

Supply Programme for the Offshore Industry



ThyssenKrupp Mannex
formerly Thyssen Mannesmann Handel



ThyssenKrupp



Supply Programme for the Offshore Industry

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We have compiled the data and information contained in this brochure to the best of our knowledge and belief. However, we cannot guarantee their accuracy, especially in view of possible printing errors.

Your competent partner



Structural Steel and Tubulars, Technical Trading

ThyssenKrupp Mannex as an internationally operating stockholder and service company constitutes an essential link between producer and consumer. Our worldwide sales network guarantees global market presence.

The ThyssenKrupp Mannex sales organisation is known for its comprehensive knowledge of products, markets and customers, gained during many years of business experience. In addition to pipe and tubing as well as rolled steel products, the delivery range includes all structural elements for the offshore/marine business and associated products, furthermore new and secondhand industrial plants and equipment, spare parts and competent material and logistic services.

As a qualified partner we work out quotations tailored to customers' individual needs, including financing packages, freight and supplementary services.

The ThyssenKrupp Mannex Quality Management System has been certified according to EN ISO 9001 for the export sector.

The pipes and tubing division of ThyssenKrupp Mannex offers a wide variety of products in the most varied marketable grades and dimensions. Our central and regional warehouses in Europe stock approx. 65.000 tons of pipes and tubing as well as tubular accessories and - in addition to a comprehensive range of parts processing services right up to non-destructive testing - offer just-in-time deliveries.

Engineering companies make use of our tailor-made package solutions in the sector of power station construction.

The export and import business with rolled steel and technical trading products is based on a close cooperation with our foreign subsidiaries and agents, with ThyssenKrupp Mannex acting as works-independent internationally operating trading company. Rolled steel products are distributed in a worldwide cross-trading business.

In the Technical Trading sector emphasis is placed on the project- and offshore-business as well as on problem solutions tailored to customers' individual requirements. Using sales and purchasing channels all over the world, the Technical Trading and the Rolled Steel Divisions are attractive partners for suppliers and customers alike.

Our delivery programme at a glance



Seamless steel pipes

Outside diameter from 0,840 in. to 28,000 in. (21,3 mm to 711,2 mm)
Wall thickness from 0,068 in. to 6,000 in. (1,7 mm to 152,4 mm)

Seamless pierced and drawn steel pipes

Inside diameter from 8,660 in. to 51,180 in. (220,0 mm to 1.300,0 mm)
Outside diameter from 11,811 in. to 57,000 in. (300,0 mm to 1.447,8 mm)
Wall thickness from 0,315 in. to 10,630 in. (8,0 mm to 270,0 mm)

High-frequency induction (HFI-) longitudinally welded steel pipes

Outside diameter from 1,327 in. to 20,000 in. (33,7 mm to 508,0 mm)
Wall thickness from 0,126 in. to 0,787 in. (3,2 mm to 20,0 mm)

Submerged-arc longitudinally welded large-diameter steel pipes

Outside diameter from 24,000 in. to 64,000 in. (609,6 mm to 1.625,6 mm)
Wall thickness from 0,236 in. to 1,575 in. (6,0 mm to 40,0 mm)
Lengths up to 18,3 m without circumferential seam

Submerged-arc helically welded large-diameter steel pipes

Outside diameter from 12,000 in. to 70,866 in. (304,8 mm to 1.800,00 mm - larger on demand)
Wall thickness from 0,236 in. to 1,000 in. (6,0 mm to 25,4 mm)

Submerged-arc longitudinally welded tubulars/cans/piles manufactured by bending and rolling

Outside diameter from 16,000 in. to 166,000 in. (406,4 to 4.216.4 mm)
Wall thickness from 0,500 in. to 7,874 in. (12,7 mm to 200,0 mm)

Submerged-arc longitudinally welded large-diameter steel pipes manufactured by pressing devices

Outside diameter from 16,000 in. to 60,000 in. (406,4 mm to 1.524,0 mm)
Wall thickness from 0,500 in. to 3,000 in. (12,7 mm to 76,2 mm)

Custom-bent steel pipes

Outside diameter from 3,500 in. to 64,000 in. (88,9 to 1.625,6 mm)
Wall thickness from 0,248 in. to 6,693 in. (6,3 mm to 170,0 mm)

Hot finished plates

Accessory products for the offshore industry

Our reference list includes all the well-known oil-companies, such as:

BP – CONOCOPHILLIPS – MARATHON – STATOIL – PEMEX – EXXONMOBIL – GASUNI – SHELL – DONG – PLACID – TEXACO – PENNZ-OIL – AGIP – PETRONAS – PERTAMINA – NIPPON OIL – TOTALFINAELF – NIOC

and all internationally known contracting companies.

We are engaged in the development of most of the oil- and gas fields in the world.

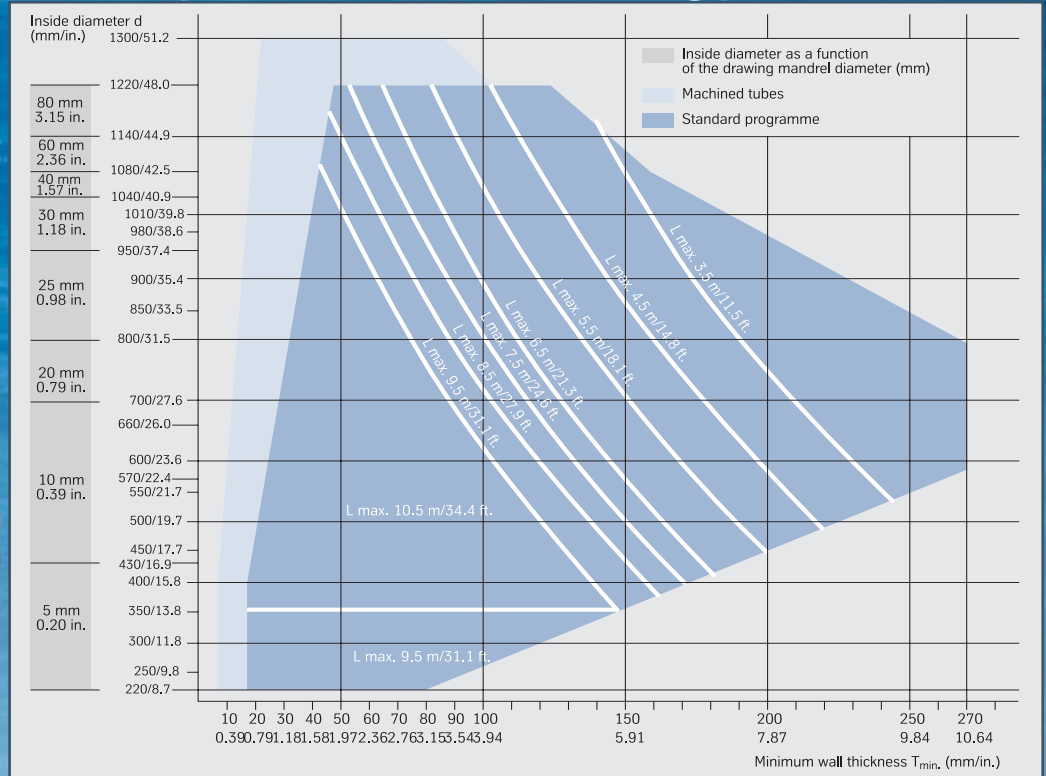
Seamless steel pipes

Outside diameter D		T mm		Masses per unit length (weight) in kg/m																		
		mm	in.	2	2.3	2.6	2.9	3.2	3.6	4	4.5	5	5.6	6.3	7.1	8	8.8	10	11	12.5		
mm	in.	mm	in.	0.079	0.091	0.102	0.114	0.126	0.142	0.157	0.177	0.197	0.220	0.248	0.280	0.315	0.346	0.394	0.433	0.492	0.561	
21.3	0.840	2.0	0.079	0.952	1.08	1.20	1.32	1.43	1.57	1.71	1.86	2.01										
25.0	0.985	2.0	0.079	1.130	1.29	1.44	1.58	1.72	1.90	2.07	2.28	2.47	2.68	2.91								
25.4	1.000	2.0	0.079	1.150	1.31	1.46	1.61	1.75	1.94	2.11	2.32	2.52	2.73	2.91								
26.9	1.060	2.3	0.091	1.230	1.40	1.56	1.72	1.87	2.07	2.26	2.49	2.70	2.94	3.20								
30.0	1.185	2.6	0.102		1.57	1.76	1.94	2.11	2.34	2.56	2.83	3.08	3.37	3.68	4.01							
31.8	1.250	2.6	0.102		1.67	1.87	2.07	2.26	2.50	2.74	3.03	3.30	3.62	3.96	4.32	4.70						
33.7	1.330	2.6	0.102		1.78	1.99	2.20	2.41	2.67	2.93	3.24	3.54	3.88	4.26	4.66	5.07						
38.0	1.500	2.6	0.102			2.27	2.51	2.75	3.05	3.35	3.72	4.07	4.47	4.93	5.41	5.92	6.34	6.91				
42.4	1.670	2.6	0.102			2.55	2.82	3.09	3.44	3.79	4.21	4.61	5.08	5.61	6.18	6.79	7.29	7.99	8.52			
44.5	1.750	2.6	0.102			2.69	2.98	3.26	3.63	4.00	4.44	4.87	5.37	5.94	6.55	7.20	7.75	8.51	9.09	9.86		
48.3	1.900	2.6	0.102			2.93	3.25	3.56	3.97	4.37	4.86	5.34	5.90	6.53	7.21	7.95	8.57	9.45	10.1	11.0		
51.0	2.010	2.6	0.102			3.10	3.44	3.77	4.21	4.64	5.16	5.67	6.27	6.94	7.69	8.48	9.16	10.1	10.9	11.9		
54.0	2.125	2.6	0.102			3.30	3.65	4.01	4.47	4.93	5.49	6.04	6.68	7.41	8.21	9.08	9.81	10.9	11.7	12.8		
57.0	2.245	2.9	0.114				3.87	4.25	4.74	5.23	5.83	6.41	7.10	7.88	8.74	9.67	10.5	11.6	12.5	13.7		
60.3	2.375	2.9	0.114				4.11	4.51	5.03	5.55	6.19	6.82	7.55	8.39	9.32	10.3	11.2	12.4	13.4	14.7		
63.5	2.500	2.9	0.114				4.33	4.76	5.32	5.87	6.55	7.21	8.00	8.89	9.88	10.9	11.9	13.2	14.2	15.7		
70.0	2.760	2.9	0.114				4.80	5.27	5.90	6.51	7.27	8.01	8.89	9.90	11.0	12.2	13.3	14.8	16.0	17.7		
73.0	2.875	2.9	0.114				5.01	5.51	6.16	6.81	7.60	8.38	9.31	10.4	11.5	12.8	13.9	15.5	16.8	18.7		
76.1	3.000	2.9	0.114				5.24	5.75	6.44	7.11	7.95	8.77	9.74	10.8	12.1	13.4	14.6	16.3	17.7	19.6		
82.5	3.250	3.2	0.126					6.26	7.00	7.74	8.66	9.56	10.60	11.8	13.2	14.7	16.0	17.9	19.4	21.6		
88.9	3.500	3.2	0.126					6.76	7.57	8.38	9.37	10.30	11.50	12.8	14.3	16.0	17.4	19.5	21.1	23.6		
101.6	4.000	3.6	0.142						8.70	9.63	10.80	11.90	13.30	14.8	16.5	18.5	20.1	22.6	24.6	27.5		
108.0	4.250	3.6	0.142						9.27	10.30	11.50	12.70	14.10	15.8	17.7	19.7	21.5	24.2	26.3	29.4		
114.3	4.500	3.6	0.142						9.83	10.90	12.20	13.50	15.00	16.8	18.8	21.0	22.9	25.7	28.0	31.4		
127.0	5.000	4.0	0.157							12.10	13.60	15.00	16.80	18.8	21.0	23.5	25.7	28.9	31.5	35.3		
133.0	5.240	4.0	0.157							12.70	14.30	15.80	17.60	19.7	22.0	24.7	27.0	30.3	33.1	37.1		
139.7	5.500	4.0	0.157							13.40	15.00	16.60	18.50	20.7	23.2	26.0	28.4	32.0	34.9	39.2		
152.4	6.000	4.5	0.177								16.40	18.20	20.30	22.7	25.4	28.5	31.2	35.1	38.4	43.1		
159.0	6.250	4.5	0.177								17.10	19.00	21.20	23.7	26.6	29.8	32.6	36.7	40.1	45.2		
168.3	6.625	4.5	0.177								18.20	20.10	22.50	25.2	28.2	31.6	34.6	39.0	42.7	48.0		
177.8	7.000	5.0	0.197									21.3	23.80	26.6	29.9	33.5	36.7	41.4	45.2	51.0		
193.7	7.625	5.6	0.220										26.00	29.1	32.7	36.6	40.1	45.3	49.6	55.9		
219.1	8.625	6.3	0.248											33.1	37.1	41.6	45.6	51.6	56.5	63.7		
244.5	9.625	6.3	0.248											37.0	41.6	46.7	51.2	57.8	63.3	71.5		
273.0	10.750	6.3	0.248											41.4	46.6	52.3	57.3	64.9	71.1	80.3		
323.9	12.750	7.1	0.280												55.5	62.3	68.4	77.4	84.9	96.0		
355.6	14.000	8.0	0.315													68.6	75.3	85.2	93.5	106		
406.4	16.000	8.8	0.346														86.3	97.8	107	121		
457.0	18.000	10.0	0.394															110	121	137		
508.0	20.000	11.0	0.433																135	153		
559.0	22.000	12.5	0.492																	168		
610.0	24.000	12.5	0.492																	184		
660.0	26.000																					
711.0	28.000																					



Hot rolled in outside diameter from 0,840 in. to 28,000 in. (21,3 mm to 711,2 mm)
 Wall thickness from 0,068 in. to 6,000 in. (1,7 mm to 152,4 mm) greater in special cases, depending on outside diameter.

Heavy-wall seamless steel pipes for special applications



Seamless pierced and drawn steel pipes in inside diameter from 8,660 in. to 51,180 in. (220,0 mm up to 1.300,0 mm) Outside diameter from 11,811 in. to 57,000 in. (300,0 mm up to 1.447,8 mm) Wall thickness from 0,315 in. to 10,630 in. (8,0 mm up to 270,0 mm)

Materials

Seamless steel pipes can be manufactured in all standards and special steel grades up to X 100.

Pipe ends

The pipe ends are machined for the intended type of joining.

Coatings and paintings

Pipes can be supplied either bare or coated. Coatings and linings as well as paint coats for special applications may be agreed upon.

HFI-longitudinally welded steel pipes

HFI-Pipe Dimension & Steel grades														
OD	Wall thicknesses in inch and mm													
inch	0.156	0.177	0.197	0.219	0.248	0.280	0.315	0.375	0.394	0.438	0.500	0.559	0.625	0.634
mm	4.00	4.50	5.00	5.60	6.30	7.10	8.00	9.50	10.00	11.10	12.70	14.20	15.90	16.10
6 5/8														
168.30														
8 5/8														
219.1														
9 5/8														
244.5														
10 3/4														
273.1														
12 3/4														
323.9														
13 3/8														
339.7														
14														
355.6														
16														
406.4														
18														
457.2														
18 5/8														
473.1														
20														
508														

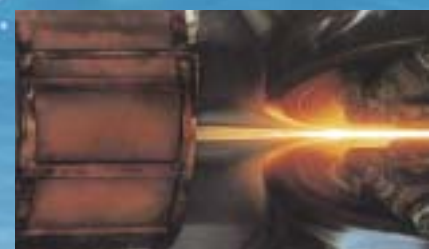
Up to X 80 / = L 555 MB

Up to X 70 / = L 485 MB

Up to X 65 / = L 450 MB

Up to X 56

Up to X 52 / = L 360 MB



High-frequency induction welded (HFI) steel pipe features:
 joint efficiency factor up to 1,0
 Outside diameter from 1,327 in. to 20,000 in. (33,7 mm to 508,0 mm)
 Wall thickness from 0,126 in. to 0,787 in. (3,2 mm to 20,0 mm) (depending on the diameter and steel grade), mill lengths up to 18,0 m

Pipe ends

Depending on the intended type of connection or joint, the pipe ends can be prepared as follows:

- with plain ends
- with bevelled ends

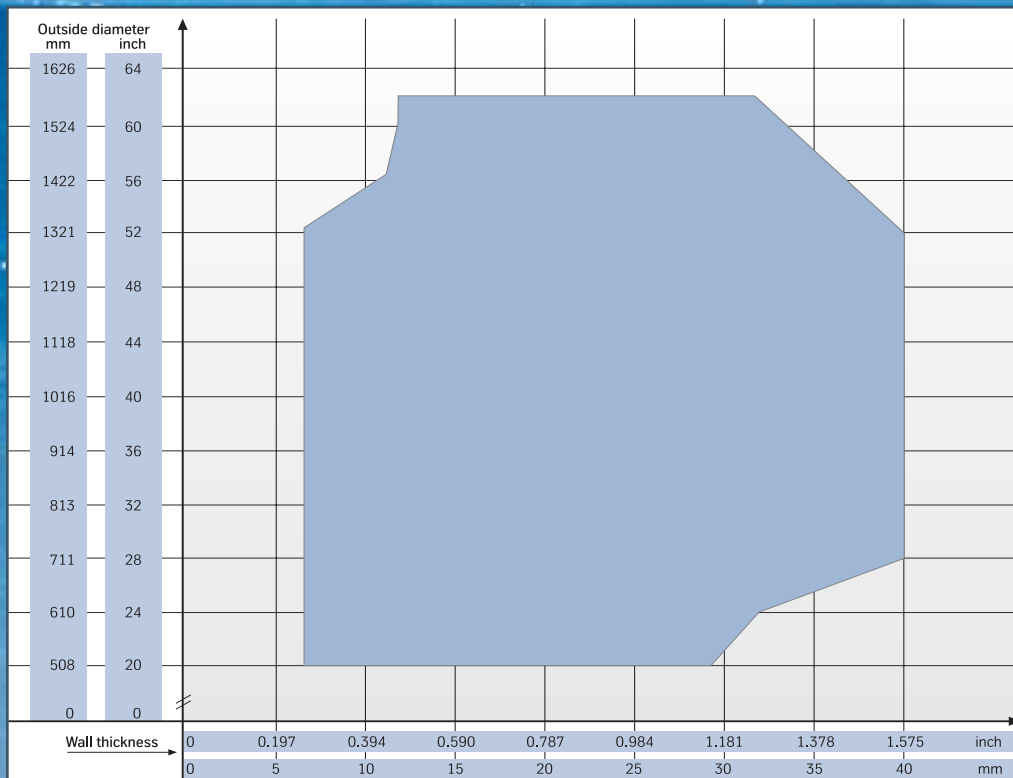
Grades

Gr. B up to X 80 (acc. to API-Spec. 5L)

Coating Capability

Pipes can be supplied either bare or coated.

Submerged-arc longitudinally welded large-diameter steel pipes



Submerged-arc welded large-diameter steel pipes with one longitudinal seam in the following size range:

Outside diameter from 24,000 in. to 64,000 in. (609,6 mm to 1.625,6 mm)
 Wall thickness from 0,236 in. to 1,575 in. (6,0 mm to 40,0 mm) depending on steel grade and outside diameter
 Mill lengths up to 18.3 m (60 ft)

Materials

In compliance with all relevant international standards and specifications or acc. to customers' special requirements and specifications. Special grades for the highest stresses encountered in modern pipe construction and operation, e.g. in arctic and offshore regions, are available, up to grade X 80.

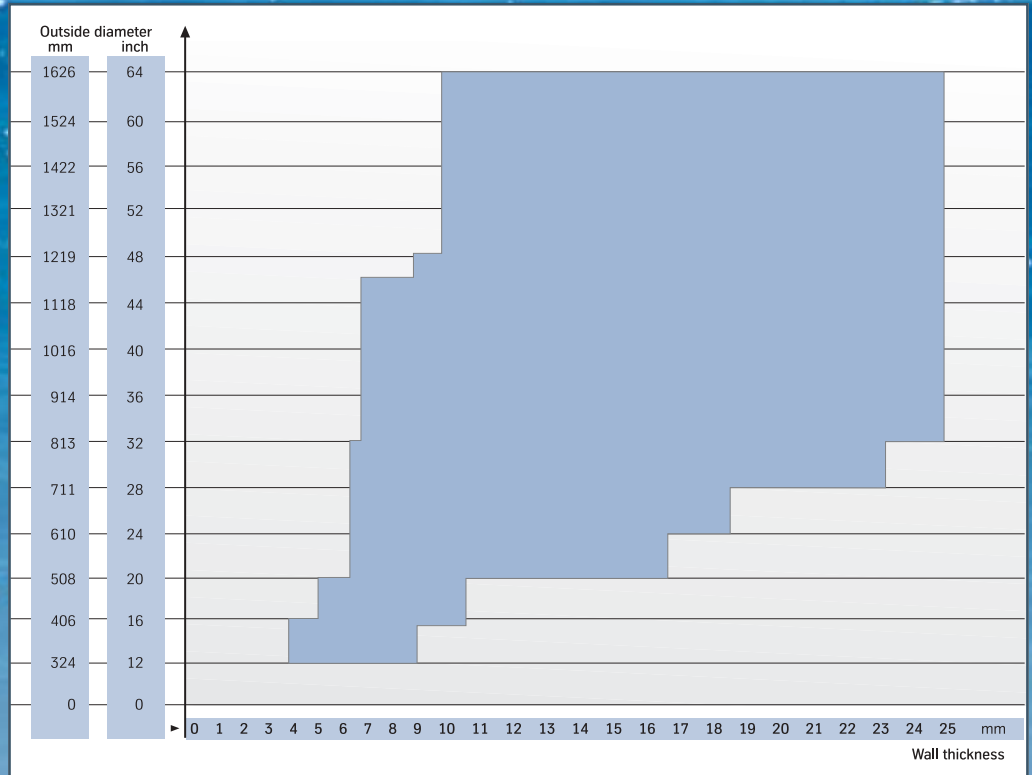
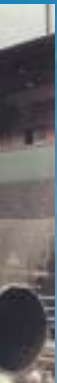
Pipe ends

Large-diameter pipes are supplied bevelled or non bevelled.

Coating and Painting

Pipes can be supplied either bare or coated.

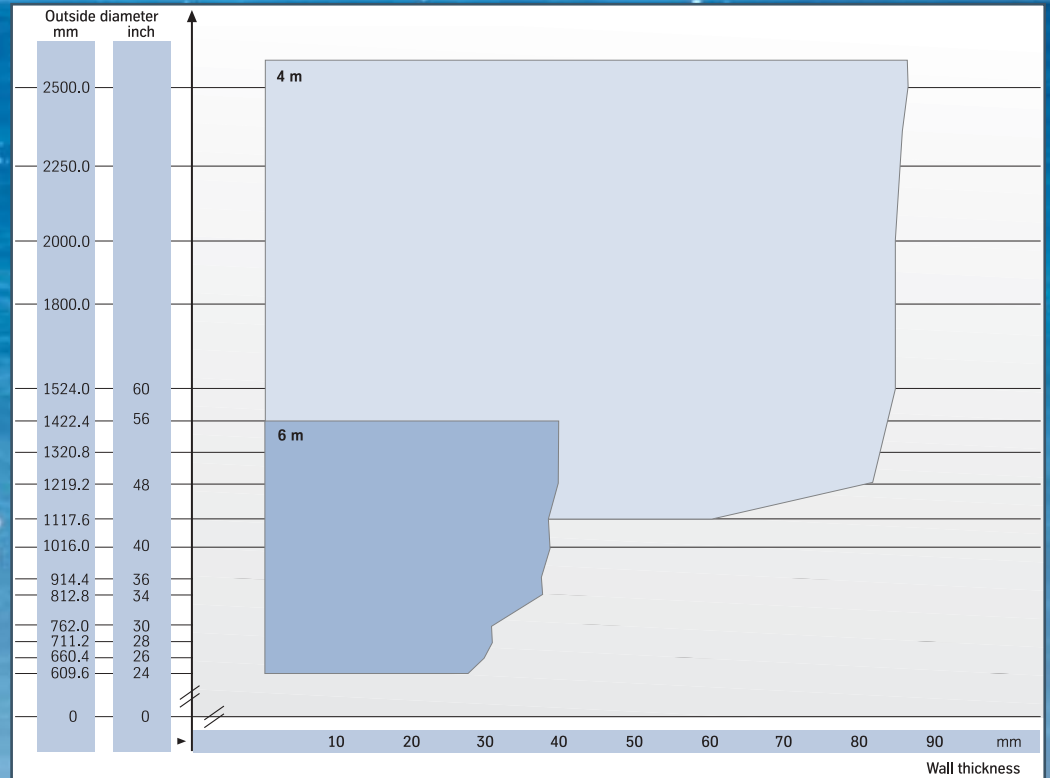
Submerged-arc helically welded large-diameter steel pipes



Submerged-arc helically welded large-diameter steel pipes
 Outside diameter from 12,000 in. to 70,866 in. (304,8 mm to 1.800,0 mm) larger on demand
 Wall thickness from 0,236 in. to 1,000 in. (6,0 mm to 25,4 mm)



Submerged-arc longitudinally welded tubulars/cans



Typical samples of tubular sections with a specified min. yield strength of 360 N/mm².

Submerged-arc longitudinally welded tubulars/cans manufactured by bending and rolling
 Outside diameter from 16,000 in. to 166,000 in. (406,4 mm to 4.216,4 mm)
 Wall thickness from 0,500 in. to 7,874 in. (12,7 mm to 200,0 mm)

Technically as per API 5L, API 2B or ASME Code, ASTM specifications and other international standards.

Submerged-arc longitudinally welded tubular/piles

pipe-Ø		wall in mm																															
mm	inch	12.70	15.00	17.50	20.00	22.50	25.00	27.50	30.00	32.50	35.00	37.50	40.00	42.50	45.00	47.50	50.00	52.50	55.00	57.50	60.00	62.50	65.00	67.50	70.00	72.50	75.00	77.50	80.00	82.50	84.00		
406.4	16																																
457.2	18																																
508.0	20																																
558.5	22																																
609.6	24																																
660.4	26																																
711.2	28																																
762.0	30																																
812.8	32																																
863.6	34																																
914.4	36																																
965.2	38																																
1016.0	40																																
1066.8	42																																
1117.6	44																																
1168.4	46																																
1219.2	48																																
1270.0	50																																
1320.8	52																																
1371.6	54																																
1422.4	56																																
1473.2	58																																
1524.0	60																																

Maximum pipe length 12.2 mⁿ
(13,5 m without hydrotest). Steel grades:

Grade B STE 240.7 Grade X52 STE 360.7 Grade X60 STE 415.7 Grade X70 STE 480.7 according to API 5L
according to DIN 17172

DN 1625 mm on request



Submerged-arc longitudinally welded large diameter steel pipes manufactured by pressing devices

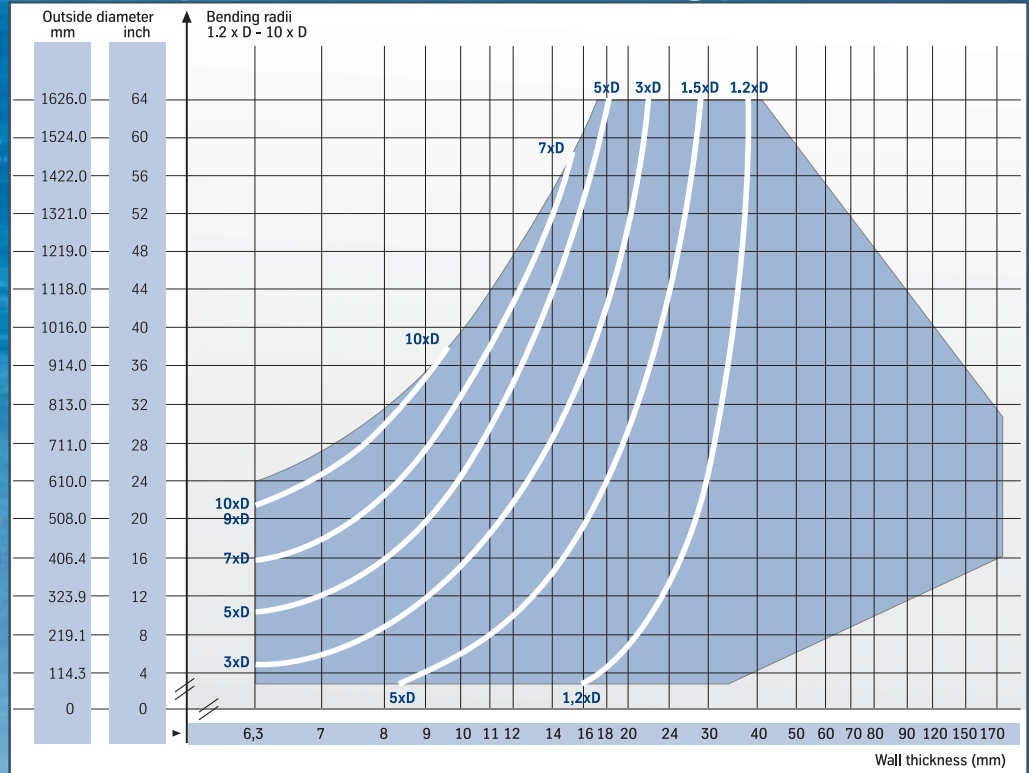
Outside diameter from 16,000 in. to 60,000 in. (406,4 mm to 1.524,0 mm)
Wall thickness from 0,500 in. to 3,000 in. (12,7 mm to 76,2 mm)



Bending, welding, and testing as per state of the art on a pipe bending press with 6.200 tonnes pressing capacity.

Basis: EBK

Induction-bent steel pipes



Made from seamless or welded steel pipes; bent with high accuracy using controlled, partial inductive heating. Also with subsequent heat treatment in annealing furnaces for the complete range of dimensions: Outside diameter from 3,500 in. to 64,000 in. (88,9 to 1.625,6 mm) Wall thickness up to 0,248 in. to 6,693 in. (6,3 mm to 170,0 mm)

The bending radii are infinitely variable between 200 and 10.000 mm ($R_m = 1.2 \times D$ to $12 \times D$). Greater bending radii are subject to agreement.

Lengths

Mill lengths of base pipes up to 18 m depending on outside diameter, wall thickness and manufacturing method. Bends with or without tangent lengths at one or both ends.

Materials

Bends are manufactured of the same or similar materials as straight line pipe. Materials in accordance with relevant standards as well as customers' specifications.

Ends

The bends are supplied bevelled or non bevelled.

Coating and painting

Bends can be supplied either bare or coated and/or lined.

Hot finished plates



Heavy and medium plates

Quarto plates

In all common grades, such as general structure steel, age-resistant steel, quenched and tempered steel as well as high-temperature steel for boilers according to DIN and international specifications.

Steel grades

according to DIN 17 172 and international specifications, e.g. API and ASTM.

Shipbuilding plate, all standards and high-strength grades according to ABS, BV, GL, LR, NC and RINA specifications.

The whole range of offshore plate requirements from structural applications to material for process plant, power generation and other topside equipment is available.

Thicknesses: 3 to 260 mm
Widths: 600 to 5.300 mm
Lengths: up to 24.000 mm

Technical delivery conditions

According to agreement also shot-blasted and primer-coated.

Plates cut from hot rolled coil

For grades and delivery conditions please refer to left column.

Thicknesses: 3 to 20 mm
Widths: 600 to 2.000 mm
Lengths: 1.500 to 16.000 mm

Universal plate

For grades and delivery conditions please refer to left column.

Thicknesses: 5 to 60 mm
Widths: 151 to 950 mm
Lengths: 1.500 to 36.000 mm

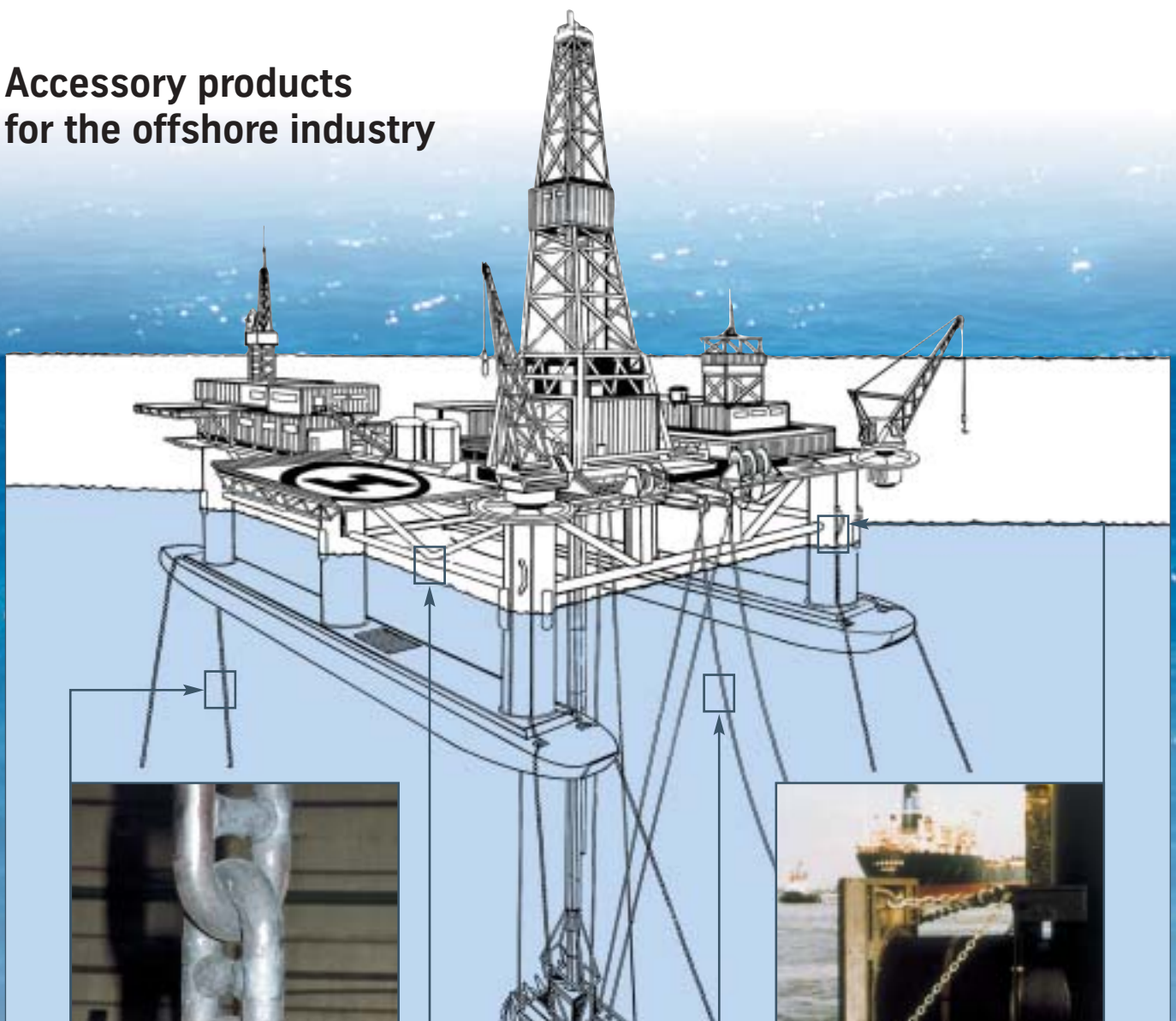
Also available:
floor plate (diamond pattern and tear-drop protrusions)

Inspection and certification



EN 10204 Reference	Designation of the document type	Document content	Document validated by
Type 2.1	Declaration of compliance with the order	Statement of compliance with the order	The Manufacturer
Type 2.2	Test report	Statement of compliance with the order, with indication of results of non-specific inspection	The Manufacturer
Type 3.1	Inspection certificate 3.1	Statement of compliance with the order, with indication of results of specific inspection	The manufacturer's authorized inspection representative independent of the manufacturing department
Type 3.2	Inspection certificate 3.2	Statement of compliance with the order, with indication of results of specific inspection	The manufacturer's authorized inspection representative independent of the manufacturing department and either the purchaser's authorized inspection representative or the inspector designated by the official regulations

Accessory products for the offshore industry



Chains



Fenders



Construction elements



Hoses

Accessory products for the offshore industry



Construction elements

Several construction elements made of carbon and alloy steel, fine grain structural steel, austenitic and ferritic-austenitic steel, high-nickeliferous material and plated sheet metal; welding according to all common methods; procedure testing and welding qualification for British Standard, ASME, Lloyd's Register of Shipping, TÜV etc.

Such construction elements may be

- Welded beams
- Nodes
- Reducers
- Dolphin heads
- Racks
- Chords

Bellmouths

Bellmouths for guidance of cables, hoses and pipes, manufactured out of plates, upper part bent and machined, lower part hot formed
Small inside diameter 860 mm
Large inside diameter 3.830mm
Wall thickness from 23 mm to 57 mm
Height 7.400 mm
Weight 10.300 kg

Chains

Stud link chains for offshore purposes, size range from diameter 0.5" to 6" (12.5 mm to 152 mm), with all accessories, e.g. kenter shackles, joining shackles, anchor shackles, swivels; material grades according to customers' requirements; with certificates of the known classification companies like American Bureau of Shipping, Lloyd's Register of Shipping, Bureau Veritas, Det Norske Veritas, Germanischer Lloyd and others.

Services



for example transport

Transport of legpipe from mill
to port of shipment
Outside diameter 4.500 mm
Wall thickness 90 mm



for example airfreighting

Airfreighting of urgently needed
testpile to fabrication site
Outside diameter 2.100 mm
Length 30 m

**Please address your enquiries for products
for the offshore industry to:**

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ThyssenKrupp Mannex
formerly Thyssen Mannesmann Handel