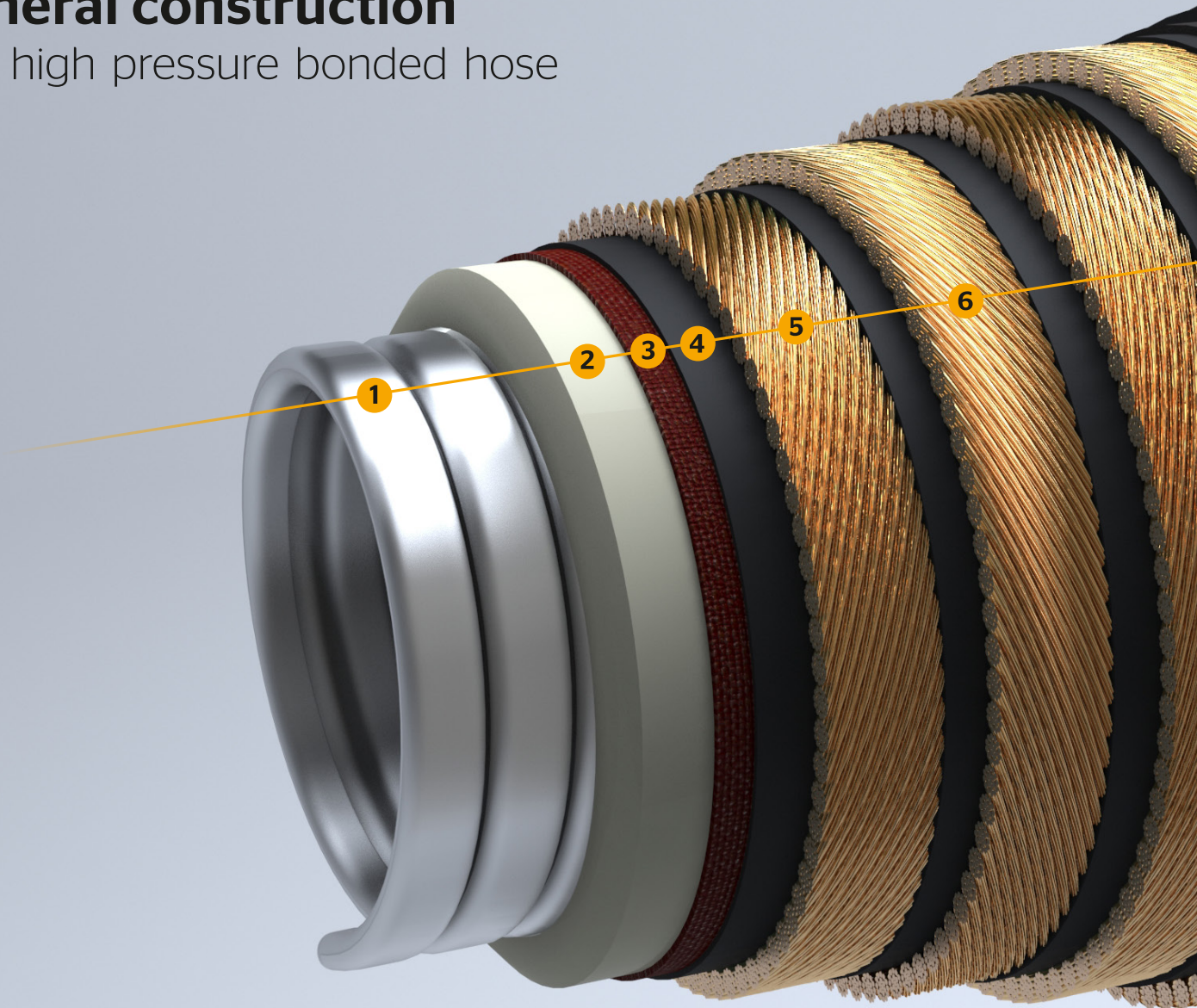
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General construction

of a high pressure bonded hose



The flexible hose lines are a bonded construction comprising steel and elastomeric materials. The principal characteristic of bonded construction is the build-up of individual layers in the flexible hose wall which are then combined into one unit through vulcanisation.

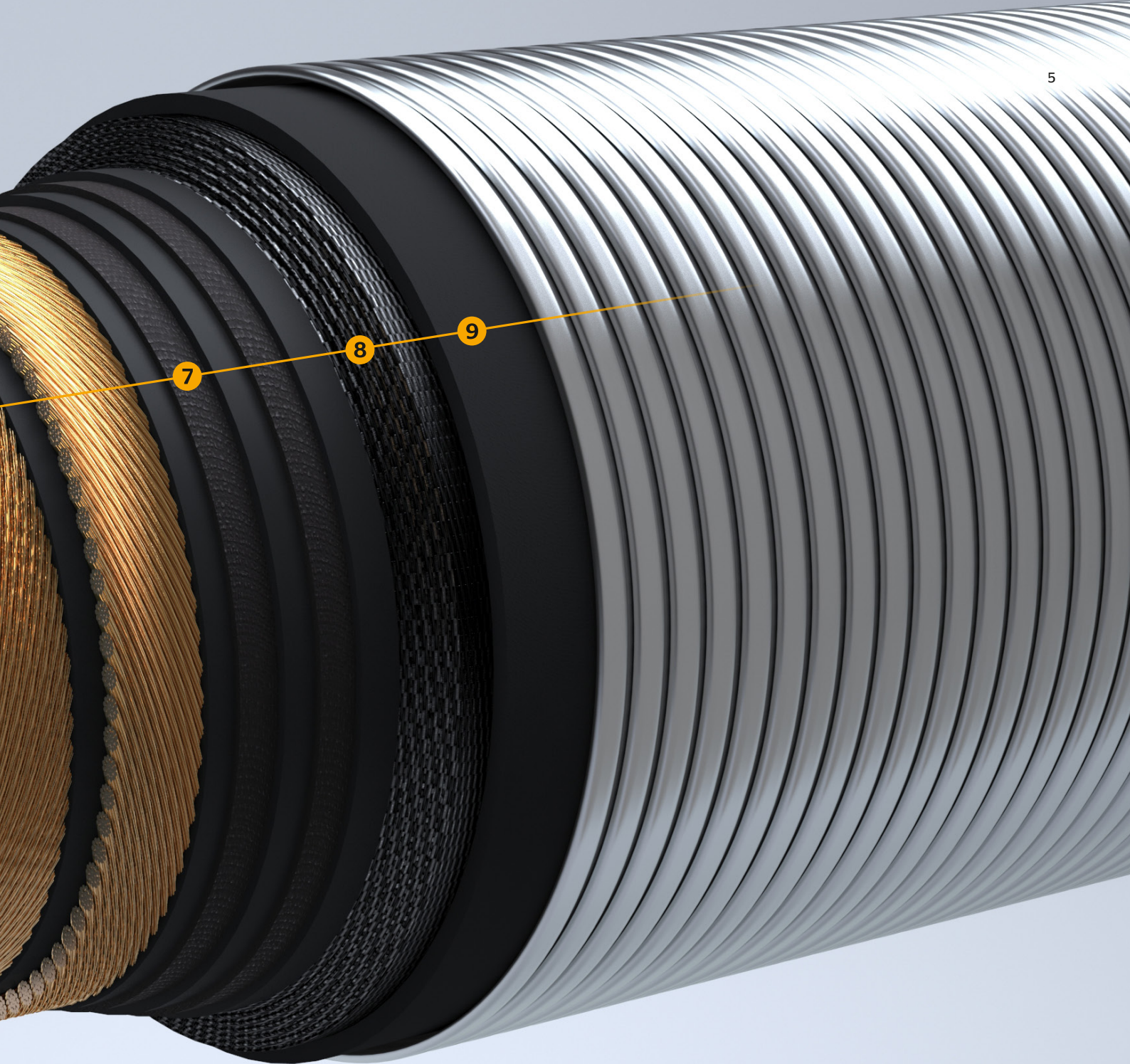
Hose assemblies are manufactured either as a single bonded unit to specified lengths where the couplings are an integral part of the hose, or they can be mechanically assembled to the cured hose.

① Stainless steel interlock stripwound tube

Protects the polymer lining from mechanical damage, prevents blistering in case of high pressure gas service and decompression with vacuum service, supports the wall of the flexible hose and facilitates pigging. The material can be AISI 316L or 254 SMO grade stainless steel, depending on the conveyed medium.

② Polymer lining

Fluid barrier of the flexible line. Protects the hose construction from corrosive and abrasive effects of the conveyed medium. The thickness of lining depends on the internal pressure, the inside diameter and the conveyed medium. The lining material is selected to withstand chemical and heat effects of crude oil, seawater, gases, hydraulic fluid or whatever substance is conveyed through the hose.



3 Textile plies

To distribute the forces of internal pressure.

4 Elastomeric cushion plies

To ensure adhesive bonding between different plies.

5 High strength steel cable reinforcements

These are the most important load-bearing elements, as they determine internal pressure resistance. The cables are either zinc or brass coated to provide exceptional corrosion resistance.

6 Gas leading plies

To allow diffused gases to migrate to venting points.

7 Fire resistant plies

Protects the hose in case of exposure to flame at 1300°F (704°C) for at least 30 minutes.

8 Elastomeric cover

Protect the flexible hose line from impact, abrasion, weather, seawater, oil, etc.

9 Outer stainless steel stripwound protection

Protect the hose against external mechanical damage, material AISI 316L.

10 Stiffening spiral (not shown in the figure)

To protect the hose against collapse under axial pulling force and/or as a result of external pressure. Prevents kinking even in sharp bends.

Tailor-made Solutions

Engineering services

Finite Element Analysis

Our in-house design software has been improved and refined over many years and is used in conjunction with the most recent finite element analysis (FEA) systems to handle even the most difficult technical demands.

Different FEA solutions allow you to adapt the configuration of your system to a given application and to ensure safe and reliable operation under all conditions:

› Static, quasi-static hose length analysis

Determines the optimal hose length whilst allowing for any surrounding objects that may affect the hose routing.

› Hydrodynamic analysis

Used to simulate the dynamic behaviour of a given configuration when exposed to the expected environmental conditions.

› Survival analysis

Based on the hydrodynamic analysis, the suitability of the hose components is checked against the harshest environmental conditions.

› Fatigue analysis

Based on the hydrodynamic analysis, the minimum design life of a hose can be calculated by accumulating the fatigue of the load bearing metal components.

By their nature, bonded flexible pipes offer a high degree of design freedom: their properties can be designed and adjusted according to the needs of your system – based on the results of the FEA.



Built-in neck reinforcement

All hoses with bonded couplings are built with neck reinforcement, but in strong dynamic configurations a custom designed extra neck reinforcement might be necessary to avoid overbending of the hose. Localized bending stiffness can be increased to several times of that of the hose body.

Variable bending stiffness

Upon request the bending stiffness of the complete hose body can be increased by a factor of 10 or more. In some cases a reduction in bend stiffness is also possible.

Swivels

If the hose is subject to severe twist (e.g. in the moonpool), ContiTech can provide integrated swivel solutions to mitigate mechanical stress and ensure operational integrity.

Heat traced hoses

For extreme cold conditions, or if fluid might freeze in the hose, a self-regulating electric heating cable can be incorporated into the hose body.

Such extreme bending moments can in turn transfer high end loads to the coupling and the connected rigid piping and possibly other equipment. These end loads may have a detrimental effect on the service life of connected equipment, such as in-line swivels. For such demanding applications, Continental has developed a range of pre-formed flexible hoses to make installation easier, reduce system loads and extend service life. For more information, see Flexible Tauro™Fit Choke & Kill Line for subsea BOPs and TauroFit Preformed Production Line.

External protection

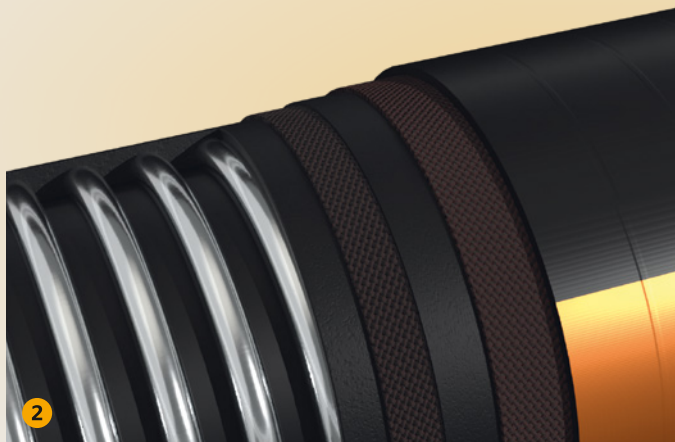
Several types of external protection are available depending on the application, such as:

1 Outer wrap

Fully interlocking steel outer wrap is the most widely used external protection, able to absorb impacts and friction and thus providing additional mechanical protection to the hose body.

2 Heavy duty moonpool protection

A steel helix fully embedded in rubber, recommended for the harshest conditions. Exceptional impact absorption and abrasion resistance.

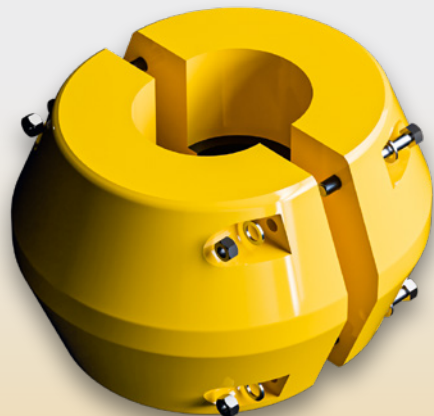


3 Bumpers

If the exact location of impact between the hose and its surroundings is known (e.g. in the moonpool), a plastic bumper is advised to absorb the impact energy.

4 Plastic spiral

Helps to protect the hose cover when dragging on the rig floor during handling and installation. Also suitable for static applications.



High Pressure Hoses For Drilling & Well Service Applications



Bonded & Swaged / Crimped Couplings

Our bonded couplings and built-in bend stiffeners are the strongest parts of hoses produced by Continental. Our company was the first to patent a coupling where the bonding strength between the coupling and hose body increases in proportion of the internal pressure.

The patented bonded couplings, developed in-house, the special hose construction with integral neck reinforcement and the fire resistant cover layer are all

unique features which contribute to a high degree of chemical resistance, fatigue resistance, heat insulation and result in a light compact hose construction with excellent flexibility and low bending radius.

Continental also supplies Rotary and Vibrator hoses with swaged/crimped couplings in accordance with API Spec. 7K (FSL1 -FSL2) on demand delivery.

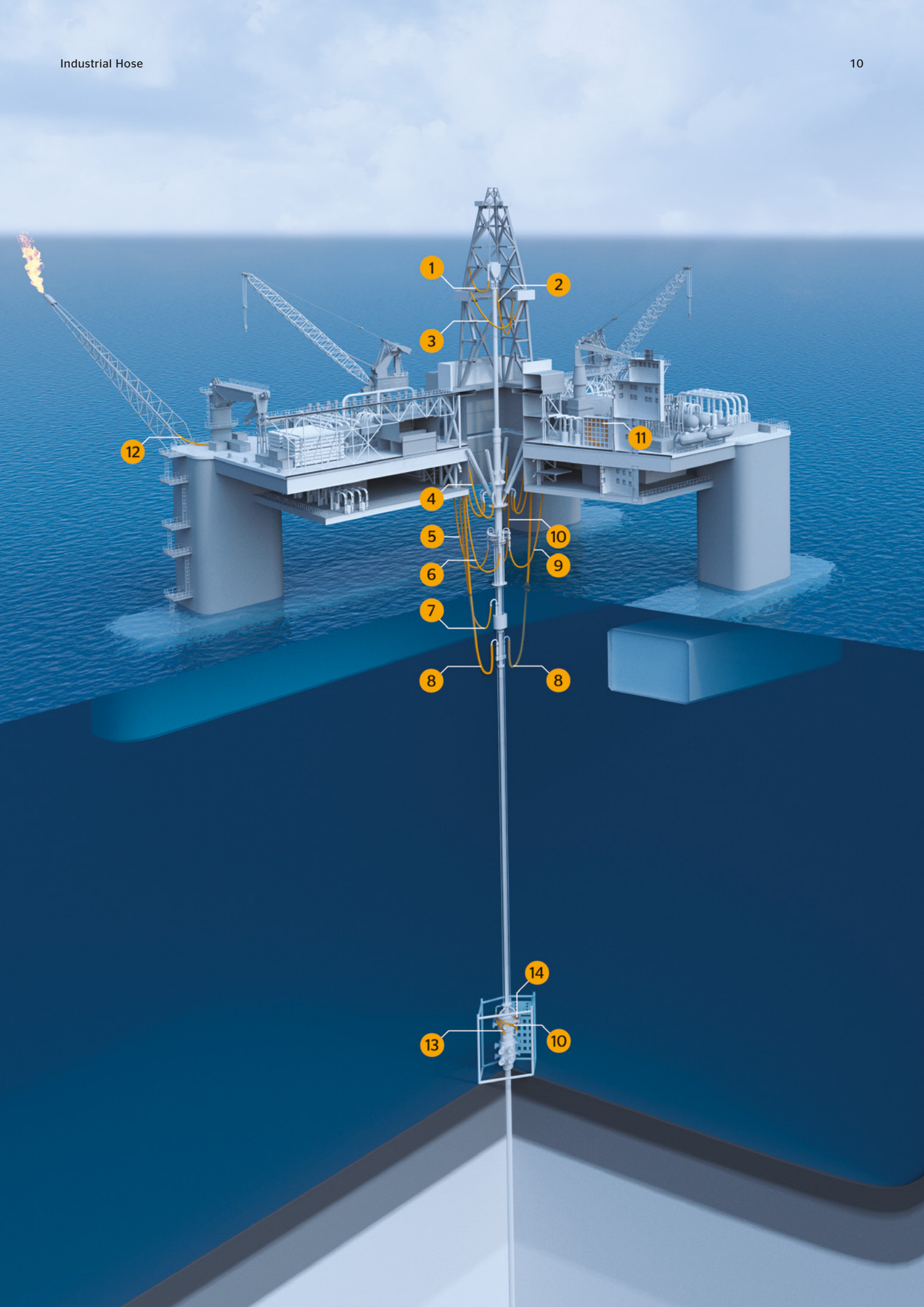
**SWAGED/
CRIMPED**



BONDED



Title Name	Bonded coupling	Swaged / crimped coupling
Technology	All reinforcement cables are adhesively bonded to the coupling body	Only outer reinforcement layer, (and in some cases the innermost reinforcement layer) is directly in contact with the coupling
Bore type	Full bore, no flow restriction	Never full bore, there is always a flow restriction. In Choke Lines and Well Stimulation lines this may lead to dangerous erosion
Sealing mechanism	Chemical and mechanical bond between metal and rubber	Based on pressure buildup when the coupling is mounted, subject to stress relaxation at elevated temperatures
Field experience	50+ years	Limited, not recommended for all applications
Temperature limits	Suitable for high fluid temperatures	Limited fluid temperatures
Pressure limits	Meets high pressure rating requirements, up to 20,000 psi (1380 bar) working pressure	Limited pressure capability, max. 10,000 psi (690 bar) working pressure
High frequency pulsations	Always suitable	Not suitable, unless properly designed
Coupling rigid length	Shorter coupling	Longer coupling
Neck reinforcement	Built-in neck reinforcement, with the ability to customize	Does not have neck reinforcement, which might lead to shortened service life
Service life	Field proven longer service life	Shorter service life



15

3

2

5

16

9

17

Drilling Hose

Application Guide

- | | | |
|---------------------------------|------------------------------|--|
| 1 Drill string compensator hose | 7 MPD hose - Bleed-off line | 13 Flexible Tauro™Fit choke line for subsea BOPs |
| 2 Rotary hose | 8 MPD hose - Mud return line | 14 Flexible TauroFit kill line for subsea BOP's |
| 3 Cementing hose | 9 Flexible choke line | 15 Well stimulation / Acidizing hose |
| 4 Riser tensioner hose | 10 Hydraulic conduit hose | 16 Blowout preventer control hose |
| 5 Flexible kill line | 11 Well test hose | 17 Vibrator hose |
| 6 Mud booster hose | 12 Burner / Flare boom hose | |

FSL Levels for High Pressure

Mud & Cement Hoses and Flexible Choke & Kill Lines

The API standards 7K (mud and cement hoses) and API 16C (flexible choke and kill lines) define Flexible Specification Levels (or FSL). For the safety of drilling operations, it is imperative for the purchaser and operator to choose the proper FSL level.

FSL levels for mud and cement hoses in API 7K

FSL 0 - for cement hoses only

To meet the FSL 0 requirements, a deformation test under pressure, and ambient and low temperature bending tests need to be performed. No pressure pulsation prototype test is required.

FSL 1 - for rotary, vibrator, and jumper hoses in normal service conditions

To meet the FSL 1 requirements, in addition to FSL 0 prototype tests a low frequency pressure pulsation prototype test is required - 1,000 pressure cycles (max. 5 min/cycle) at maximum operating temperature.

FSL 2 - for rotary, vibrator, and jumper hoses that are likely to see high frequency pressure pulsations in operation, as in directional drilling

To meet the FSL 2 requirements, in addition to FSL 0 prototype tests a high frequency pressure pulsation prototype test is required - 10,000 pressure cycles (max. 10 sec/cycle) at maximum operating temperature.

For further information on API 7K FSL levels and prototype tests, see API 7K 6th Edition Section 9.7.3.2. and 9.7.10.

FSL levels for flexible choke and kill lines in API 16C

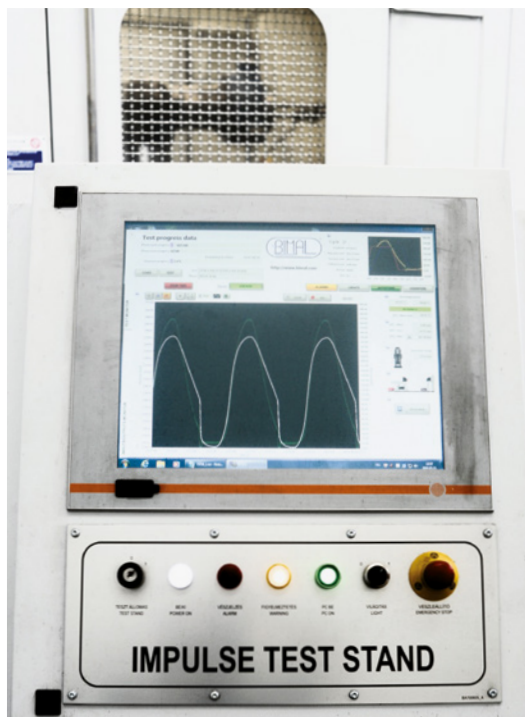
FSL 0 - To meet FSL 0 requirements, a hydrostatic internal pressure test, a bending flexibility test, a burst test and an exposure test shall be passed. In the gas exposure test, 3 rapid decompressions are followed by internal diameter check, and a hold period of 7 days at design pressure and maximum operating temperature. Then after 30 days hold at design pressure and ambient temperature, the hose performance is validated by a 30 min pressure test at 1.5 times the design pressure.

FSL 1 - To meet FSL 1 requirements, in addition to FSL 0 prototype tests a fire test is necessary at design pressure and 1,300°F (704°C) external temperature for 30 min without leakage.

FSL 2 - To meet FSL 2 requirements, in addition to FSL 0 prototype tests a high temperature exposure test must be performed. The test reproduces a high temperature kick situation with the hose heated slowly to 350°F (177°C) internally at design pressure, where it has to survive one hour without leakage. After that the internal temperature is raised until failure of the line.

FSL 3 - To meet FSL 3 requirements, in addition to FSL 2 prototype tests a fire test is necessary at design pressure and 1,300°F (704°C) external temperature for 30 min without leakage.

For further information on API 16C FSL levels and prototype tests, see API 16C 3rd Edition Section 10.7.10 and A.10.



General Information

about products for drilling applications

Hose body features

- › Multiple liner materials are available for different applications: NBR, NBR/CR, Taurocool, HNBR, PA and Tauroflon™. For chemical compatibility comparison see page 37.
- › Minimum Bending Radius (MBR) is with reference to the center-line of the hose
- › Maximum recommended flow velocities:
 - 20 m/s for dry gas
 - 15 m/s for liquid
 - 8 m/s for gaseous liquid
- › Fire rating available at 1,300 °F (704 °C) for 30 minutes on request for all hoses with bonded couplings. This complies with both Lloyd's Register OD 1000/499 and API 16C requirements
- › Additional external protection available upon request
- › Prod. Length Tolerance:
 - Up to 6.4 m hose length +/- 64 mm
 - Above 6.4 m hose length +/- 1 %

Safety Clamp and Lifting Collar Fitting Instructions

Each API monogrammed hose has a location mark on the outer cover at each end with the text "ATTACH SAFETY CLAMP HERE". This band indicates the location for the safety clamps.

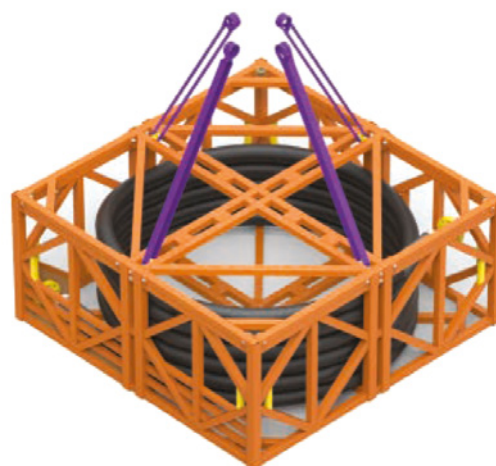
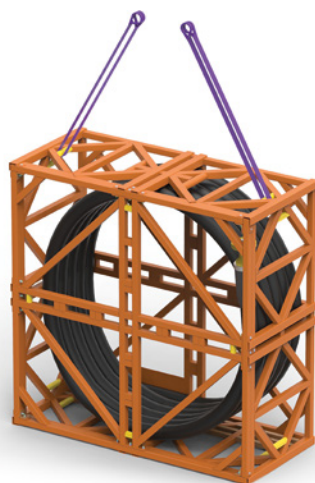
The lifting equipment supplied with the hoses includes a two-part lifting device at each hose end. These lifting devices are called element C's. The normal procedure for handling and lifting the hose involves securing the lifting collar around the element C.

Transportation

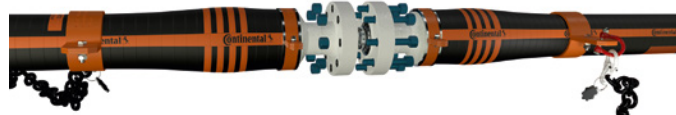
Method of packaging depending on the diameter and length of hose can be as follows:

- › **Short units:** in straight position, on pallets or in crates
- › **Long units:** reeled onto drum, on pallets or in crates

Note: For more detailed information, we will gladly provide you with the Continental User Guide for High Pressure Flexible Lines upon request.



General end termination types



Flange Type



Hub Type



Hammer Lug Union Type



Rotary & Vibrator Hose

bonded coupling

Standard

API Spec. 7K FSL 1 - FSL 2

Construction

Bore type	full flow, smooth bore
Liner material	NBR or NBR/CR
Operating temperature	-13°F to 212°F (-25°C to 100°C) for NBR -22°F to 180°F (-30°C to 82°C) for NBR/CR
Max. available length	60 m (200 ft)

Features & Comments

- › See Underbalanced Drilling Hoses for Gas, Air and Foam drilling
- › See Managed Pressure Drilling Hoses for Managed Pressure Drilling (MPD) and Dual Gradient Drilling (DGD)



Technical Data

Inside Diameter		Rated Working Pressure		Test Pressure		API Grade	Safety Factor	Outer Diameter		MBR (operation)		Weight	
mm	in	bar	psi	bar	psi			mm	in	m	ft	kg/m	lb/ft
51	2.0	276	4,000	414	6,000	C	2.5	103	4.06	0.7	2.30	14	9.4
		345	5,000	517	7,500	D	2.5	103	4.06	0.7	2.30	14	9.4
64	2.5	276	4,000	414	6,000	C	2.5	113	4.45	1.7	5.58	15	10.1
		345	5,000	517	7,500	D	2.5	113	4.45	0.7	2.30	15	10.1
		517	7,500	776	11,250	E	2.5	136	5.35	0.8	2.62	30	20.2
76	3.0	276	4,000	414	6,000	C	2.5	126	4.96	0.8	2.62	18	12.1
		345	5,000	517	7,500	D	2.5	126	4.96	0.8	2.62	18	12.1
		517	7,500	776	11,250	E	2.5	148	5.83	1.1	3.61	34	22.8
89	3.5	276	4,000	414	6,000	C	2.5	140	5.51	0.9	2.95	21	14.1
		345	5,000	517	7,500	D	2.5	140	5.51	0.9	2.95	21	14.1
		517	7,500	776	11,250	E	2.5	162	6.38	1.3	4.26	39	26.2
102	4.0	276	4,000	414	6,000	C	2.5	152	5.98	0.9	2.95	22	14.8
		345	5,000	517	7,500	D	2.5	152	5.98	0.9	2.95	22	14.8
		517	7,500	776	11,250	E	2.5	174	6.85	1.4	4.59	42	28.2
127	5.0	345	5,000	517	7,500	D	2.5	213	8.39	1.5	4.92	67	45.0
		517	7,500	776	11,250	E	2.5	213	8.39	1.5	4.92	67	45.0
152	6.0	345	5,000	517	7,500	D	2.25	224	8.82	1.7	5.58	57	38.3*
		517	7,500	776	11,250	E	2.25	248	9.76	1.8	5.90	93	62.5*

* API 7K not labelled

Rotary & Vibrator Hose

swaged/crimped coupling

Standard
API 7K Spec. FSL 1 - FSL 2

Construction
Bore type not full flow, smooth bore
Liner material NBR or CR
Operating temperature **FSL 1** -22°F to 180°F
 (-30°C to 82°C)
 FSL 2 -22°F to 212°F
 (-30°C to 100°C)
Max. available length 40 m (131 ft)

- Features & Comments**
- › Shorter lead time
 - › Swaged end fittings are protected with an all-weather coating to Continental standards



Technical Data

Inside Diameter		Rated Working Pressure		Test Pressure		API Grade	Safety Factor	Outer Diameter		MBR (operation)		Weight	
mm	in	bar	psi	bar	psi			mm	in	m	ft	kg/m	lb/ft
76	3.0	345	5,000	517	7,500	D	2.5	126	4.96	0.8	2.62	18	12.1
89	3.5	345	5,000	517	7,500	D	2.5	140	5.51	0.9	2.95	21	14.1
		517	7,500	776	11,250	E	2.5	162	5.63	1.3	3.60	39	26.2
101.6	4.0	345	5,000	517	7,500	D	2.5	151	5.94	0.9	2.95	22	14.8

Rotary & Vibrator Hose

for high temperature drilling & sour service

Standard

API 7K Spec. FSL 1 - FSL 2

Construction

Bore type	full flow, smooth bore
Liner material	H ₂ S resistant HNBR
Operating temperature	-22°F to 250°F (-30°C to 121°C)
Max. available length	60 m (200 ft)

Features & Comments

- › Designed for high working temperature and sour service mud delivery
- › The hose is capable of handling 20 % H₂S (Hydrogen Sulphide) for 1 hour at 250°F (121°C) at rated working pressure
- › See Underbalanced Drilling Hoses for Gas, Air and Foam drilling
- › See Managed Pressure Drilling Hoses for Managed Pressure Drilling (MPD) and Dual Gradient Drilling (DGD)



Technical Data

Inside Diameter		Rated Working Pressure		Test Pressure		API Grade	Safety Factor	Outer Diameter		MBR (operation)		Weight	
mm	in	bar	psi	bar	psi		(WP)	mm	in	m	ft	kg/m	lb/ft
51	2.0	276	4,000	414	6,000	C	2.5	104	4.09	0.7	2.30	15	10.1
		345	5,000	517	7,500	D	2.5	104	4.09	0.7	2.30	15	10.1
64	2.5	276	4,000	414	6,000	C	2.5	114	4.49	0.7	2.30	16	10.8
		345	5,000	517	7,500	D	2.5	114	4.49	0.7	2.30	16	10.8
		517	7,500	776	11,250	E	2.5	136	5.35	1.1	3.61	31	20.8
76	3.0	276	4,000	414	6,000	C	2.5	126	4.96	0.8	2.62	18	12.1
		345	5,000	517	7,500	D	2.5	126	4.96	0.8	2.62	18	12.1
		517	7,500	776	11,250	E	2.5	149	5.87	1.2	3.94	35	23.5
89	3.5	276	4,000	414	6,000	C	2.5	140	5.51	0.9	2.95	21	14.1
		345	5,000	517	7,500	D	2.5	140	5.51	0.9	2.95	21	14.1
		517	7,500	776	11,250	E	2.5	162	6.38	1.3	4.26	39	26.2
102	4.0	276	4,000	414	6,000	C	2.5	153	6.02	1.0	3.28	24	16.1
		345	5,000	517	7,500	D	2.5	153	6.02	1.0	3.28	24	16.1
		517	7,500	776	11,250	E	2.5	175	6.89	1.4	4.59	44	29.6
127	5.0	345	5,000	517	7,500	D	2.5	213	8.39	1.5	4.92	67	45.0
		517	7,500	776	11,250	E	2.5	213	8.39	1.5	4.92	67	45.0
152	6.0	345	5,000	517	7,500	D	2.25	224	8.82	1.7	5.58	57	38.3*
		517	7,500	776	11,250	E	2.25	248	9.76	1.8	5.90	93	62.5*

*API 7K not labelled

Tauro™ Cool Rotary & Vibrator Hose

for Arctic drilling

Standard

API Spec. 7K FSL 1 - FSL 2

Construction

Bore type	full flow, smooth bore
Liner material	Tauro™Cool
Operating temperature	-40°F to 180°F (-40°C to 82°C)
Max. available length	60 m (200 ft)

Features & Comments

- › Designed for extreme low working temperature mud delivery
- › Additional heat tracing is available on request
- › Larger sizes are available without API label
- › See Underbalanced Drilling Hoses for Gas, Air and Foam drilling
- › See Managed Pressure Drilling Hoses for Managed Pressure Drilling (MPD) and Dual Gradient Drilling (DGD)
- › Also available for 10,000 PSI (690 bar) cementing application with Taurus design.



Technical Data

Inside Diameter		Rated Working Pressure		Test Pressure		API Grade	Safety Factor	Outer Diameter		MBR (operation)		Weight	
mm	in	bar	psi	bar	psi			mm	in	m	ft	kg/m	lb/ft
51	2.0	276	4,000	414	6,000	C	2.5	103	4.06	0.7	2.30	14	9.4
		345	5,000	517	7,500	D	2.5	103	4.06	0.7	2.30	14	9.4
64	2.5	276	4,000	414	6,000	C	2.5	113	4.45	1.7	5.58	15	10.1
		345	5,000	517	7,500	D	2.5	113	4.45	0.7	2.30	15	10.1
		517	7,500	776	11,250	E	2.5	136	5.35	0.8	2.62	31	20.8
76	3.0	276	4,000	414	6,000	C	2.5	126	4.96	0.8	2.62	18	12.1
		345	5,000	517	7,500	D	2.5	126	4.96	0.8	2.62	18	12.1
		517	7,500	776	11,250	E	2.5	148	5.83	1.1	3.61	34	22.8
89	3.5	276	4,000	414	6,000	C	2.5	140	5.51	0.9	2.95	21	14.1
		345	5,000	517	7,500	D	2.5	140	5.51	0.9	2.95	21	14.1
		517	7,500	776	11,250	E	2.5	162	6.38	1.3	4.26	38	25.5
102	4.0	276	4,000	414	6,000	C	2.5	152	5.98	1.0	3.28	23	15.5
		345	5,000	517	7,500	D	2.5	152	5.98	1.0	3.28	23	15.5
		517	7,500	776	11,250	E	2.5	174	6.85	1.4	4.59	42	28.2

Continental Prospector™

mud & cementing hose

Standard

In accordance with API spec 7K FSL 1 and FSL O

Construction

Bore type	not full flow, smooth bore
Liner material	Neoprene
Operating temperature	5,000 psi WP: -22°F to 180°F (-30°C to 82°C) 10,000 psi WP: -22°F to 250°F (-30°C to 121°C)
Reinforcement	Six alternating layers of spiraled high-tensile steel wire
Cover	Black Neoprene
Branding	Continental Prospector™
Max. available length	60 m (200 ft)

Features & Comments

- › Designed for extreme low and high working temperature mud delivery
- › Additional heat tracing is available on request
- › Bite-to-Wire one-piece crimp couplings provide maximum coupling retention on 6-spiral hoses. Serrations penetrate the cover with a powerful bite into the wire reinforcement, resulting in even hose compression.
- › Couplings integrated with Hammer Lug Union Fig. 1502



Technical Data | Rotary & Vibration Application / Cementing Application

Inside Diameter		Rated Working Pressure		Test Pressure		Safety Factor	Outer Diameter		MBR (operation)		Weight	
mm	in	bar	psi	bar	psi	(WP)	mm	in	m	ft	kg/m	lb/ft
51	2.0	350	5,000	517	7,500	2.5	71.1	2.8	0.7	2	7.3	4.93
51	2.0	690	10,000	1,035	15,000	2.5	71.1	2.8	0.7	2	7.3	4.93

Supplied with Crimped Couplings

2" Crimp x 2" Fig 1502 male with nut

2" Crimp x 2" Fig 1502 female

Underbalanced Drilling Hose



Standard

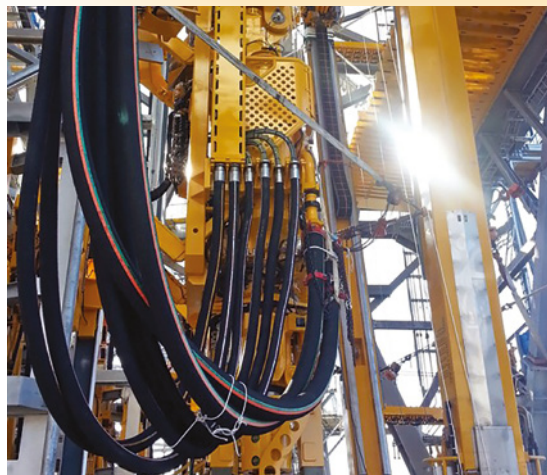
API Spec. 7K FSL 1

Construction

Bore type	full flow, smooth bore
Liner material	H ₂ S resistant PA
Operating temperature	-4°F to 180°F (-20°C to 82°C)
Max. available length	60 m (200 ft)

Features & Comments

- › Used for gas, air and foam drilling
- › Further constructions are available on request
- › Not suitable for operations where the hoses are likely to be exposed to well bore effluents. For such applications, see Managed Pressure Drilling Hoses



Technical Data

Inside Diameter		Rated Working Pressure		Test Pressure		Safety Factor	Outer Diameter		MBR (operation)		Weight	
mm	in	bar	psi	bar	psi	(WP)	mm	in	m	ft	kg/m	lb/ft
51	2.0	276	4,000	414	6,000	2.5	94	3.70	0.9	2.95	10	6.7
		345	5,000	517	7,500	2.5	94	3.70	0.9	2.95	10	6.7
64	2.5	276	4,000	414	6,000	2.5	108	4.25	1.2	3.94	13	8.7
		345	5,000	517	7,500	2.5	110	4.33	1.2	3.94	15	10.1
		517	7,500	776	11,250	2.5	124	4.88	1.3	4.26	22	14.8*
76	3.0	276	4,000	414	6,000	2.5	122	4.80	1.2	3.94	15	10.1
		345	5,000	517	7,500	2.5	124	4.88	0.9	2.95	17	11.4
		517	7,500	776	11,250	2.5	142	5.59	1.2	3.94	31	20.8*
89	3.5	276	4,000	414	6,000	2.5	138	5.43	1.0	3.28	20	13.4
		345	5,000	517	7,500	2.5	138	5.43	1.0	3.28	20	13.4
		517	7,500	776	11,250	2.5	156	6.14	1.4	4.59	35	23.5*
102	4.0	276	4,000	414	6,000	2.5	150	5.91	1.5	4.92	22	14.8*
		345	5,000	517	7,500	2.5	164	6.46	1.5	4.92	32	21.5*
		517	7,500	776	11,250	2.5	168	6.61	1.6	5.25	39	26.2*

*API 7K not labelled

Managed Pressure Drilling Hose

mud return line

Standard

API Spec. 17K

Construction

Bore type	full flow, smooth bore
Liner material	H ₂ S resistant PA
Operating temperature	-4°F to 158°F (-20°C to 70°C)
Max. available length	60 m (200 ft)

Features & Comments

- › Used in both deepwater, shallow water and onshore MPD systems
- › Fit for purpose hoses and hoses for Dual Gradient Drilling (DGD systems) and Controlled Mud Level (CML systems) are also available upon request.
- › Further sizes and pressure ratings are available upon request
- › Coupling materials meet NACE MR 01-75/ISO 15156 latest edition



Technical Data | GEN III

Inside Diameter		Type	Rated Working Pressure		Test Pressure		Safety Factor	Outer Diameter		MBR (static)		MBR (dynamic)		Weight	
mm	in		bar	psi	bar	psi		mm	in	m	ft	m	ft	kg/m	lb/ft
127	5.0	Light	276	4,000	414	6,000	2.5	214	8.43	1.5	4.92	1.8	5.90	47	31.6
		Standard						222	8.74	1.8	5.90	2.3	7.54	58	39.0
		Heavy Duty						239	9.41	1.5	4.92	1.8	5.90	72	48.4
152	6.0	Light	230	3,330	344	4,995	2.5	237	9.33	1.6	5.08	1.8	5.90	66	44.3
		Standard						261	10.28	1.6	5.08	1.8	5.90	79	53.1
		Heavy Duty						290	11.42	2.0	6.56	2.2	7.22	112	75.3

Technical Data | GEN II

Inside Diameter		Type	Rated Working Pressure		Test Pressure		Safety Factor	Outer Diameter		MBR (static)		MBR (dynamic)		Weight	
mm	in		bar	psi	bar	psi		mm	in	m	ft	m	ft	kg/m	lb/ft
102	4.0	Fire rated c/w st. st. wrap	345	5,000	517	7,500	2.5	191	7.52	1.2	3.94	1.6	5.25	45	30.2
		Fire rated c/w moonpool protection						212	8.35	1.2	3.94	1.6	5.25	64	43.0
139	5.5	Fire rated c/w st. st. wrap	250	3,630	376	5,445	2.5	226	8.90	2.0	6.56	2.6	8.53	55	37.0
		Fire rated c/w moonpool protection						246	9.69	1.6	1.80	2.6	8.53	76	51.1

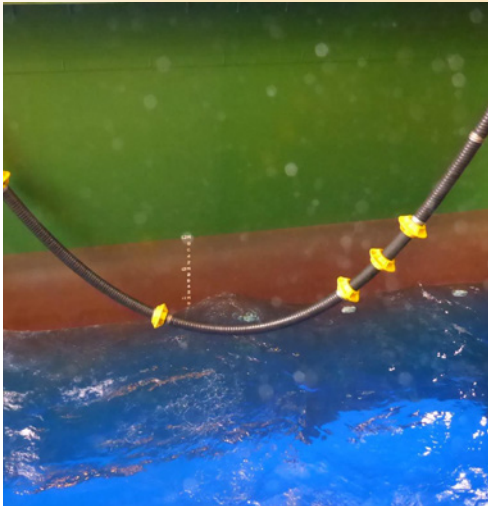
Managed Pressure Drilling Hose

bleed off line

Standard
API Spec. 17K

Construction
Bore type full flow, smooth bore
Liner material H₂S resistant PA
Operating temperature -4°F to 158°F (-20°C to 70°C)
Max. available length 60 m (200 ft)

- Features & Comments**
- › Used in both deepwater, shallow water and onshore MPD systems
 - › Fit for purpose hoses and hoses for Dual Gradient Drilling (DGD systems) and Controlled Mud Level (CML systems) are also available upon request.
 - › Further sizes and pressure ratings are available upon request
 - › Coupling materials meet NACE MR 01-75/ISO 15156 latest edition



Technical Data

Inside Diameter		Type	Rated Working Pressure		Test Pressure		Safety Factor	Outer Diameter		MBR (static)		MBR (dynamic)		Weight	
mm	in		bar	psi	bar	psi		mm	in	m	ft	m	ft	kg/m	lb/ft
53	2.0	Fire rated c/w st. st. wrap	345	5,000	517	7,500	2.5	142	5.59	0.8	2.62	1.0	3.28	30.2	20.3
		Fire rated c/w moonpool protection						156	6.14	0.8	2.62	1.0	3.28	38.4	25.8

Cementing Hose

Standard

API Spec. 7K FSL O

Construction

Bore type	full flow, smooth bore
Liner material	NBR
Operating temperature	-13°F to 212°F (-25°C to 100°C)
Max. available length	60 m (200 ft)

Features & Comments

- › Hoses with a temperature rating of -22°F to 250°F (-30°C to 121°C) and -40°F to 180°F (-40°C to 82°C) are available upon request



Technical Data

Inside Diameter		Rated Working Pressure		Test Pressure		Safety Factor	Outer Diameter		MBR (storage)		MBR (operation)		Weight	
mm	in	bar	psi	bar	psi	(WP)	mm	in	m	ft	m	ft	kg/m	lb/ft
51	2.0	345	5,000	690	10,000	2.5	72	2.83	0.6	1.97	0.6	1.97	7	4.7*
		345	5,000	690	10,000	2.5	103	4.06	0.6	1.97	0.7	2.30	14	9.4
		690	10,000	1,035	15,000	2.25	72	2.83	0.6	1.97	0.6	1.97	7	4.7*
		690	10,000	1,035	15,000	2.25	123	4.84	0.9	2.95	1.0	3.28	26	17.5
		1,035	15,000	1,552	22,500	2.25	140	5.51	1.1	3.61	1.4	4.59	40	26.9
64	2.5	345	5,000	690	10,000	2.5	113	4.45	0.6	1.97	0.7	2.30	15	10.1
		690	10,000	1,035	15,000	2.25	136	5.35	1.0	3.28	1.1	3.61	30	20.2
		1,035	15,000	1,552	22,500	2.25	153	6.02	1.2	3.94	1.5	4.92	45	30.2
76	3.0	345	5,000	690	10,000	2.5	126	4.96	0.7	2.30	0.8	2.62	18	12.1
		690	10,000	1,035	15,000	2.25	136	5.35	1.0	3.28	1.1	3.61	30	20.2
		1,035	15,000	1,552	22,500	2.25	166	6.54	1.4	4.59	1.6	5.25	53	35.6
102	4.0	345	5,000	690	10,000	2.5	166	6.54	1.0	3.28	1.2	3.94	33	22.2
		690	10,000	1,035	15,000	2.25	192	7.56	1.5	4.92	1.7	5.58	61	41.0
		1,035	15,000	1,552	22,500	2.00	209	8.23	1.4	4.59	1.5	4.92	82	55.1

*crimped design

Flexible Choke & Kill Line

with Tauroflon™ liner (up to 266°F / 130°C)



Standard

API Spec. 16C up to FSL 3

Construction

Bore type	full flow, rough bore
Liner material	H ₂ S resistant Tauroflon™
Operating temperature	-4°F to 266°F (-20°C to 130°C)
Max. available length	60 m (200 ft)

Features & Comments

- › Suitable for well completion
- › Coupling materials meet NACE MR 01-75 / ISO 15156 latest edition
- › See Flexible Tauro™Fit Choke & Kill Lines for subsea BOPs and for Flexible Choke & Kill Lines with extremely small MBRs
- › See Well Test Hoses for well test applications
- › Saudi Aramco approved



Technical Data

Inside Diameter	Type	Rated Working Pressure		Test Pressure		Safety Factor	Outer Diameter		MBR (storage)		MBR (dynamic)		Weight	
		bar	psi	bar	psi		mm	in	m	ft	m	ft	kg/m	lb/ft
54	2.0	345	5,000	517	7,500	2.25	126	4.96	0.8	2.62	0.8	2.62	25	16.8
	Standard						132	5.20	0.8	2.62	0.8	2.62	30	20.2
	Standard c/w st. st. wrap						134	5.28	0.9	2.95	0.9	2.95	28	18.8
	Fire rated	690	10,000	1,035	15,000	2.25	138	5.43	0.9	2.95	0.9	2.95	33	22.2
	Standard c/w st. st. wrap						146	5.75	0.9	2.95	0.9	2.95	40	26.9
	Standard						151	5.94	0.9	2.95	0.9	2.95	46	30.9
	Standard c/w st. st. wrap	1,035	15,000	1,552	22,500	2.25	159	6.26	0.9	2.95	0.9	2.95	46	30.9
	Fire rated						165	6.50	0.9	2.95	0.9	2.95	52	34.9
	Standard						181	7.13	0.8	2.62	0.8	2.62	72	48.4
	Standard c/w st. st. wrap						187	7.36	0.8	2.62	0.8	2.62	79	53.1
	Fire rated	345	5,000	517	7,500	2.25	194	7.64	0.8	2.62	0.8	2.62	79	53.1
	Standard						196	7.72	0.8	2.62	0.8	2.62	86	57.8
65	2.5						159	6.26	1.0	3.28	1.0	3.28	46	30.9
	Standard	690	10,000	1,035	15,000	2.25	165	6.50	1.0	3.28	1.0	3.28	52	34.9
	Standard c/w st. st. wrap						165	6.50	1.0	3.28	1.0	3.28	49	32.9
	Fire rated						171	6.73	1.0	3.28	1.0	3.28	55	37.0
	Standard c/w st. st. wrap	1,035	15,000	1,552	22,500	2.25	159	6.26	1.0	3.28	1.0	3.28	46	30.9
	Standard						165	6.50	1.0	3.28	1.0	3.28	52	34.9
	Standard c/w st. st. wrap						165	6.50	1.0	3.28	1.0	3.28	49	32.9
	Fire rated	345	5,000	517	7,500	2.25	171	6.73	1.0	3.28	1.0	3.28	55	37.0
	Standard						195	7.68	0.9	2.95	0.9	2.95	80	53.8
	Standard c/w st. st. wrap						201	7.91	0.9	2.95	0.9	2.95	88	59.1
	Fire rated	690	10,000	1,035	15,000	2.25	201	7.91	0.9	2.95	0.9	2.95	85	57.1
	Standard						207	8.15	0.9	2.95	0.9	2.95	93	62.5
78	3.0						174	6.85	1.0	3.28	1.0	3.28	54	36.3
	Standard	690	10,000	1,035	15,000	2.25	180	7.09	1.0	3.28	1.0	3.28	61	41.0
	Standard c/w st. st. wrap						187	7.36	1.0	3.28	1.0	3.28	61	41.0
	Fire rated						187	7.36	1.0	3.28	1.0	3.28	68	45.7
	Standard c/w st. st. wrap	1,035	15,000	1,552	22,500	2.25	174	6.85	1.0	3.28	1.0	3.28	54	36.3
	Standard						180	7.09	1.0	3.28	1.0	3.28	61	41.0
	Standard c/w st. st. wrap						187	7.36	1.0	3.28	1.0	3.28	61	41.0
	Fire rated	345	5,000	517	7,500	2.25	187	7.36	1.0	3.28	1.0	3.28	68	45.7
	Standard						211	8.31	1.0	3.28	1.0	3.28	95	63.8
	Standard c/w st. st. wrap						217	8.54	1.0	3.28	1.0	3.28	99	66.5
	Fire rated	690	10,000	1,035	15,000	2.25	217	8.54	1.0	3.28	1.0	3.28	99	66.5
	Standard						223	8.78	1.0	3.28	1.0	3.28	104	69.9
104	4.0						224	8.82	1.5	4.92	1.5	4.92	94	63.2
	Standard	690	10,000	1,035	15,000	2.25	230	9.06	1.5	4.92	1.5	4.92	103	69.2
	Standard c/w st. st. wrap						237	9.33	1.5	4.92	1.5	4.92	104	69.9
	Fire rated						237	9.33	1.5	4.92	1.5	4.92	108	72.6
	Standard c/w st. st. wrap	1,035	15,000	1,552	22,500	2.25	224	8.82	1.5	4.92	1.5	4.92	94	63.2
	Standard						230	9.06	1.5	4.92	1.5	4.92	103	69.2
	Standard c/w st. st. wrap						237	9.33	1.5	4.92	1.5	4.92	104	69.9
	Fire rated	345	5,000	517	7,500	2.25	237	9.33	1.5	4.92	1.5	4.92	108	72.6
	Standard						231	9.09	1.6	5.25	1.6	5.25	106	71.2
	Standard c/w st. st. wrap						236	9.29	1.6	5.25	1.6	5.25	113	75.9
	Fire rated	690	10,000	1,035	15,000	2.25	237	9.33	1.6	5.25	1.6	5.25	112	75.3
	Standard						245	9.65	1.6	5.25	1.6	5.25	125	84.0
	Standard c/w st. st. wrap													

Flexible Choke & Kill Line

with PA liner (up to 266°F / 130°C)

Standard

API Spec. 16C up to FSL 3

Construction

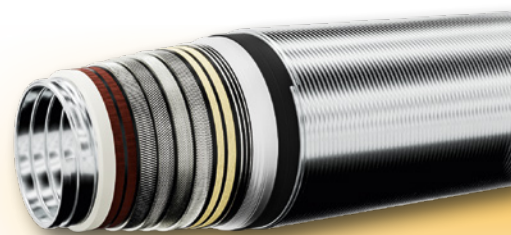
Bore type	full flow, rough bore
Liner material	H ₂ S resistant PA
Operating temperature	-4°F to 266°F (-20°C to 130°C)
Survival temperature	350°F (177°C) for at least 1 hour
Max. available length	60m (200ft)

Features & Comments

- › Coupling materials meet NACE MR 01-75/ISO 15156 latest edition
- › See Flexible Tauro™Fit Choke & Kill Lines for subsea BOPs and for Flexible Choke & Kill Lines with extremely small MBRs

Technical Data

Inside Diameter		Type	Rated Working Pressure		Test Pressure		Safety Factor	Outer Diameter		MBR (storage)		MBR (operation)		Weight	
mm	in		bar	psi	bar	psi	(WP)	mm	in	m	ft	m	ft	kg/m	lb/ft
54	2.0	Standard	345	5,000	517	7,500	2.25	144	5.67	0.9	2.95	0.9	2.95	39	26.2
		Standard c/w st. st. wrap						150	5.91	0.9	2.95	0.9	2.95	45	30.2
		Fire rated						150	5.91	0.9	2.95	0.9	2.95	42	28.2
		Fire rated c/w st. st. wrap						156	6.14	0.9	2.95	0.9	2.95	48	32.3
		Standard	690	10,000	1,035	15,000	2.25	144	5.67	0.9	2.95	0.9	2.95	39	26.2
		Standard c/w st. st. wrap						150	5.91	0.9	2.95	0.9	2.95	45	30.2
		Fire rated						150	5.91	0.9	2.95	0.9	2.95	42	28.2
		Fire rated c/w st. st. wrap						156	6.14	0.9	2.95	0.9	2.95	48	32.3
		Standard	1,035	15,000	1,552	22,500	2.25	177	6.97	1.2	3.94	1.2	3.94	69	46.4
		Standard c/w st. st. wrap						188	7.40	1.2	3.94	1.2	3.94	76	51.1
		Fire rated						190	7.48	1.3	4.26	1.3	4.26	76	51.1
		Fire rated c/w st. st. wrap						190	7.48	1.3	4.26	1.3	4.26	81	54.4
65	2.5	Standard	345	5,000	517	7,500	2.25	155	6.10	0.9	2.95	0.9	2.95	43	28.9
		Standard c/w st. st. wrap						161	6.34	1.2	3.94	1.3	4.26	49	32.9
		Fire rated						169	6.65	1.0	3.28	1.0	3.28	49	32.9
		Fire rated c/w st. st. wrap						180	7.09	1.3	4.26	1.4	4.59	56	37.6
		Standard	690	10,000	1,035	15,000	2.25	155	6.10	0.9	2.95	0.9	2.95	43	28.9
		Standard c/w st. st. wrap						161	6.34	1.2	3.94	1.3	4.26	49	32.9
		Fire rated						169	6.65	1.0	3.28	1.0	3.28	49	32.9
		Fire rated c/w st. st. wrap						180	7.09	1.3	4.26	1.4	4.59	56	37.6
		Standard	1,035	15,000	1,552	22,500	2.25	191	7.52	1.3	4.26	1.3	4.26	77	51.7
		Standard c/w st. st. wrap						202	7.95	1.3	4.26	1.3	4.26	85	57.1
		Fire rated						204	8.03	1.4	4.59	1.4	4.59	85	57.1
		Fire rated c/w st. st. wrap						210	8.27	1.4	4.59	1.4	4.59	93	62.5
78	3.0	Standard	345	5,000	517	7,500	2.25	168	6.61	0.9	2.95	0.9	2.95	49	32.9
		Standard c/w st. st. wrap						174	6.85	0.9	2.95	0.9	2.95	55	37.0
		Fire rated						174	6.85	1.0	3.28	1.0	3.28	52	34.9
		Fire rated c/w st. st. wrap						180	7.09	1.0	3.28	1.0	3.28	59	39.6
		Standard	690	10,000	1,035	15,000	2.25	168	6.61	0.9	2.95	0.9	2.95	49	32.9
		Standard c/w st. st. wrap						174	6.85	0.9	2.95	0.9	2.95	55	37.0
		Fire rated						174	6.85	1.0	3.28	1.0	3.28	52	34.9
		Fire rated c/w st. st. wrap						180	7.09	1.0	3.28	1.0	3.28	59	39.6
		Standard	1,035	15,000	1,552	22,500	2.25	208	8.19	1.4	4.59	1.4	4.59	90	60.5
		Standard c/w st. st. wrap						213	8.39	1.4	4.59	1.4	4.59	97	65.2
		Fire rated						211	8.31	1.5	4.92	1.5	4.92	93	62.5
		Fire rated c/w st. st. wrap						217	8.54	1.5	4.92	1.5	4.92	101	67.9
104	4.0	Standard	1,380	20,000	2,070	30,000	2.25	237	9.33	1.2	3.94	1.2	3.94	122	82.0
		Standard c/w st. st. wrap						243	9.57	1.2	3.94	1.2	3.94	125	84.0
		Fire rated						244	9.61	1.2	3.94	1.2	3.94	128	86.0
		Fire rated c/w st. st. wrap						252	9.92	1.2	3.94	1.2	3.94	135	90.7
		Standard	345	5,000	517	7,500	2.25	219	8.62	1.4	4.59	1.4	4.59	89	59.8
		Standard c/w st. st. wrap						224	8.82	1.4	4.59	1.4	4.59	97	65.2
		Fire rated						225	8.86	1.5	4.92	1.5	4.92	94	63.2
		Fire rated c/w st. st. wrap						230	9.06	1.5	4.92	1.5	4.92	102	68.5
		Standard	690	10,000	1,035	15,000	2.25	219	8.62	1.4	4.59	1.4	4.59	89	59.8
		Standard c/w st. st. wrap						224	8.82	1.4	4.59	1.4	4.59	97	65.2
		Fire rated						225	8.86	1.5	4.92	1.5	4.92	94	63.2
		Fire rated c/w st. st. wrap						230	9.06	1.5	4.92	1.5	4.92	102	68.5
		Standard	1,035	15,000	1,552	22,500	2.25	231	9.09	1.6	5.25	1.6	5.25	106	71.2
		Standard c/w st. st. wrap						236	9.29	1.6	5.25	1.6	5.25	113	75.9
		Fire rated						237	9.33	1.6	5.25	1.6	5.25	112	75.3
		Fire rated c/w st. st. wrap						245	9.65	1.6	5.25	1.6	5.25	125	84.0



Flexible Choke & Kill Line

with PA liner (up to 212°F / 100°C)

Standard

API Spec. 16C up to FSL 3

Construction

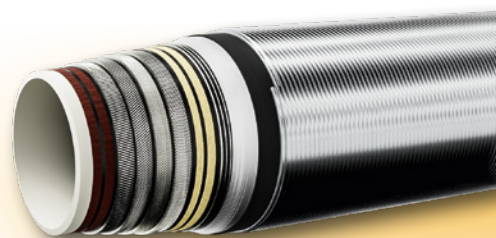
Bore type	full flow, smooth bore
Liner material	H ₂ S resistant PA
Operating temperature	-4°F to 212°F (-20°C to 100°C)
Survival temperature	350°F (177°C) for at least 1 hour
Max. available length	60 m (200 ft)

Features & Comments

- › Coupling materials meet NACE MR 01-75/ISO 15156 latest edition
- › See Flexible Tauro™Fit Choke & Kill Lines for subsea BOPs and for Flexible Choke & Kill Lines with extremely small MBRs

Technical Data

Inside Diameter		Type	Rated Working Pressure		Test Pressure		Safety Factor	Outer Diameter		MBR (storage)		MBR (operation)		Weight	
mm	in		bar	psi	bar	psi	(WP)	mm	in	m	ft	m	ft	kg/m	lb/ft
51	2.0	Standard	345	5,000	517	7,500	2.25	117	4.61	0.9	2.95	0.9	2.95	24	16.1
		Standard c/w st. st. wrap						122	4.80	0.9	2.95	0.9	2.95	29	19.5
		Fire rated						123	4.84	0.9	2.95	0.9	2.95	28	18.8
		Fire rated c/w st. st. wrap						129	5.08	0.9	2.95	0.9	2.95	33	22.2
		Standard	690	10,000	1,035	15,000	2.25	117	4.61	0.9	2.95	0.9	2.95	24	16.1
		Standard c/w st. st. wrap						122	4.80	0.9	2.95	0.9	2.95	29	19.5
		Fire rated						123	4.84	0.9	2.95	0.9	2.95	28	18.8
		Fire rated c/w st. st. wrap						129	5.08	0.9	2.95	0.9	2.95	33	22.2
		Standard	1,035	15,000	1,552	22,500	2.25	136	5.35	1.0	3.28	1.1	3.61	40	26.9
		Standard c/w st. st. wrap						145	5.71	1.1	3.61	1.2	3.94	47	31.6
		Fire rated						154	6.06	1.1	3.61	1.2	3.94	47	31.6
		Fire rated c/w st. st. wrap						152	5.98	1.1	3.61	1.2	3.94	51	34.3
64	2.5	Standard	345	5,000	517	7,500	2.25	129	5.08	1.0	3.28	1.0	3.28	29	19.5
		Standard c/w st. st. wrap						134	5.28	1.0	3.28	1.0	3.28	34	22.8
		Fire rated						136	5.35	1.0	3.28	1.0	3.28	32	21.5
		Fire rated c/w st. st. wrap						147	5.79	1.0	3.28	1.0	3.28	39	26.2
		Standard	690	10,000	1,035	15,000	2.25	129	5.08	1.0	3.28	1.0	3.28	29	19.5
		Standard c/w st. st. wrap						134	5.28	1.0	3.28	1.0	3.28	34	22.8
		Fire rated						136	5.35	1.0	3.28	1.0	3.28	32	21.5
		Fire rated c/w st. st. wrap						147	5.79	1.0	3.28	1.0	3.28	39	26.2
		Standard	1,035	15,000	1,552	22,500	2.25	149	5.87	1.1	3.61	1.3	4.26	46	30.9
		Standard c/w st. st. wrap						155	6.10	1.1	3.61	1.3	4.26	52	34.9
		Fire rated						167	6.57	1.2	3.94	1.4	4.59	53	35.6
		Fire rated c/w st. st. wrap						164	6.46	1.2	3.94	1.4	4.59	57	38.3
76	3.0	Standard	345	5,000	517	7,500	2.25	141	5.55	0.9	2.95	0.9	2.95	32	21.5
		Standard c/w st. st. wrap						147	5.79	0.9	2.95	0.9	2.95	38	25.5
		Fire rated						148	5.83	1.0	3.28	1.0	3.28	36	24.2
		Fire rated c/w st. st. wrap						154	6.06	1.0	3.28	1.0	3.28	42	28.2
		Standard	690	10,000	1,035	15,000	2.25	141	5.55	0.9	2.95	0.9	2.95	32	21.5
		Standard c/w st. st. wrap						147	5.79	0.9	2.95	0.9	2.95	38	25.5
		Fire rated						148	5.83	1.0	3.28	1.0	3.28	36	24.2
		Fire rated c/w st. st. wrap						154	6.06	1.0	3.28	1.0	3.28	42	28.2
		Standard	1,035	15,000	1,552	22,500	2.25	164	6.46	1.2	3.94	1.4	4.59	52	34.9
		Standard c/w st. st. wrap						169	6.65	1.2	3.94	1.4	4.59	59	39.6
		Fire rated						171	6.73	1.4	4.59	1.7	5.58	56	37.6
		Fire rated c/w st. st. wrap						177	6.97	1.4	4.59	1.7	5.58	62	41.7
102	4.0	Standard	345	5,000	517	7,500	2.25	184	7.24	1.4	4.59	1.4	4.59	54	36.3
		Standard c/w st. st. wrap						190	7.48	1.4	4.59	1.4	4.59	61	41.0
		Fire rated						191	7.52	1.4	4.59	1.4	4.59	58	39.0
		Fire rated c/w st. st. wrap						197	7.76	1.4	4.59	1.4	4.59	66	44.3
		Standard	690	10,000	1,035	15,000	2.25	184	7.24	1.4	4.59	1.4	4.59	54	36.3
		Standard c/w st. st. wrap						190	7.48	1.4	4.59	1.4	4.59	61	41.0
		Fire rated						191	7.52	1.4	4.59	1.4	4.59	58	39.0
		Fire rated c/w st. st. wrap						197	7.76	1.4	4.59	1.4	4.59	66	44.3



Subsea LMRP Hoses

for Choke & Kill and Hydraulic Conduit Application

Standard

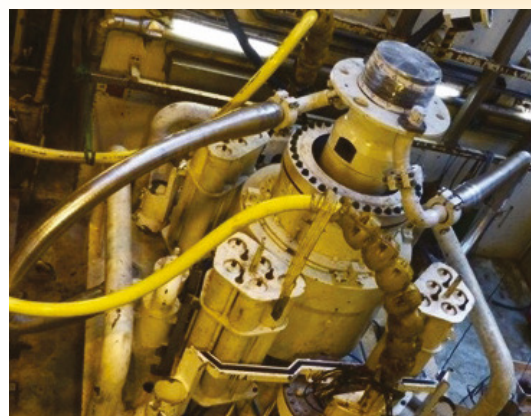
API Spec. 16C up to FSL 3

Construction

Bore type	full flow, rough bore
Liner material	H ₂ S resistant PA or Tauroflon™
Shape	Pre-formed hose available if necessary
Operating temperature	-4°F to 250°F (-20°C to 121°C)
Max. available length	60 m (200 ft)

Features & Comments

- › Easy installation in confined spaces
Used on Lower Marine Riser Package (LMRP) at subsea BOPs
- › Extended service life as a result of reduced risk of over-bending and reduced stress on hose body and on coupling
- › Transfers less load to adjacent equipment or pipework
- › New short coupling design increases flexible length with no reduction in bonding strength
- › Opens up new design opportunities to reduce the size and weight of oil field equipment
- › Coupling materials meet NACE MR 01-75/ISO 15156 latest edition
- › Hose length analysis is available upon request



Technical Data | Choke & Kill hoses, Tauroflon™ liner, rough bore

Inside Diameter		Type	Rated Working Pressure		Test Pressure		Safety Factor	Outer Diameter		MBR (storage)		MBR (operation)		Weight	
mm	in		bar	psi	bar	psi		mm	in	m	ft	m	ft	kg/m	lb/ft
54	2.0	Standard	690	10.000	1.035	15.000	2.25	146	5.75	0.9	2.95	0.9	2.95	40	26.9
		Standard c/w st. st. wrap						151	5.94	0.9	2.95	0.9	2.95	46	30.9
		Standard	1.035	15.000	1.552	22.500	2.25	181	7.13	0.8	2.62	0.8	2.62	72	48.4
		Standard c/w st. st. wrap						187	7.36	0.8	2.62	0.8	2.62	79	53.1
65	2.5	Standard	690	10.000	1.035	15.000	2.25	159	6.26	1.0	3.28	1.0	3.28	46	30.9
		Standard c/w st. st. wrap						165	6.50	1.0	3.28	1.0	3.28	52	34.9
		Standard	1.035	15.000	1.552	22.500	2.25	195	7.68	0.9	2.95	0.9	2.95	80	53.8
		Standard c/w st. st. wrap						201	7.91	0.9	2.95	0.9	2.95	88	59.1
78	3.0	Standard	690	10.000	1.035	15.000	2.25	174	6.85	1.0	3.28	1.0	3.28	54	36.3
		Standard c/w st. st. wrap						180	7.09	1.0	3.28	1.0	3.28	61	41.0
		Standard	1.035	15.000	1.552	22.500	2.25	211	8.31	1.0	3.28	1.0	3.28	95	63.8
		Standard c/w st. st. wrap						217	8.54	1.0	3.28	1.0	3.28	99	66.5

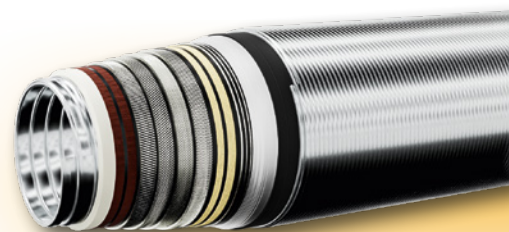
Subsea LMRP Hoses

for Choke & Kill and Hydraulic Conduit Application, Cont.

Technical Data | Hydraulic conduit, PA liner, rough bore

Inside Diameter		Type	Rated Working Pressure		Test Pressure		Safety Factor	Outer Diameter		MBR (storage)		MBR (operation)		Weight	
mm	in		bar	psi	bar	psi	(WP)	mm	in	m	ft	m	ft	kg/m	lb/ft
51	2.0	Standard	345	5,000	517	7,500	2.25	144	5.67	0.9	2.95	0.9	2.95	39	26.2
		Standard c/w st. st. wrap						150	5.91	0.9	2.95	0.9	2.95	42	28.2
		Standard	690	10,000	1,035	15,000	2.25	144	5.67	0.9	2.95	0.9	2.95	39	26.2
		Standard c/w st. st. wrap						150	5.91	0.9	2.95	0.9	2.95	42	28.2
		Standard	1,035	15,000	1,552	22,500	2.25	177	6.97	1.2	3.94	1.2	3.94	69	46.4
		Standard c/w st. st. wrap						183	7.20	1.2	3.94	1.2	3.94	75	50.4
64	2.5	Standard	345	5,000	517	7,500	2.25	155	6.10	0.9	2.95	0.9	2.95	43	28.9
		Standard c/w st. st. wrap						161	6.34	0.9	2.95	0.9	2.95	49	32.9
		Standard	690	10,000	1,035	15,000	2.25	155	6.10	0.9	2.95	0.9	2.95	43	28.9
		Standard c/w st. st. wrap						161	6.34	0.9	2.95	0.9	2.95	49	32.9
		Standard	1,035	15,000	1,552	22,500	2.25	191	7.52	1.3	4.26	1.3	4.26	77	51.7
		Standard c/w st. st. wrap						202	7.95	1.3	4.26	1.3	4.26	85	57.1
76	3.0	Standard	345	5,000	517	7,500	2.25	168	6.61	0.9	2.95	0.9	2.95	49	32.9
		Standard c/w st. st. wrap						174	6.85	0.9	2.95	0.9	2.95	55	37.0
		Standard	690	10,000	1,035	15,000	2.25	168	6.61	0.9	2.95	0.9	2.95	49	32.9
		Standard c/w st. st. wrap						174	6.85	0.9	2.95	0.9	2.95	55	37.0
		Standard	1,035	15,000	1,552	22,500	2.25	208	8.19	1.4	4.59	1.4	4.59	90	60.5
		Standard c/w st. st. wrap						214	8.43	1.4	4.59	1.4	4.59	97	65.2

Mud Booster Hose



Standard

API Spec. 7K FSL1 - FSL 2 & API Spec. 16C - up to FSL 3

Construction

Bore type

Liner material

Operating temperature

Max. available length

API 16C - up to FSL 3

full flow, rough bore

H₂S resistant Tauroflon™ & PA

-4°F to 250°F

(-20°C to 121°C)

60 m (200 ft)

API 7K FSL 1 - FSL 2

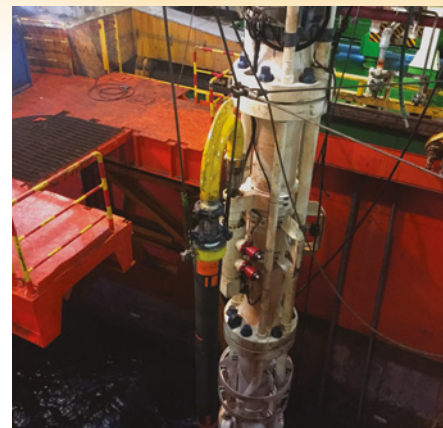
full flow, smooth bore

NBR

-13°F to 212°F

(-25°C to 100°C)

60 m (200 ft)



Features & Comments

- › The construction with Tauroflon™ liner is suitable for well completion
- › Coupling materials meet NACE MR 01-75 / ISO 15156 latest edition

Technical Data | As per API Spec. 7K

Inside Diameter		Type	Rated Working Pressure		Test Pressure		API Grade	Safety Factor	Outer Diameter		MBR (operation)		Weight	
mm	in		bar	psi	bar	psi		(WP)	mm	in	m	ft	kg/m	lb/ft
102	4.0	Standard	345	5,000	517	7,500	D	2.5	151	5.94	0.9	2.95	22	14.8
		Standard	517	7,500	776	11,250	E	2.5	174	6.85	1.4	4.59	42	28.2
127	5.0	Standard	345	5,000	517	7,500	D	2.5	212	8.35	1.5	4.92	64	43.0
		Standard	517	7,500	776	11,250	E	2.5	212	8.35	1.5	4.92	64	43.0

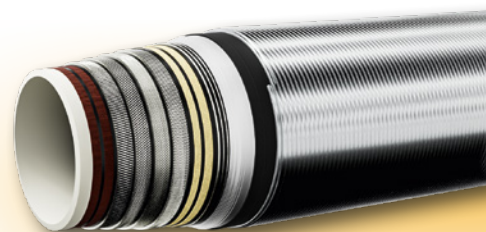
Technical Data | As per API Spec. 16C with PA lining

Inside Diameter		Type	Rated Working Pressure		Test Pressure		Safety Factor	Outer Diameter		MBR (operation)		Weight	
mm	in		bar	psi	bar	psi	(WP)	mm	in	m	ft	kg/m	lb/ft
104	4.0	Standard	690	10,000	1,035	15,000	2.25	219	8.62	1.4	4.59	89	59.8
		Standard c/w st. st. wrap						224	8.82	1.4	4.59	97	65.2
		Fire rated						232	9.13	1.5	4.92	98	65.9
		Fire rated c/w st. st. wrap						230	9.06	1.5	4.92	102	68.5

Technical Data | As per API Spec. 16C with Tauroflon™ lining

Inside Diameter		Type	Rated Working Pressure		Test Pressure		Safety Factor	Outer Diameter		MBR (operation)		Weight	
mm	in		bar	psi	bar	psi	(WP)	mm	in	m	ft	kg/m	lb/ft
104	4.0	Standard	345	5,000	543	7,875	2.25	178	7.01	1.5	4.92	42	28.2
		Standard c/w st. st. wrap						183	7.20	1.5	4.92	48	32.3
		Fire rated						184	7.24	1.5	4.92	46	30.9
		Fire rated c/w st. st. wrap						189	7.44	1.5	4.92	52	34.9
		Standard	690	10,000	1,035	15,000	2.25	224	8.82	1.5	4.92	94	63.2
		Standard c/w st. st. wrap						230	9.06	1.5	4.92	103	69.2
		Fire rated						237	9.33	1.5	4.92	104	69.9
		Fire rated c/w st. st. wrap						237	9.33	1.5	4.92	112	75.3

Hydraulic Conduit Hose



Standard

API Spec. 7K FSL1 - FSL 2 & API Spec. 16C - up to FSL 3

Construction

	API 7K FSL 1 - FSL 2	API 16C - up to FSL 3
Bore type	full flow, smooth bore	full flow, smooth bore
Liner material	NBR	H ₂ S resistant PA
Operating temperature	-13°F to 212°F (-25°C to 100°C)	-4°F to 212°F (-20°C to 100°C)
Max. available length	60 m (200 ft)	60 m (200 ft)

Features & Comments

- › Coupling materials meet NACE MR 01-75 / ISO 15156 latest edition



Technical Data | As per API Spec. 7K

Inside Diameter		Rated Working Pressure		Test Pressure		API Grade	Safety Factor	Outer Diameter		MBR (storage)		MBR (operation)		Weight	
mm	in	bar	psi	bar	psi			mm	in	m	ft	m	ft	kg/m	lb/ft
51	2.0	345	5,000	517	7,500	D	2.5	103	4.06	0.6	1.97	0.7	2.30	14	9.4
64	2.5	345	5,000	517	7,500	D	2.5	113	4.45	0.6	1.97	0.7	2.30	15	10.1
76	3.0	345	5,000	517	7,500	D	2.5	126	4.96	0.7	2.30	0.8	2.62	18	12.1
89	3.5	345	5,000	517	7,500	D	2.5	140	5.51	0.8	2.62	0.9	2.95	21	14.1

Technical Data | As per API Spec. 16C

Inside Diameter		Type	Rated Working Pressure		Test Pressure		Safety Factor	Outer Diameter		MBR (storage)		MBR (operation)		Weight	
mm	in		bar	psi	bar	psi		mm	in	m	ft	m	ft	kg/m	lb/ft
51	2.0	Standard	345	5,000	517	7,500	2.25	116	4.57	0.9	2.95	0.9	2.95	25	16.8
		Standard c/w st. st. wrap						122	4.80	0.9	2.95	0.9	2.95	29	19.5
		Fire rated						123	4.84	0.9	2.95	0.9	2.95	28	18.8
		Fire rated c/w st. st. wrap						129	5.08	0.9	2.95	0.9	2.95	33	22.2
64	2.5	Standard	345	5,000	517	7,500	2.25	128	5.04	1.0	3.28	1.0	3.28	29	19.5
		Standard c/w st. st. wrap						134	5.28	1.0	3.28	1.0	3.28	34	22.8
		Fire rated						136	5.35	1.0	3.28	1.0	3.28	32	21.5
		Fire rated c/w st. st. wrap						147	5.79	1.0	3.28	1.0	3.28	39	26.2
76	3.0	Standard	345	5,000	517	7,500	2.25	141	5.55	0.9	2.95	0.9	2.95	32	21.5
		Standard c/w st. st. wrap						147	5.79	0.9	2.95	0.9	2.95	37	24.9
		Fire rated						148	5.83	1.0	3.28	1.0	3.28	37	24.9
		Fire rated c/w st. st. wrap						154	6.06	1.0	3.28	1.0	3.28	41	27.6

Blowout Preventer Control Hose

Fireshield 5000

Standard

API Spec. 16C up to FSL 3

Construction

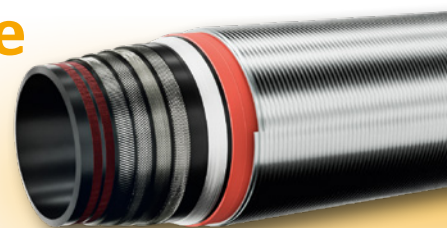
Bore type	not full flow, smooth bore
Liner material	NBR
Reinforcement	2 wire braid (up to 3/8") 4 or 6 wire spirals (above 3/8")
Cover	Red flame retardant CR rubber over layers of heat resistant fiber
Operating temperature	-4°F to 212°F (-20°C to 100°C)
Max. available length	60 m (200 ft)

Features & Comments

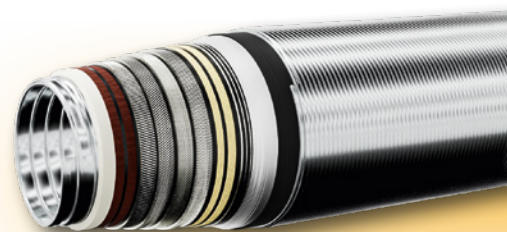
- › Used in onshore and offshore drilling operations on the Blow Out Preventer (BOP) to provide hydraulic power to seal the well head in case of a kick or an emergency situation where operation is critical during exposure to fire and high temperature
- › Fire rating meets and exceeds Lloyd's Register OD/1000/499 at 1292°F for 5 minutes in accordance to the guidelines of API 16D
- › The QR74 Quick Release valved couplings also fully comply to Lloyd's Register OD/1000/499 fire rating
- › Stainless steel armor is available upon request to protect the hose against external mechanical damage

Technical Data

Inside Diameter		Rated Working Pressure		Min. Burst Pressure		Outer Diameter		MBR (operation)		Weight	
mm	in	bar	psi	bar	psi	mm	in	mm	in	kg/m	lb/ft
12,7	1/2	345	5,000	1,380	20,000	35	1.4	250	9.8	1.70	1.14
19,1	3/4	345	5,000	1,380	20,000	41	1.6	330	13.0	2.50	1.68
25,1	1	345	5,000	1,380	20,000	46	1.8	375	14.8	2.80	1.88
31,7	1 1/4	345	5,000	1,380	20,000	56	2.2	460	18.1	4.30	2.89
38,1	1 1/2	345	5,000	1,380	20,000	65	2.6	540	21.3	5.80	3.90
50,8	2	345	5,000	1,380	20,000	78	3.1	700	27.6	7.80	5.24



Well Test Production Hose



Standard

API Spec. 17K & API Spec. 16C - up to FSL 3

Construction

	API 16C - up to FSL 3	API 17K
Bore type	full flow, rough bore	full flow, rough bore
Liner material	H ₂ S resistant Tauroflon™	H ₂ S resistant PA
Operating temperature	-4°F to 266°F (-20°C to 130°C)	-4°F to 212°F (-20°C to 100°C)
Max. available length	60 m (200 ft)	60 m (200 ft)

API 17K

Bore type	full flow, rough bore
Liner material	H ₂ S resistant PA
Operating temperature	-4°F to 194°F (-20°C to 90°C)
Max. available length	60 m (200 ft)

Features & Comments

- › Suitable for both Drill Stem test (DST) and Production Test (PT)
- › Designed to withstand continuous periods of operation with a high risk of rapid decompression
- › There is no recognized industry standard for Well Test Production Hoses. However, in view of the typical operating conditions, the API specifications for Flexible Choke & Kill Lines (API 16C) or Bonded Flexible Pipes (API 17K) used for production should be considered. Flexible Choke & Kill Lines are designed to withstand short-term high pressure and high temperature operation, while production hoses must withstand continuous periods of operation with a high risk of decompression
- › Coupling materials meet NACE MR 01-75 / ISO 15156 latest edition



Technical Data | As per API Spec. 17K with PA lining

Inside Diameter		Type	Rated Working Pressure		Test Pressure		Safety Factor	Outer Diameter		MBR (static)		Weight	
mm	in		bar	psi	bar	psi	(WP)	mm	in	m	ft	kg/m	lb/ft
78	3.0	Fire rated c/w st. st. wrap	517	7,500	690	11,250	2.25	201	7.91	1.5	4.92	67	45.0
104	4.0	Fire rated c/w st. st. wrap	517	7,500	690	11,250	2.25	251	9.88	1.8	5.90	112	75.3

Technical Data | As per API Spec. 16C with PA lining*

Inside Diameter		Type	Rated Working Pressure		Test Pressure		Safety Factor	Outer Diameter		MBR (operation)		Weight	
mm	in		bar	psi	bar	psi	(WP)	mm	in	m	ft	kg/m	lb/ft
51	2.0	Fire rated c/w st. st. wrap	345	5,000	517	7,500	2.25	161	6.34	0.9	2.95	49	32.9
		Fire rated c/w st. st. wrap	690	10,000	1,035	15,000	2.25	161	6.34	0.9	2.95	49	32.9
		Fire rated c/w st. st. wrap	1,035	15,000	1,552	22,500	2.25	196	7.72	1.3	4.26	83	55.8
78	3.0	Fire rated c/w st. st. wrap	690	10,000	1,035	15,000	2.25	180	7.09	1.0	3.28	59	39.6
		Fire rated c/w st. st. wrap	1,035	15,000	1,552	22,500	2.25	217	8.54	1.5	4.92	101	67.9
104	4.0	Fire rated c/w st. st. wrap	690	10,000	1,035	15,000	2.25	230	9.06	1.5	4.92	102	68.5

*operating temperature limitation of 100°C

Technical Data | As per API Spec. 16C with Tauroflon™ lining

Inside Diameter		Type	Rated Working Pressure		Test Pressure		Safety Factor	Outer Diameter		MBR (operation)		Weight	
mm	in		bar	psi	bar	psi	(WP)	mm	in	m	ft	kg/m	lb/ft
51	2.0	Fire rated c/w st. st. wrap	345	5,000	517	7,500	2.25	138	5.43	1.1	3.61	33	22.2
		Fire rated c/w st. st. wrap	690	10,000	1,035	15,000	2.25	159	6.26	1.0	3.28	50	33.6
		Fire rated c/w st. st. wrap	1,035	15,000	1,552	22,500	2.25	196	7.72	1.0	3.28	86	57.8
78	3.0	Fire rated c/w st. st. wrap	690	10,000	1,035	15,000	2.25	186	7.32	1.0	3.28	64	43.0
		Fire rated c/w st. st. wrap	1,035	15,000	1,552	22,500	2.25	223	8.78	1.0	3.28	104	69.9
104	4.0	Fire rated c/w st. st. wrap	690	10,000	1,035	15,000	2.25	236	9.29	1.5	4.92	108	72.6
		Fire rated c/w st. st. wrap	1,035	15,000	1,552	22,500	2.25	243	9.57	1.6	5.25	121	81.3

Offshore Well Stimulation/ Intervention / Acidizing Hose

Standard

API Spec. 16C - up to FSL 3

Construction

Bore type	full flow, rough bore
Liner material	H ₂ S resistant Tauroflon™
Operating temperature	-4°F to 266°F (-20°C to 130°C)
Max. available length	60 m (200 ft)

Features & Comments

- › Designed to withstand a large range of acidizing liquids and fracturing solutions
- › Coupling materials meet NACE MR 01-75 / ISO 15156 latest edition
- › Liner suitable for well test/flowback applications



Technical Data | As per API Spec. 16C with Tauroflon™ lining

Inside Diameter		Type	Rated Working Pressure		Test Pressure		Safety Factor	Outer Diameter		MBR (storage)		MBR (operation)		Weight	
mm	in		bar	psi	bar	psi	(WP)	mm	in	m	ft	m	ft	kg/m	lb/ft
54	2.0	Standard	690	10,000	1,035	15,000	2.25	146	5.75	0.9	2.95	0.9	2.95	40	26.9
		Standard c/w st. st. wrap						151	5.94	0.9	2.95	0.9	2.95	46	30.9
		Fire rated						159	6.26	0.9	2.95	0.9	2.95	46	30.9
		Fire rated c/w st. st. wrap						165	6.50	0.9	2.95	0.9	2.95	52	34.9
		Standard	1,035	15,000	1,552	22,500	2.25	181	7.13	0.8	2.62	0.8	2.62	72	48.4
		Standard c/w st. st. wrap						187	7.36	0.8	2.62	0.8	2.62	79	53.1
		Fire rated						194	7.64	0.8	2.62	0.8	2.62	79	53.1
		Fire rated c/w st. st. wrap						196	7.72	0.8	2.62	0.8	2.62	86	57.8
78	3.0	Standard	690	10,000	1,035	15,000	2.25	174	6.85	1.0	3.28	1.0	3.28	54	36.3
		Standard c/w st. st. wrap						180	7.09	1.0	3.28	1.0	3.28	61	41.0
		Fire rated						187	7.36	1.0	3.28	1.0	3.28	61	41.0
		Fire rated c/w st. st. wrap						187	7.36	1.0	3.28	1.0	3.28	68	45.7
		Standard	1,035	15,000	1,552	22,500	2.25	211	8.31	1.0	3.28	1.0	3.28	95	63.8
		Standard c/w st. st. wrap						217	8.54	1.0	3.28	1.0	3.28	99	66.5
		Fire rated						217	8.54	1.0	3.28	1.0	3.28	99	66.5
		Fire rated c/w st. st. wrap						223	8.78	1.0	3.28	1.0	3.28	104	69.9
104	4.0	Standard	690	10,000	1,035	15,000	2.25	224	8.82	1.5	4.92	1.5	4.92	94	63.2
		Standard c/w st. st. wrap						230	9.06	1.5	4.92	1.5	4.92	103	69.2
		Fire rated						237	9.33	1.5	4.92	1.5	4.92	104	69.9
		Fire rated c/w st. st. wrap						237	9.33	1.5	4.92	1.5	4.92	108	72.6

Onshore Well Stimulation Hose

Construction

Bore type	full flow, smooth bore
Liner material	Erosion resistant elastomer
Operating temperature	-22°F to 158°F (-30°C to 70°C)
Max. available length	60 m (200 ft)

Features & Comments

- › Designed to withstand high velocity frac fluid
- › Great chemical resistance against HCl
- › Fewer connections than traditional iron and piping, reducing the risk of leaks and assembly time
- › Reduced maintenance and longer service life compared to traditional iron and piping
- › Extends service life of adjacent piping, valves and elbows due to reduced turbulence
- › Coupling materials meet NACE MR 01-75 / ISO 15156 latest edition

Technical Data

Inside Diameter		Type	Rating Working Pressure		Test Pressure		Safety Factor	Outer Diameter		MBR (operation)		Weight	
mm	in		bar	psi	bar	psi		mm	in	m	ft	kg/m	lb/ft
51	2.0	Standard	1,035	15,000	1,553	22,500	2.0	121	4.76	0.7	2.30	25	16.8
69	2.7	Standard	1,035	15,000	1,553	22,500	2.0	135	5.31	0.7	2.30	29	19.5
102	4.0	Standard	1,035	15,000	1,553	22,500	2.0	209	8.23	1.5	4.92	82	55.1
127	5.0	Standard	1,035	15,000	1,553	22,500	2.0	241	9.49	1.5	4.92	100	67.2
152	6.0	Standard	1,035	15,000	1,553	22,500	2.0	290	11.42	1.8	5.90	153	102.8



Burner / Flare Boom Hose

Standard

API Spec. 17K

Construction

Bore type	full flow, rough bore
Liner material	H ₂ S resistant HNBR
Operating temperature	-22°F to 194°F (-30°C to 90°C)
Max. available length	60 m (200 ft)

Features & Comments

- › Designed to connect the production test manifold to the burner/flare boom
- › Coupling materials meet NACE MR 01-75/ISO 15156 latest edition
- › Material of the end fittings is either carbon steel or duplex
- › Material of the internal carcass is either 316L or 254 SMO



Technical Data | As per API Spec. 17K, rough bore

Inside Diameter		Type	Rated Working Pressure		Test Pressure		Safety Factor	Outer Diameter		MBR (static)		MBR (dynamic)		Weight	
mm	in		bar	psi	bar	psi	(WP)	mm	in	m	ft	m	ft	kg/m	lb/ft
76	3.0	Fire rated	207	3,000	310	4,500	2.25	179	7.05	1.1	3.61	1.5	4.92	46	30.9
		Fire rated c/w st. st. wrap						185	7.28	1.1	3.61	1.5	4.92	53	35.6
		Fire rated	345	5,000	517	7,500	2.25	197	7.76	1.2	3.94	1.7	5.58	65	43.7
		Fire rated c/w st. st. wrap						208	8.19	1.2	3.94	1.7	5.58	73	49.1
102	4.0	Fire rated	207	3,000	310	4,500	2.25	205	8.07	1.4	4.59	1.8	5.90	57	38.3
		Fire rated c/w st. st. wrap						216	8.50	1.4	4.59	1.8	5.90	65	43.7
		Fire rated	345	5,000	517	7,500	2.25	223	8.78	1.5	4.92	2.0	6.56	79	53.1
		Fire rated c/w st. st. wrap						228	8.98	1.5	4.92	2.0	6.56	88	59.1
130	5.0	Fire rated	207	3,000	310	4,500	2.25	249	9.80	1.5	4.92	2.0	6.56	92	61.8
		Fire rated c/w st. st. wrap						261	10.28	1.5	4.92	2.0	6.56	102	68.5
		Fire rated	345	5,000	517	7,500	2.25	252	9.92	1.6	5.25	2.1	6.89	97	65.2
		Fire rated c/w st. st. wrap						257	10.12	1.6	5.25	2.1	6.89	107	71.9
152	6.0	Fire rated	207	3,000	310	4,500	2.25	259	10.20	1.6	5.25	2.1	6.89	79	53.1
		Fire rated c/w st. st. wrap						270	10.63	1.6	5.25	2.1	6.89	89	59.8
		Fire rated	345	5,000	518	7,500	2.25	279	10.98	1.9	6.23	2.6	8.53	112	75.3
		Fire rated c/w st. st. wrap						291	11.46	1.9	6.23	2.6	8.53	124	83.3

Riser Tensioner Hose

Standard

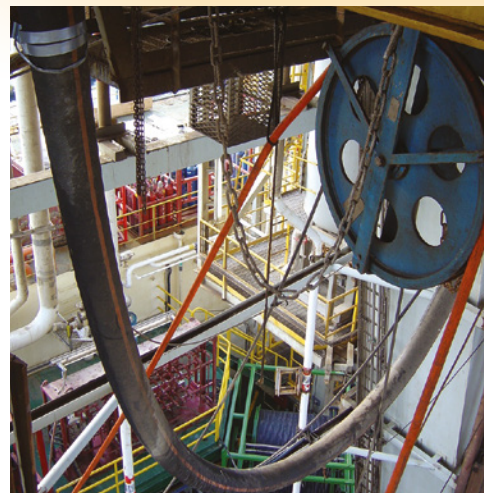
API Spec. 17K

Construction

Bore type	full flow, smooth, rough bore
Liner material	H ₂ S resistant HNBR
Operating temperature	-22°F to 158°F (-30°C to 70°C)
Max. available length	60 m (200 ft)

Features & Comments

- › Used for transporting hydraulic fluid between gas filled accumulators and large hydraulic cylinders. Although they are not in direct contact with pressurized gas, the hydraulic fluid will invariably contain dissolved gas after some time, even in configurations with pistons between the gas and the liquid phase. There is a clear risk that this dissolved gas can cause collapse of the hose liner and ultimate failure following decompression. Since API 7K does not include gas exposure testing, it should not be considered for riser tensioner hose applications.
- › Oil and glycol resistant liner



Technical Data | As per API Spec. 17K, rough bore

Inside Diameter		Type	Rated Working Pressure		Test Pressure		Safety Factor	Outer Diameter		MBR (static)		MBR (dynamic)		Weight	
mm	in		bar	psi	bar	psi		mm	in	m	ft	m	ft	kg/m	lb/ft
152	6.0	Fire rated	207	3,000	310	4,500	2.25	258	10.16	1.8	5.90	2.3	7.54	79	53.1
		Fire rated	517	7,500	776	11,250	2.25	278	10.94	1.9	6.23	2.6	8.53	112	75.3
207	8.0	Fire rated	259	3,750	388	5,625	2.25	336	13.23	2.4	7.87	3.2	10.50	143	96.1

Technical Data | As per API Spec. 17K, smooth bore

Inside Diameter		Type	Rated Working Pressure		Test Pressure		Safety Factor	Outer Diameter		MBR (static)		MBR (dynamic)		Weight	
mm	in		bar	psi	bar	psi		mm	in	m	ft	m	ft	kg/m	lb/ft
152	6.0	Fire rated	228	3,330	344	4,995	2.5	237	9.33	1.6	5.08	1.8	5.90	53	35.6

Drill String Compensator Hose



Standard

API Spec. 17K

Construction

Bore type	full flow, rough bore
Liner material	H ₂ S resistant HNBR
Operating temperature	-22°F to 194°F (30°C to 90°C)
Max. available length	60 m (200 ft)

Features & Comments

- › Used for hydro-pneumatic medium transport to the drill string compensator cylinder to isolate the heaving motion of the rig from the drill string



Technical Data

Inside Diameter		Type	Rated Working Pressure		Test Pressure		Safety Factor	Outer Diameter		MBR (static)		MBR (dynamic)		Weight	
mm	in		bar	psi	bar	psi		mm	in	m	ft	m	ft	kg/m	lb/ft
53	2.0	Standard	207	3,000	310	4,500	2.25	130	5.12	0.8	2.62	1.1	3.61	25	16.8
		Standard	345	5,000	517	7,500	2.25	148	5.83	0.9	2.95	1.2	3.94	39	26.2
65	2.5	Standard	207	3,000	310	4,500	2.25	142	5.59	0.9	2.95	1.2	3.94	29	19.5
		Standard	345	5,000	517	7,500	2.25	159	6.26	0.9	2.95	1.2	3.94	44	29.6
78	3.0	Standard	207	3,000	310	4,500	2.25	158	6.22	1.0	3.28	1.4	4.59	36	24.2
		Standard	345	5,000	517	7,500	2.25	158	6.22	1.0	3.28	1.4	4.59	36	24.2
92	3.5	Standard	207	3,000	310	4,500	2.25	190	7.48	1.2	3.94	1.7	5.58	60	40.3
		Standard	345	5,000	517	7,500	2.25	190	7.48	1.2	3.94	1.7	5.58	60	40.3
103	4.0	Standard	207	3,000	310	4,500	2.25	184	7.24	1.2	3.94	1.7	5.58	45	30.2
		Standard	345	5,000	517	7,500	2.25	202	7.95	1.4	4.59	1.8	5.90	67	45.0
127	5.0	Standard	207	3,000	310	4,500	2.25	211	8.31	1.4	4.59	1.8	5.90	54	36.3
		Standard	345	5,000	517	7,500	2.25	231	9.09	1.5	4.92	2.0	6.56	83	55.8
152	6.0	Standard	207	3,000	310	4,500	2.25	236	9.29	1.6	5.25	2.1	6.89	63	42.3
		Standard	345	5,000	517	7,500	2.25	257	10.12	1.8	5.90	2.4	7.87	96	64.5

Chemical Compatibility Table

Medium	Product Lining									
	Tauro™ Cool		NBR		HNBR		PA		Tauroflon™	
Crude oil	82 °C	180 °F	100 °C	212 °F	100 °C	212 °F	100 °C	212 °F	130 °C	266 °F
Diesel oil	82 °C	180 °F	100 °C	212 °F	121 °C	250 °F	130 °C	266 °F	130 °C	266 °F
Water based mud	82 °C	180 °F	90 °C	200 °F	90 °C	200 °F	50 °C 90 °C	122 °F 200 °F	130 °C	266 °F
Oil based mud	82 °C	180 °F	100 °C	212 °F	121 °C	250 °F	130 °C	266 °F	130 °C	266 °F
Ester based mud	82 °C	180 °F	90 °C	200 °F	-	-	-	-	130 °C	266 °F
Xylene	-	-	-	-	66 °C	150 °F	66 °C 100 °C	150 °F 212 °F	130 °C	266 °F
Methanol	NR	-	25 °C 40 °C	75 °F 100 °F	25 °C	75 °F	50 °C 90 °C	122 °F 200 °F	130 °C	266 °F
Glycol	70 °C	160 °F	70 °C	160 °F	70 °C	160 °F	70 °C	160 °F	100 °C	212 °F
Hydrogen sulphide (<20 %)	-	-	-	-	60 °C 90 °C	140 °F 200 °F	130 °C	266 °F	130 °C	266 °F
Zinc bromide (40 %)	30 °C 82 °C	90 °F 180 °F	30 °C 90 °C	90 °F 200 °F	30 °C 50 °C	90 °F 122 °F	25 °C 50 °C	75 °F 122 °F	130 °C	266 °F
Zinc bromide (saturated)	30 °C	90 °F	30 °C	90 °F	30 °C 50 °C	90 °F 122 °F	25 °C 50 °C	125 °F 122 °F	130 °C	266 °F
Calcium bromide (25 %)	30 °C 50 °C	90 °F 122 °F	30 °C 50 °C	90 °F 122 °F	90 °C	200 °F	50 °C 90 °C	122 °F 200 °F	130 °C	266 °F
Calcium bromide (saturated)	30 °C 50 °C	90 °F 122 °F	30 °C 50 °C	90 °F 122 °F	90 °C	200 °F	50 °C 90 °C	122 °F 200 °F	130 °C	266 °F
Cesium formate (saturated)	82 °C	180 °F	100 °C	212 °F	100 °C 121 °C	212 °F 250 °F	50 °C 100 °C	122 °F 212 °F	130 °C	266 °F
Potassium formate (75 %)	82 °C	180 °F	100 °C	212 °F	100 °C 121 °C	212 °F 250 °F	50 °C 100 °C	122 °F 212 °F	130 °C	266 °F
Acetic acid (20 %)	82 °C	180 °F	90 °C	200 °F	90 °C	200 °F	50 °C 90 °C	122 °F 200 °F	100 °C	212 °F
Acetic acid (96 %)	50 °C	122 °F	50 °C 90 °C	122 °F 200 °F	50 °C 90 °C	122 °F 200 °F	25 °C 50 °C	75 °F 122 °F	100 °C	212 °F
Formic acid	50 °C 82 °C	122 °F 180 °F	30 °C 50 °C	90 °F 122 °F	50 °C 90 °C	122 °F 200 °F	25 °C 50 °C	75 °F 122 °F	130 °C	266 °F
Hydrochloric acid (15 %)	60 °C 82 °C	140 °F 180 °F	60 °C 90 °C	140 °F 200 °F	30 °C 60 °C	90 °F 140 °F	25 °C 50 °C	75 °F 122 °F	130 °C	266 °F
Hydrochloric acid (37 %)	30 °C	90 °F	30 °C	90 °F	30 °C	90 °F	NR	-	130 °C	266 °F
Hydrofluoric acid (3 %)	30 °C	90 °F	NR	-	30 °C	90 °F	25 °C 60 °C	75 °F 140 °F	130 °C	266 °F
Hydrofluoric acid (10 %)	NR	-	NR	-	30 °C	90 °F	25 °C 60 °C	75 °F 140 °F	130 °C	266 °F
Sodium hydroxide (20 %)	-	-	-	-	-	-	50 °C	122 °F	66 °C	150 °F
Produced water	82 °C	180 °F	100 °C	212 °F	121 °C	250 °F	50 °C 90 °C	122 °F 200 °F	130 °C	250 °F

Key: max. operating temperature for unlimited application max. operating temperature for limited application NR - not recommended

Hose Management Services

Tailored, expert solutions for the maintenance of your flexible hose assemblies

Ensuring the safe and reliable operation of your flexible hose assemblies, whether in offshore or onshore installations, is essential. Effective hose management not only ensures your operation will continue to run smoothly, but will also eliminate any potential safety or environmental issues and reduce downtime to keep your productivity levels high.

Continental is a world leader in the manufacture of high-pressure drilling and bonded production hoses, crude oil transfer hoses as well as utility and hydraulic assemblies designed specifically for the oil and gas industry. Our expertise and knowledge in this field is unrivaled. With this in-depth capability we have helped to develop the industry standards and guidelines for best practice in the field of integrity management for flexible hose assemblies.

International oil and gas producers and operators across the globe rely on Continental throughout the lifecycle of their flexible hose assemblies, from design and specification through supply to full management of their fluid transfer systems in operation.

We can help you with a number of services, all designed to offer you peace of mind as standard. These are:

Inspection, Testing & Repair

A complete range of inspection and testing services – including:

- › inspection and repair of external protection, rubber cover and end fitting painting
- › high pressure hydrostatic testing,
- › boroscope inspection of the internal carcass or liner
- › recertification

Test and inspection can be carried out in dedicated facilities in a number of strategic locations worldwide, or we can come to your preferred location. In addition, we inspect and maintain reeling systems, such as bunker stations or offloading systems.

Inventory Management

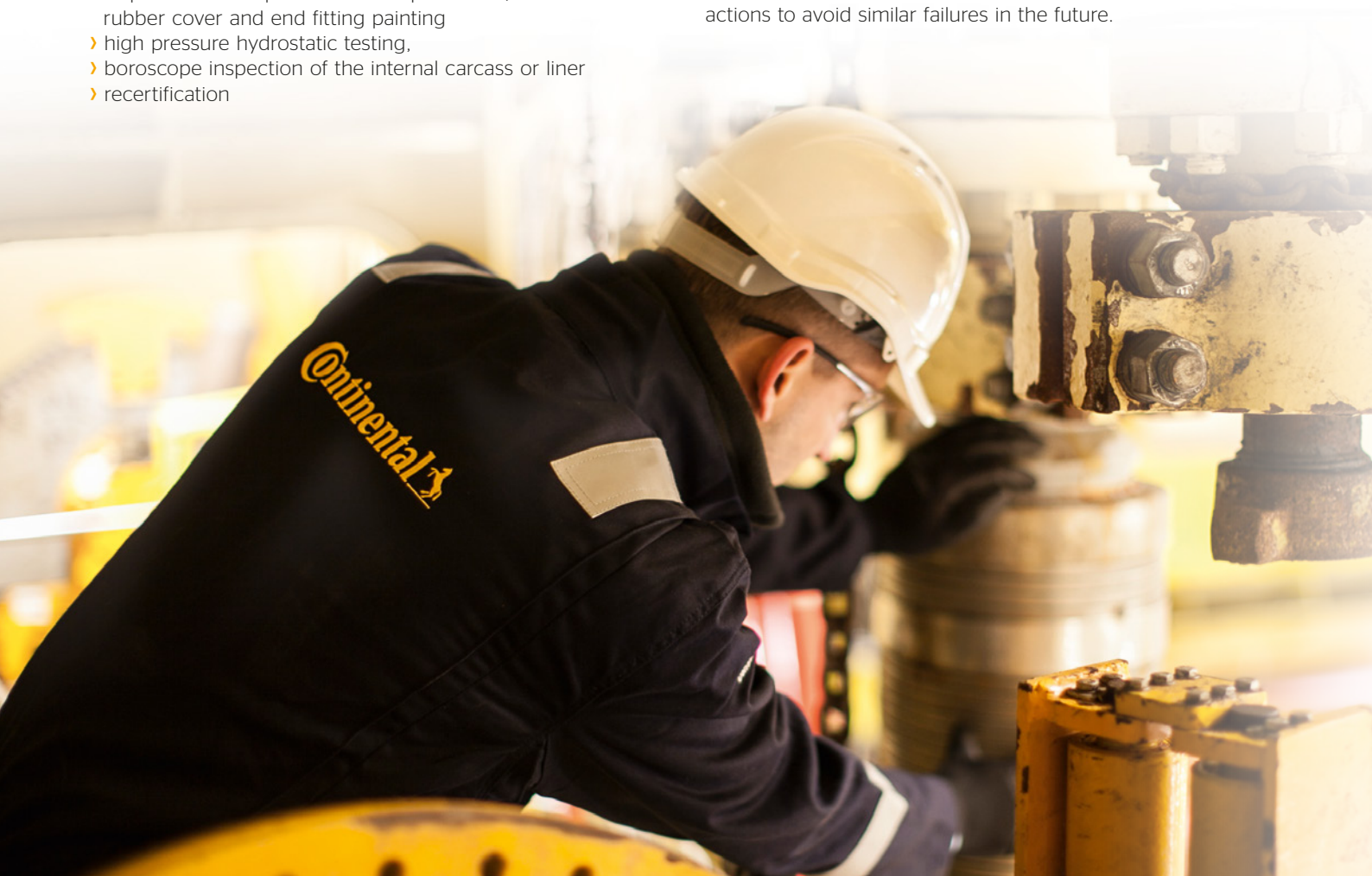
An instant overview of all flexible hose assemblies on all of your installations worldwide: ContiConnect is a web-based inventory management program designed for your peace of mind. Being able to see the current status of your FHAs at the click of a button means you can schedule maintenance, order timely replacements and ensure trouble-free operations.

Installation and Commissioning

With our in-depth expertise in all aspects of fluid transfer in the oil and gas industry, we are your first-choice partner for advising and assisting in the specification, installation, commissioning and change-out of flexible hose assemblies and systems, including high-pressure drilling, production, utility, GMPHOM 2009, turret and FPSO seawater intake hoses and also reeling stations.

Hose failure analysis

We carry out various investigations on damaged high-pressure hoses or hose parts at our facility, to reveal the possible causes of damage and propose necessary actions to avoid similar failures in the future.



Quality

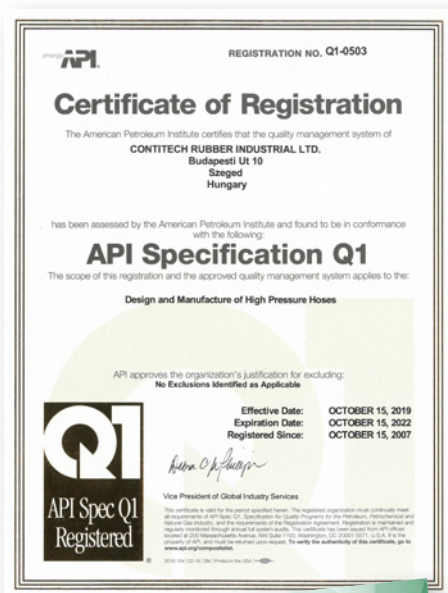
As part of the Continental group, we are committed to quality and respect for the environment. We work closely with customers and approved suppliers to ensure the highest quality standards. The quality management system is in accordance with ISO 9001 and API Spec. Q1. The system's performance is regularly checked and audited by independent auditors.

Currently the Company's Quality Management System is approved and certified by Dekra and API.

Our products fully comply with the latest edition of API Spec. 7K, API Spec. 16C and API Spec. 17K standards.

Continental was the first and for many years the only high pressure bonded hose manufacturer certified for all three relevant standards. Hose sizes range from 2" to 16" with pressure ratings up to 20,000 psi.

The environmental thinking of the management and the employees is reflected by their daily activities and documented by the ISO 14001 environmental management system applied in the company.



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