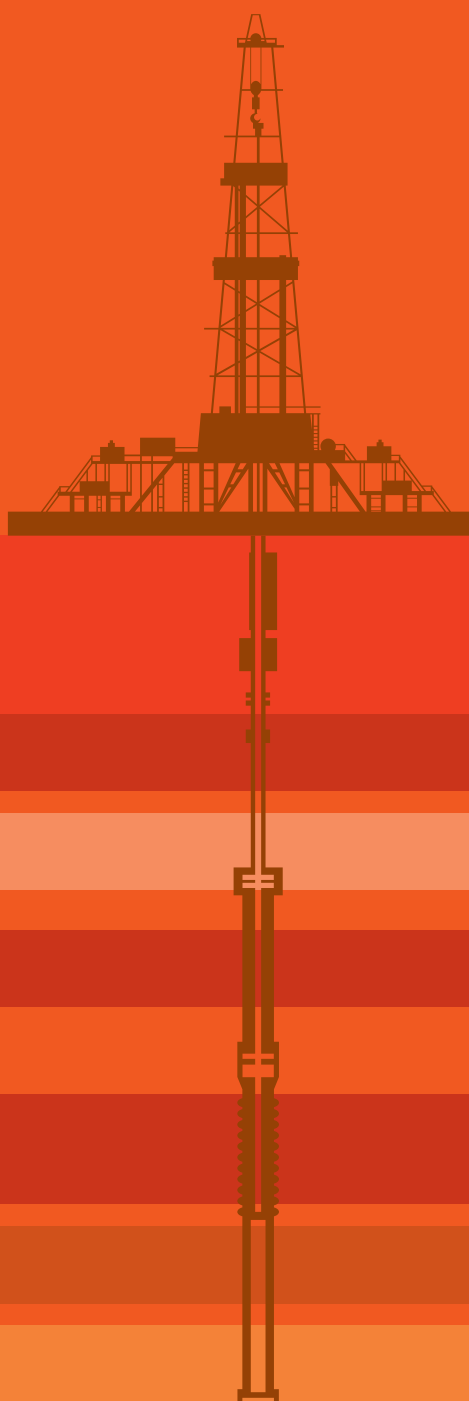




INTERPIPE

# EXPERT PIPE SOLUTIONS FOR OIL AND GAS INDUSTRY

CASING,  
TUBING AND LINE PIPES





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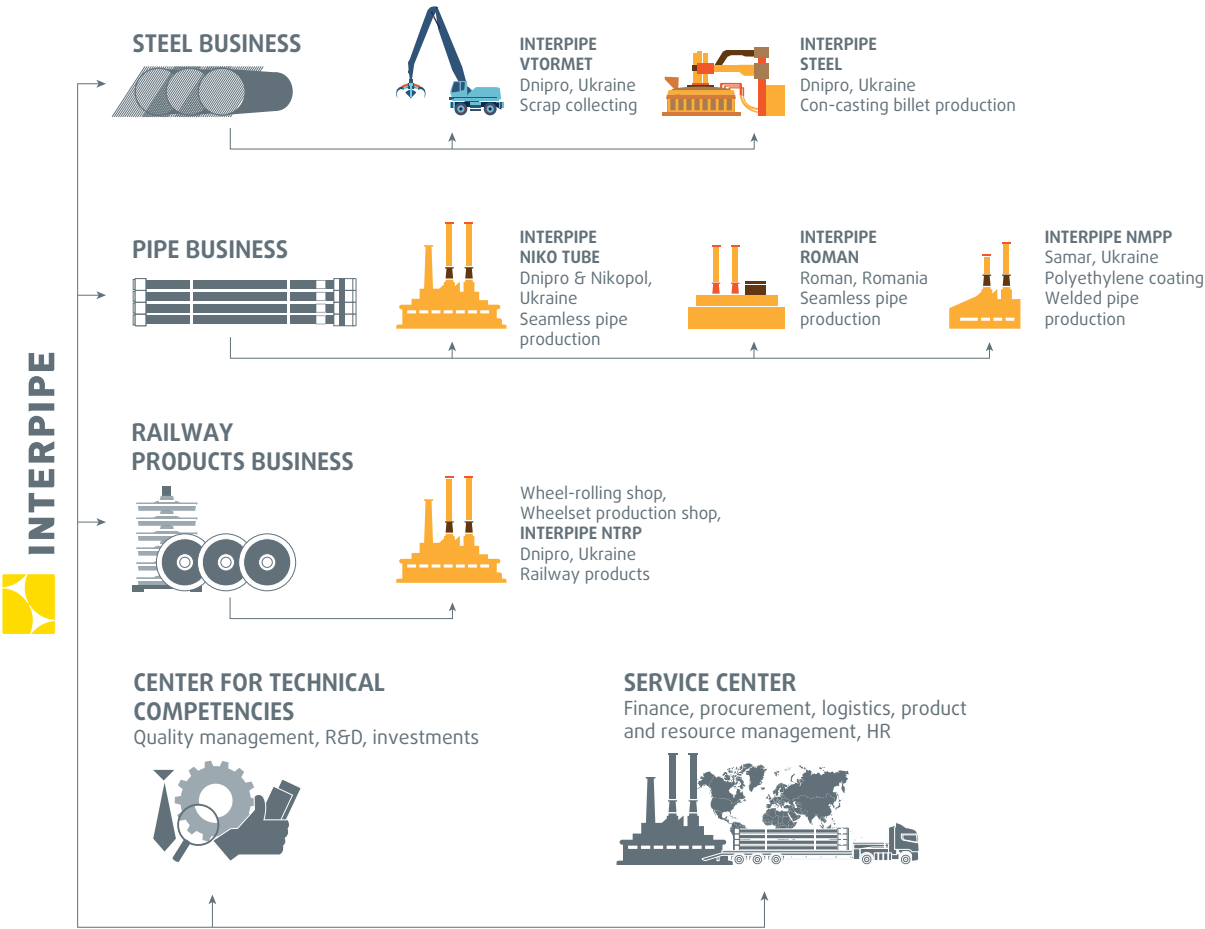
# INTERPIPE AT A GLANCE

Interpipe is a global steel pipe producer – oil and gas exploration and transportation, power generation, mechanical and structural use.


The company’s products are supplied to 60 countries all over the world through a chain of commercial offices located in Ukraine, Europe, the USA and the Middle East.

Interpipe structure includes production facilities located in Dnipro region, one of the major industrial centers of Ukraine. The company continues to invest heavily in the development and modernization of its mills.

Interpipe includes 3 business directions – Steel, Pipe and Railway Products. The company controls product quality at every stage: from manufacturing of raw materials to delivery of final products to customers.



## SELLING TO CUSTOMERS GLOBALLY – KEY MARKETS

 North American Interpipe	 Interpipe Middle East	 Interpipe Ukraine
 Interpipe Europe SA	 Interpipe Central Trade	



## INTERPIPE STEEL: IN-HOUSE GREEN STEEL PRODUCTION

Interpipe company needs for steel billets is 100% covered by own facilities – Interpipe Steel plant. Interpipe Steel – is an innovative EAF complex, launched in 2012 with best available technologies from Danieli.

A few years before the European Green Deal emerged, Interpipe made the largest environmental investment in the Ukrainian industry, investing \$1 billion into the construction of the innovative electric steel-making complex Interpipe Steel. It enabled Interpipe to achieve one of the lowest greenhouse gas emission intensity in the global steel industry – lower than 250 kg per ton of steel billets – that reflects low carbon nature of Interpipe production.



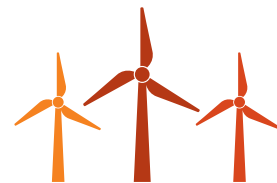
### LOW CARBON FOOTPRINT

<110 kg/ton of steel (Scope 1)  
<230 kg/ton of steel (Scope 2)



### RECYCLING DEVELOPMENT

96% of steel produced from scrap



### CLEAN ENERGY USAGE

Over 65% of energy comes from environmentally sustainable sources

INNOVATIVE DANIELI TECHNOLOGIES ON INTERPIPE STEEL ENABLES TO PRODUCE 1,320,000 TONS OF STEEL BILLET ANNUALLY

Electric arc furnace, 160 tons	Twin tank vacuum-degasser
Twin position ladle furnace	Two continuous casting machines

INTERPIPE STEEL IS THE LARGEST “GREEN” INVESTMENT INTO UKRAINIAN STEEL INDUSTRY DURING THE LAST 30 YEARS

State-of-the-art gas collection and purification system allows the efficient collection of gas and dust, generated during the steel-melting process

Completely closed circulating water supply system of the mill, without any industrial wastewater discharge

INTERPIPE STEEL ENSURES 100% NEEDS IN STEEL BILLETS FOR PIPE PRODUCTS MANUFACTURING. THE MILL HAS DEVELOPED WIDE PRODUCT PORTFOLIO OF PIPE STEEL GRADES FOR OUR CUSTOMERS.



## QUALITY-FOCUSED OPERATIONS

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Interpipe considers quality control as a key part of the activities to manufacture products, exceeding customer needs. Quality control is implemented at all stages of production process – starting from continuous casting at the in-house **EAF steel mill** and up to nondestructive testing of pipe body and pipe ends and shipping to customers.

**Our commitment to quality is confirmed by:**

- Pipe products certification in compliance with major international standards API 5CT, API 5L, EN (DIN), ASTM, GOST, DNV, Loyd Register, UDT, Dir 97/23/EC, AD 2000 Merkblatt and customer specifications
- Quality management system as per ISO 9001 and API Q1
- Implementation of a continuous improvement system at the company mills



## ONGOING INVESTMENT PROGRAM

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Interpipe regularly invests in development of its production capacities, improvement of the output quality, and expansion of its product range. Interpipe focused on providing the high quality product at short delivery time for each client. Over the last 15 years Interpipe carried out an extensive improvement program, which included commission of in-house steel melting complex Interpipe Steel, installation of various new NDT systems and finishing lines on the mills. Along with this, Interpipe purchased new technologies for heat treatment of pipes, hydro-testing equipment and new pipe and coupling threading lines.

# CASING

## API 5CT TECHNICAL SPECIFICATIONS FOR CASING

Applicable type of end-finish - SC, LC, BC  
Sizes, masses, wall thickness, grade

Outside diameter		Weight per length unit				Wall thickness		Inside diameter		Drift diameter		Steel grade	Type of end-finish		
		T&C		PE									SC	LC	BC
in	mm	Lb/ft	Kg/m	Lb/ft	Kg/m	in	mm	in	mm	in	mm				
4.500	114.30	11,6	17,3	11,36	16,91	0.250	6,35	4.000	101.60	3.875	98.43	J55, K55, L80, N80-Q, P110			
		12.60	18.75	12.24	18.21	0.270	6,88	3.960	100.58	3.835	97.41	L80, N80-Q, P110			
		13.50	20,1	13,05	19,42	0.290	7,37	3.920	99.57	3.795	96.39	L80, N80-Q, P110			
		15,1	22,47	15,00	22,32	0.337	8,56	3.826	97.18	3.701	94.01	L80, N80-Q, P110			
		17.00	25.30	16.76	24.94	0.379	9,65	3.742	95.05	3.617	91.87	L80, N80-Q, P110			
		18.90	28.13	18.61	27.70	0.430	10,92	3.640	92.46	3.515	89.28	L80, N80-Q, P110			
		21.50	32.00	21.31	31.71	0.500	12,7	3.500	88.90	3.375	85.72	L80, N80-Q, P110			
5.000	127.0	13.00	19.35	12.79	19.03	0.253	6,43	4.494	114.15	4.369	110.97	J55, K55			
		15.00	22.32	14.84	22.09	0.296	7,52	4.408	111.96	4.283	108.79	J55, K55, L80, N80-Q, P110			
		18.00	26.79	17.95	26.71	0.362	9,19	4.348	110.44	4.223	107.26	J55, K55, L80, N80-Q, P110, Q125			
		24.10	35.86	24.04	35.78	0.500	12,7	4.000	101.60	3.875	98.43	L80, N80-Q, P110, Q125			
5.500	139.70	14.00	20.83	13.71	20.40	0.244	6,2	5.012	127.30	4.887	124.13	J55, K55			
		15.50	23,1	15,36	22,86	0.275	6,99	4.950	125.73	4.825	122.56	J55, K55, L80, N80-Q, P110, Q125			
		17.00	25.30	16.89	25.14	0.304	7,72	4.892	124.26	4.767	121.08	J55, K55, L80, N80-Q, P110, Q125			
		20.00	29.76	19.83	29.51	0.361	9,17	4.778	121.36	4.653	118.19	J55, K55, L80, N80-Q, P110, Q125			
		23.00	34.23	22.56	33.57	0.415	10,54	4.670	118.62	4.545	115.44	J55, K55, L80, N80-Q, P110, Q125			
		26.00	38.69	25.43	37.85	0.476	12,09	4.548	115.52	4.423	112.34	L80, N80-Q, P110, Q125			
5.500	139.70	14.00	20.83	13.71	20.40	0.244	6,2	5.012	127.30	4.887	124.13	J55, K55			
		15.50	23,1	15,36	22,86	0.275	6,99	4.950	125.73	4.825	122.56	J55, K55, L80, N80-Q, P110, Q125			
		17.00	25.30	16.89	25.14	0.304	7,72	4.892	124.26	4.767	121.08	J55, K55, L80, N80-Q, P110, Q125			
		20.00	29.76	19.83	29.51	0.361	9,17	4.778	121.36	4.653	118.19	J55, K55, L80, N80-Q, P110, Q125			
7.000	177.80	20.00	29.76	19.56	29.11	0.272	6,91	6.456	163.98	6.331	160.81	J55, K55			
		23.00	34.23	22.65	33.71	0.317	8,05	6.366	161.70	6.241	158.52	J55, K55, L80, N80-Q, P110, Q125			
		26.00	38.69	25.69	38.23	0.362	9,19	6.276	159.41	6.151	156.24	J55, K55, L80, N80-Q, P110, Q125			
		29.00	43.16	28.75	42.78	0.408	10,36	6.184	157.07	6.059	153.90	J55, K55, L80, N80-Q, P110, Q125			
		32.00	47.62	31.70	47.17	0.453	11,51	6.094	154.79	5.969	151.61	J55, K55, L80, N80-Q, P110, Q125			
		35.00	52.09	34.61	51.51	0.498	12,65	6.004	152.50	5.879	149.33	L80, N80-Q, P110, Q125			

Outside diameter		Weight per lenght unit				Wall thickness		Inside diameter		Drift diameter		Steel grade	Type of end-finish		
		T&C		PE									SC	LC	BC
in	mm	Lb/ft	Kg/m	Lb/ft	Kg/m	in	mm	in	mm	in	mm				
7.625	193.70	26.40	39.29	25.59	38.08	0.328	8,33	6.969	177.01	6.844	173.84	J55, K55, L80, N80-Q			
		29.70	44.20	29.06	43.25	0.375	9,53	6.875	174.63	6.750	171.45	L80, N80-Q, P110, Q125			
		33.70	50.15	33.07	49.21	0.430	10,92	6.765	171.83	6.640	168.66	L80, N80-Q, P110, Q125			
		39.00	58.04	38.08	56.67	0.500	12,7	6.625	168.28	6.500	165.10	L80, N80-Q, P110, Q125			
		42.80	63.69	42.43	63.14	0.562	14,27	6.501	165.13	6.376	161.95	L80, N80-Q, P110, Q125			
		45.30	67.41	44.71	66.54	0.595	15,11	6.435	163.45	6.310	160.27	L80, N80-Q, P110, Q125			
8.625	219.10	24.00	35.72	23.60	35.12	0.264	6,71	8.097	205.66	7.972	202.49	J55, K55			
		32.00	47.62	31.13	46.33	0.352	8,94	7.921	201.19	7.796	198.02	J55, K55, L80, N80-Q, P110, Q125			
		36.00	53.57	35.17	52.34	0.400	10,16	7.825	198.76	7.700	195.58	J55, K55, L80, N80-Q			
		40.00	59.53	39.33	58.53	0.450	11,43	7.725	196.22	7.600	193.04	L80, N80-Q, P110			
		44.00	65.48	43.43	64.63	0.500	12,7	7.625	193.68	7.500	190.50	L80, N80-Q, P110, Q125			
9.625	244.50	36.00	53.57	34.89	51.92	0.352	8,94	8.921	226.59	8.765	222.63	J55, K55			
		40.00	59.53	38.97	57.99	0.395	10,03	8.835	224.41	8.679	220.45	J55, K55, L80, N80-Q, P110, Q125			
		43.50	64.74	42.73	63.59	0.435	11,05	8.755	222.38	8.599	218.41	J55, K55, L80, N80-Q, P110, Q125			
		47.00	69.94	46.18	68.72	0.472	11,99	8.681	220.50	8.525	216.54	J55, K55, L80, N80-Q, P110, Q125			
		53.50	79.62	52.90	78.72	0.545	13,84	8.535	216.79	8.379	212.83	J55, K55, L80, N80-Q, P110, Q125			
		58.40	86.91	57.44	85.48	0.595	15,11	8.435	214.25	8.279	210.29	L80, N80-Q, P110, Q125			
9.875	250.82	36.00	53.57	61.65	91.75	0.625	15,88	8.625	219.07	8.469	215.11	L80, N80-Q, P110, Q125			
10.750	273.00	40.50	60.27	38.91	57.90	0.350	8,89	10.050	255.27	9.894	251.31	J55, K55, L80, N80-Q, P110, Q125			
		45.50	67.71	44.26	65.87	0.400	10,16	9.950	252.73	9.794	248.77	J55, K55, L80, N80-Q, P110, Q125			
		51.00	75.90	49.55	73.74	0.450	11,43	9.850	250.19	9.694	246.23	J55, K55, L80, N80-Q, P110, Q125			
		55.50	82.59	54.26	80.75	0.495	12,57	9.760	247.90	9.604	243.94	L80, N80-Q, P110			
		60.70	90.33	59.45	88.47	0.545	13,84	9.660	245.4	9.504	241.40	L80, N80-Q, P110, Q125			
11.750	298.40	47.00	69.94	45.60	67.86	0.375	9,53	11.000	279.40	10.844	275.44	J55, K55			
		54.00	80.36	52.62	78.31	0.435	11,05	10.880	276.35	10.724	272.39	J55, K55			
		60.00	89.29	58.87	87.61	0.489	12,42	10.772	273.61	10.616	269.65	J55, K55, L80, N80-Q, P110, Q125			
13.375	339.70	54.50	81.10	52.79	78.56	0.380	9,65	12.615	320.42	12.459	316.46	J55, K55, L80, N80-Q, P110, Q125			
		61.00	90.78	59.50	88.55	0.430	10,92	12.515	317.88	12.359	313.92	J55, K55, L80, N80-Q, P110, Q125			
		68.00	101.19	66.17	98.47	0.480	12,19	12.415	315.34	12.259	311.38	J55, K55, L80, N80-Q, P110, Q125			
		70,69	107.15	70.67	105.17	0.514	13,06	12.347	313.61	12.191	309.65	J55, K55, L80, N80-Q, P110, Q125			

# TUBING

## API 5CT TECHNICAL SPECIFICATIONS FOR TUBING

### Sizes, masses, wall thickness, grade and applicable end-finish

Size designation	Outside diameter		Wall thickness		Weight per length unit				Steel grade	Type of end-finish
					Non-upset T&C		Ext. upset T&C			
	in	mm	in	mm	lb/ft	kg/m	lb/ft	kg/m		
1.900	1.900	48.26	0.145	3,68	2.75	4.09	2.90	4.32	J55, N80-1	NU
			0.200	5,08	3.65	5.43	3.73	5.55	J55, N80-1	PE
2 ¾	2.375	60.32	0.167	4,24	4.00	5.95	-	-	J55, L80, N80, P110	NU
			0.190	4,83	4.60	6.85	4.70	6.99	J55, N80, L80-1, P110	NU, EU
			0.254	6,45	5.80	8.63	5.95	8.85	N80, L80-1, P110	NU, EU
2 ⅝	2.875	73.02	0.217	5,51	6.40	9.52	6.50	9.67	J55, N80, L80-1, P110	NU, EU
			0.276	7,01	7.80	11.61	7.90	11.76	N80, L80-1, P110	NU, EU
			0.308	7,82	8.60	12.80	8.70	12.95	N80, L80-1, P110	NU, EU
3 ½	3.500	88.90	0.216	5,49	7.70	11.46	-	-	J55, N80, L80-1	NU, EU
			0.254	6,45	9.20	13.69	9.30	13.84	J55, N80, L80-1, P110	NU, EU
			0.289	7,34	10.20	15.18	-	-	J55, N80, L80-1	NU, EU
			0.375	9,52	12.70	18.90	12.95	19.27	N80, L80-1, P110	NU, EU
4	4.000	101.60	0.226	5,74	9.50	14.14	-	-	J55, N80, L80-1	NU, EU
			0.262	6,65	10.70	15.92	-	-	J55, N80, L80-1	NU
			0.330	8,38	13.20	19.64	-	-	L80-1	NU
4 ½	4.500	114.30	0.250	6,35	-	-	-	-	J55, N80, L80-1	NU, SC, LC, BC
			0.271	6,88	12.60	18.75	-	-	J55, K55, N80, L80-1, P110	NU, EU
			0.290	7,37	-	-	-	-	N80, L80-1, P110	NU, LC, BC
			0.337	8,56	15.20	22.62	-	-	L80-1, P110, Q125	NU, LC, BC
			0.380	9,65	17.00	25.30	-	-	L80-1	NU
			0.430	10,92	18.90	28.13	-	-	L80-1	NU

## NON-UPSET PLAIN-END TUBING (TYPE P):

### Sizes, masses, wall thickness and grade

Size designation	Outside diameter		Wall thickness		Weight per length unit		Steel grade
	in	mm	in	mm	lb/ft	kg/m	
1.900	1.900	48.26	0.145	3,68	2,72	4,05	J55, N80-1
2 ¾	2.375	60.32	0.167	4,24	3,94	5,86	J55, N80, L80-1, P110
			0.190	4,83	4,44	6,61	J55, N80, L80-1, P110
			0.254	6,45	5,8	8,63	N80, L80-1, P110
2 ⅝	2.875	73.02	0.217	5,51	6,17	9,17	J55, N80, L80-1, P110
			0.276	7,01	7,67	11,41	N80, L80-1, P110
			0.308	7,82	8,6	12,8	N80, L80-1, P110
3 ½	3.500	88.9	0.216	5,49	7,58	11,29	J55, N80, L80-1
			0.254	6,45	8,81	13,12	J55, N80, L80-1, P110
			0.289	7,34	9,92	14,76	J55, N80, L80-1
			0.375	9,52	12,7	18,9	N80, L80-1, P110
4	4.000	101.6	0.226	5,74	9,12	13,57	J55, N80, L80-1
4 ½	4.500	114.3	0.271	6,88	12,25	18,23	J55, N80, L80-1

# PREMIUM AND SEMI-PREMIUM CONNECTIONS

## UPJ-SP SEMI-PREMIUM CONNECTION



### Designed for use in:

- Production casing
- Intermediate casing
- Vertical and moderately deviated wells

### THREAD GEOMETRY:

- “Pin-to-shoulder” design
- “Pin-to-pin” design
- Interchangeable with API Buttress
- True ID

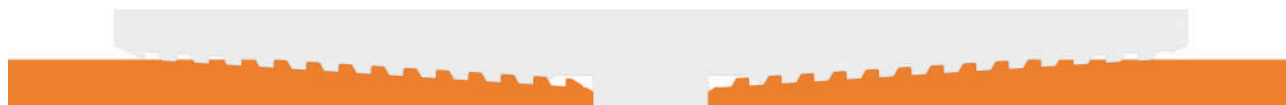


Size range		
	mm	in
Casing	114,30 – 339,72	4-1/2” – 13-3/8”

UPJ-SP is a semi-premium connection featuring a coupling design that provides higher torque capacity, improved compression resistance, and more stable make-up compared to conventional buttress connections.

The connection is fully compatible with API Buttress, allowing operators to use standard API accessories and widely available threading and repair services. Allows dogleg severity up to 112° / 30 m.

## UPJ-QR SEMI-PREMIUM CONNECTION

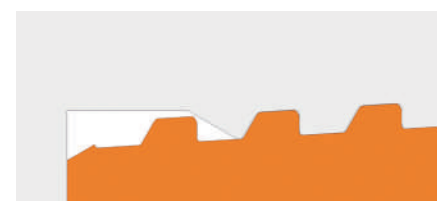


### Designed for use in:

- Surface casing
- Intermediate casing
- Production casing in conventional wells
- Operations requiring fast running

### THREAD GEOMETRY:

- Robust “trapezoidal” thread profile
- Special shouldered coupling
- Optimized thread taper for improved make-up stability
- 3 TPI



Size range		
	mm	in
Casing	244,48 – 339,72	9-5/8” – 13-3/8”

UPJ-QR Quick-Run is a casing connection designed for surface and intermediate casing strings. The thread design is optimized compared to standard BTC connections to make the running operations quicker.

A reduced number of threads allows quick stabbing and controlled make-up while minimizing the risk of cross-threading. The connection is suitable for wells with dogleg severity up to 38°/30 m.

## UPJ-M PREMIUM CONNECTION



### Designed for use in:

- Production casing
- Tubing strings
- Liners
- Tie-back strings
- HP/HT well applications

### THREAD GEOMETRY:

- "Hook" thread profile
- "Metal-to-metal" seal
- True ID
- Dope pocket



Size range		
	mm	in
Casing	114,30 - 339,72	4-1/2" - 13-3/8"
Tubing	60,32 - 114,30	2-3/8" - 4-1/2"

UPJ-M is a proprietary premium connection certified in accordance with ISO 13679 CAL IV.

The connection provides stable high-performance characteristics in high-pressure and high-temperature environments. UPJ-M withstands up to 100% of tension, internal and external pressure, and compression loads. The seal design allows operation in wells with dogleg severity up to 40°/30 m.

Combined with corrosion-resistant alloys and sour service materials, the connection can be used in environments containing hydrogen sulfide and carbon dioxide.

## UPJ-F PREMIUM CONNECTION



### Designed for use in:

- Directional and horizontal wells
- Restricted clearance conditions
- Tight-hole strings

### THREAD GEOMETRY:

- "Hook" thread profile
- Full pipe body strength
- True flush OD & ID design



Size range		
	mm	in
Casing	114,30 - 193,68	4-1/2" - 7-5/8"
Tubing	114,30	4-1/2"

UPJ-F is a proprietary gas-tight premium connection with a true flush design, tested in accordance with ISO 13679 CAL IV.

It ensures gas-tight integrity, while the true flush OD and ID configuration enables smooth running of casing strings through restricted clearances, horizontal well sections, and open hole intervals where conventional coupled connections cannot be used. The flush design improves running efficiency and reduces the risk of hang-ups during casing installation.

# LINE PIPES

## SPECIFICATION FOR LINE PIPES – API 5L/ISO 3183

Application: gas, water and oil transportation

Pipe dimensions and weight

Nominal size	Outside diameter		Wall thickness		Weight per length unit		Wheight class	Schedule
	in	mm	in	mm	lb/ft	kg/m		
½	0.840	21,3	0.083	2,11	0,67	1,0		
			0.095	2,41	0,75	1,12		
			0.109	2,77	0,85	1,27		
			0.147	3,73	1,09	1,62		
¾	1.050	26,7	0.083	2,11	0,86	1,28		
			0.095	2,41	0,97	1,44		
			0.113	2,87	1,13	1,69		
			0.154	3,91	1,49	2,2		80
1	1.315	33.4	0.133	3,38	1,68	2,5	STD	40
			0.179	4,55	2,17	3,24	XS	80
			0.250	6,35	2,84	4,23		160
1¼	1.660	42.2	0.109	2,77	1,81	2,69		10
			0.117	2,97	1,93	2,87		30
			0.140	3,56	2,27	3,39	STD	40
			0.191	4,85	3	4,47	XS	80
			0.250	6,35	3,77	5,61		160
1½	1.900	48.3	0.145	3,68*	2,72	4,05	STD	40
			0.200	5,08	3,63	5,41	XS	80
			0.281	7,14	4,86	7,24		160
2	2.375	60.3	0.154	3,91	3,66	5,44	STD	40
			0.172	4,37	4,05	6,03		
			0.188	4,78	4,39	6,54		
			0.218	5,54	5,03	7,48	XS	80
			0.250	6,35*	5,68	8,45		
			0.281	7,14	6,29	9,36		
			0.344	8,74	7,46	11,11		160
2½	2.875	73.0	0.156	3,96	4,53	6,74		
			0.172	4,37	4,97	7,4		
			0.188	4,78	5,4	8,04		30
			0.203	5,16	5,8	8,63	STD	40
			0.216	5,49	6,13	9,14		
			0.250	6,35	7,01	10,44		
			0.276	7,01	7,67	11,41	XS	80
			0.375	9,53	10,02	14,92		160
3	3.500	88.9	0.125	3,18	4,51	6,72		
			0.156	3,96	5,58	8,29		
			0.172	4,37	6,11	9,11		
			0.188	4,78	6,66	9,92		30
			0.216	5,49	7,58	11,29	STD	40
			0.250	6,35	8,69	12,93		
			0.281	7,14	9,67	14,4		
			0.300	7,62	10,26	15,27	XS	80
			0.438	11,13*	14,34	21,35		160
			0.600	15,24*	16,6	27,68	XXS	
3½	4.000	101.6	0.156	3,96	6,41	9,63/9,53		
			0.172	4,37	7,04/7.03	10,55/10,48		
			0.188	4,78	7,66	11,46/11,41		30
			0.226	5,74	9,12	13,48/13,57	STD	40
			0.250	6,35	10,02	15,02/14,92		
			0.281	7,14	11,17	16,55/16,63		
			0.318	8,08	12,52	18,68/18,63	XS	80

Nominal size	Outside diameter		Wall thickness		Weight per length unit		Wheight class	Schedule
	in	mm	in	mm	lb/ft	kg/m		
4	4.500	114.3	0.156	3,96	7,24	10,88		
			0.172	4,37	7,96	11,92		
			0.188	4,78	8,67	12,96		30
			0.203	5,16	9,32	13,99		
			0.219	5,56	10,02	15,01		
			0.233	5,92	10,63	15,82		
			0.237	6,02	10,8	16,02	STD	40
			0.250	6,35	11,36	17,03		
			0.281	7,14	12,67	18,77		
			0.312	7,92	13,97	20,78		
			0.337	8,56	14,98/15,00	22,42/22,32	XS	80
			0.438	11,13	19,00	28,32		120
					160			
5	5.563	141.3	0.188	4,78	10,81	16,09		
			0.219	5,56	12,49	18,6		
			0.258	6,55	14,63	21,92	STD	40
			0.281	7,14	15,87	23,50		
			0.312	7,92	17,51	25,99		
			0.344	8,74	19,19	28,45		
			0.375	9,53	20,80	30,88	XS	80
			0.500	12,7	27,06	40,28		120
6	6.625	168.3	0.172	4,37	11,87	17,66		
			0.188	4,78	12,95	19,27		
			0.203	5,16	13,94	20,75		
			0.219	5,56	14,98	22,3		
			0.250	6,35	17,03	25,35		20
			0.280	7,11	18,99	28,22	STD	40
			0.312	7,92	21,06	31,25		
			0.344	8,74	23,1	34,24		
			0.375	9,53	25,05	37,20		
			0.432	10,97	28,60	42,67	XS	80
			0.500	12,7	32,74	48,73		
			0.562	14,27	36,43	54,31		120
			0.625	15,88	40,09	59,76		
			0.719	18,26	45,39	67,69		160
			0.750	19,05	47,10	70,27		
			0.864	21,95	53,21	79,22	XXS	
0.875	22,23	53,78	80,08					
8	8.625	219.1	0.219	5,56	19,68	29,48		30
			0.250	6,35	22,38	33,57		
			0.277	7,04	24,72	36,61	STD	40
			0.312	7,92	27,73	41,14		
			0.322	8,18	28,58	42,65		
			0.344	8,74	30,45	45,14		60
			0.375	9,53	33,07	49,10		
			0.406	10,31	35,67	53,09	XS	80
			0.438	11,13	38,33	56,94		
			0.500	12,7	43,43	64,64		
			0.562	14,27	48,44	72,22		
			0.594	15,09	50,99	75,88		100
			0.625	15,88	53,45	79,67		
			0.719	18,26	60,77	90,62		120
			0.750	19,05	63,14	94,20		
			0.812	20,62	67,82	100,84		140
			0.875	22,23	72,49	107,79	XXS	
			0.906	23,01	74,69	111,27		160
			1.000	25,4	81,49	121,27		
			1.122	28,5	89,98	133,9		
1.312	33,32	102,53	152,58					

Nominal size	Outside diameter		Wall thickness		Weight per length unit		Wheight class	Schedule
	in	mm	in	mm	lb/ft	kg/m		
10	10.750	273.0	0.250	6,35	28,06	42.09		20
			0.279	7,09	31.23	46.57		30
			0.307	7,8	34.27	51.03		
			0.344	8,74	38.27	56.72	STD	40
			0.365	9,27	40.52	60.50		
			0.406	10,31	44.90	66,79		
			0.438	11,13	48.28	71.72	XS	60
			0.500	12,7	54.79	81.55		
			0.562	14.27	61.21	91.26		
			0.594	15,09	64,46	95,93		80
			0.625	15.88	67.65	100.85		
			0.719	18.26	77.10	114.99		100
			0.812	20.62	86.26	128.27		
			0.844	21,44	89,33	132.94		120
			0.875	22.23	92.37	137.36		
			0.938	23.83	98.39	146.32		
			1.000	25,4	104,17	155.02		140
1.125	28,58	115,71	172.19					
1.250	31,75	126,87	188.8					
12	12.750	323.8	0.250	6,35	33.41	50.11		
			0.281	7,14	37.46	55.47		
			0.312	7,92	41.48	61.56		
			0.330	8,38	43.81	65.35		30
			0.344	8,74	45.62	67.62		
			0.375	9,53	49.61	73.65	STD	40
			0.406	10,31	53.57	79.65		40
			0.438	11,13	57.65	85.62		
			0.500	12,7	65.48	97.46	XS	80
			0.562	14.27	73.22	109.18		60
			0.594	15,09	77,16	114.83		
			0.625	15.88	81.01	120.76		
			0.688	17.48	88.71	132.23		80
			0.750	19,05	96.21	143.56		
			0.812	20.62	103.63	154.08		
			0.844	21,44	107,37	159.79		100
			0.875	22,23	111,04	165.24		
			0.938	23.83	118.44	176.13		
			1.000	25,4	125,54	186.82		120
1.062	26,97	132,6	197.33					
1.125	28,58	139,75	207.97					
1.250	31,75	153,58	228.56					
1.312	33,32	160,31	238.57					
14	14.000	355.6	0.375	9,53	54.62	81.08	STD	40
			0.406	10,31	59.00	87.71		
			0.438	11,13	63,5	94.5		
			0.500	12,7	72,13	107.34		
			0.594	15,09	85,1	126.65		
			0.625	15.88	89,36	132.98		
16	16.000	406.4	0.375	9,53	62.64	92.98		
			0.406	10,31	67.60	100.60		10
			0.438	11,13	72,7	108,2		
			0.469	11,91	77,82	115.81		
			0.500	12,7	82,81	123.24		
			0.625	15,88	102,72	152.86		
			0.656	16,66	107,55	160.05		
			0.688	17,48	112,6	167.57		
			0.750	19,05	122,22	181.89		
			0.812	20,62	131,76	196.08		
0.844	21,44	136,71	203.44					

# POLYETHYLENE COATED PIPES

## DIN 30670-1 POLYETHYLENE COATING ON STEEL PIPES

### Dimensions range:

Pipe OD 88,9 - 530 mm and WT  $\geq$  3 mm.

The maximum wall thickness of the pipe to be coated - 15mm

The maximum weight of the pipe to be coated - 1,8tn

Length 7,5 - 14 meters

### Coating thickness:

Outside diameter of the pipes, mm	Coating thickness, at least, mm	
	Normal (n)	Special (v)
88,9 - 114.3mm	1,8	2,5
> 114,3mm up to $\leq$ 273mm	2,0	2,7
> 273mm up to $\leq$ 508mm	2,2	2,9
> 508mm	2,5	3,2

### Coating execution:

Normal performance (N) - polyethylene coating intended for use at temperature from - 20°C up to 60°C

Special performance (S) - polyethylene coating intended for use at temperature from - 40°C up to 80°C



## ISO 21809-1,2

### EXTERNAL COATINGS FOR BURIED OR SUBMERGED PIPELINES USED IN PIPE-LINE TRANSPORTATION SYSTEMS

#### Dimensions range:

Pipe OD 88,9 - 530 mm and WT  $\geq$  3 mm.

The maximum wall thickness of the pipe to be coated – 15mm

The maximum weight of the pipe to be coated – 1,8tn

Length 7,5 - 14 meters

#### External 3-layer coatings according to ISO 21809-1:

Pm unit weight of pipe, kg/m	Class of coating thickness, mm (a)			Class of coating thickness, mm (a) (b)		
	B1	B2	B3	C1	C2	C3
$Pm \leq 15$	1,3	1,8	2,3	1,3	1,7	2,1
$15 \leq Pm \leq 50$	1,5	2,1	2,7	1,5	1,9	2,4
$50 \leq Pm \leq 130$	1,8	2,5	3,1	1,8	2,3	2,8
$130 \leq Pm \leq 300$	2,2	2,8	3,5	2,2	2,5	3,2

(a) upon request, other thicknesses can be agreed on

(b) upon request only

#### Coating classes:

Class B – polyethylene coating intended for use at temperature from - 40°C up to +80°C

Class C(b) – polypropylene coating intended for use at temperature from - 20°C up to 110°C

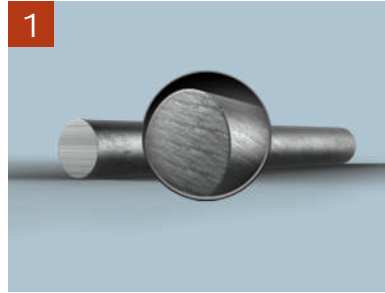
#### External coatings according to ISO 21809-2: Single layer fusion-bonded epoxy coatings

Coating thickness: standard 350  $\mu$ m; upon customer request can be ordered minimum coating thickness in the range of 350 – 900  $\mu$ m

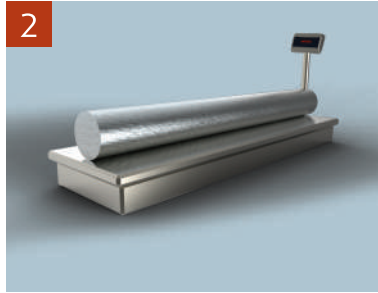
Working temperature up to 120°C



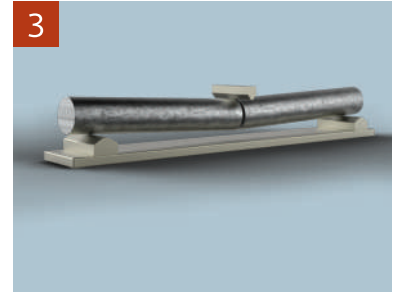
# MANUFACTURING OF SEAMLESS PIPES



1  
Billet incoming inspection



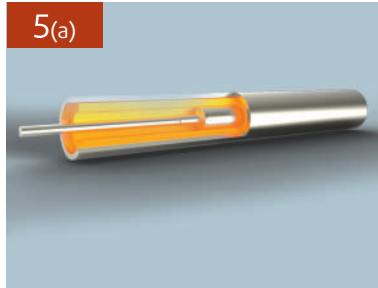
2  
Billet weighing



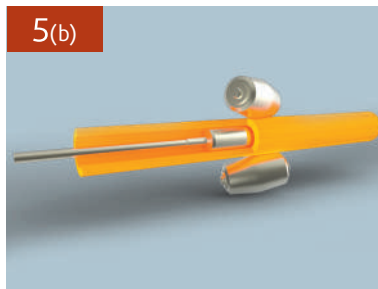
3  
Billet cutting



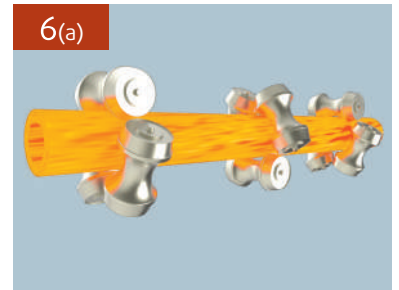
4  
Heating of billet in rotary furnace



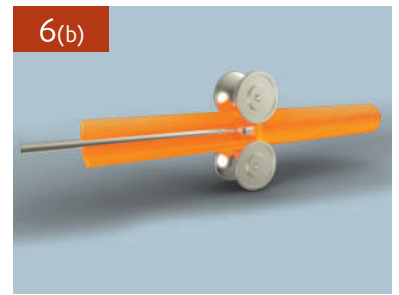
5(a)  
Piercing of billet at piercing press



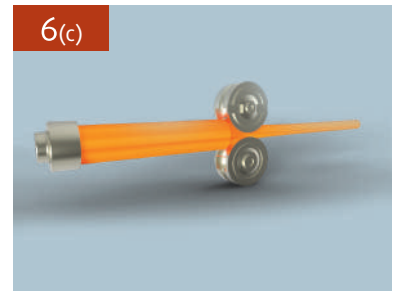
5(b)  
Piercing of billet at cross-roll piercer



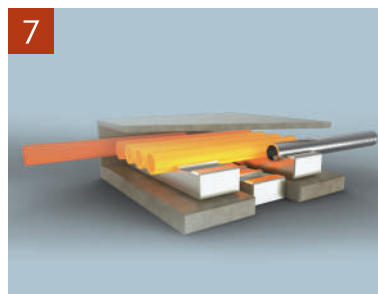
6(a)  
Shell rolling at continuous rolling mill



6(b)  
Shell rolling at plug mill

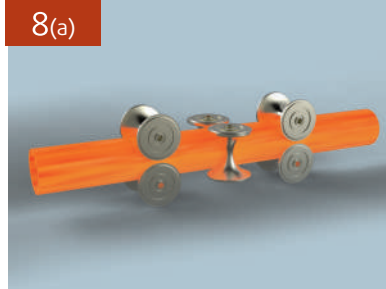


6(c)  
Shell rolling at pilger mill

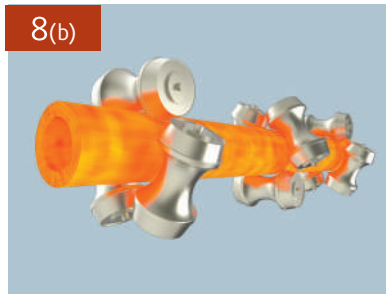


7  
Heating of pipes

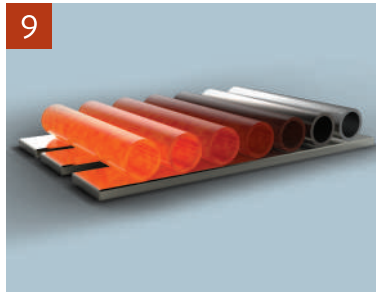
# MANUFACTURING OF SEAMLESS PIPES



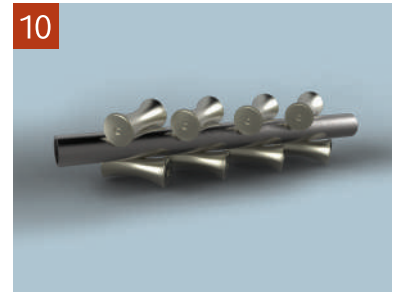
Sizing



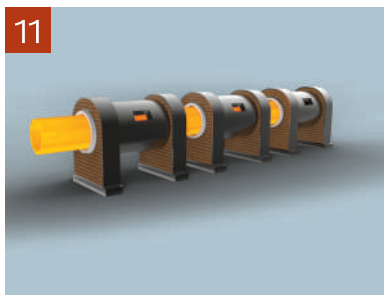
Stretch reducing



Pipes cooling



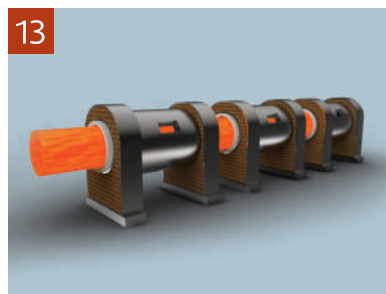
Straightening of pipes



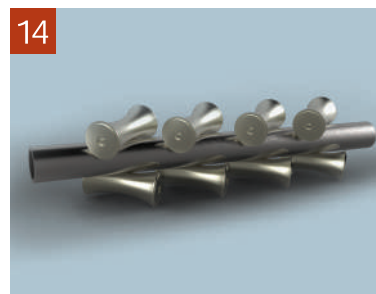
Heating of pipes for quenching



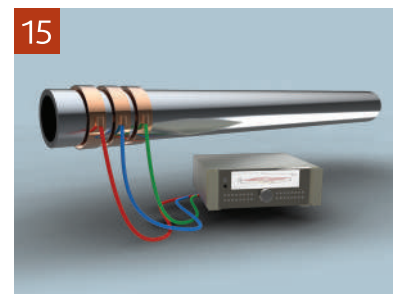
Quenching



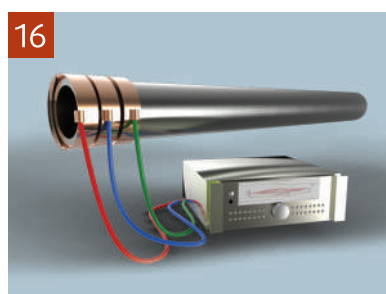
Tempering



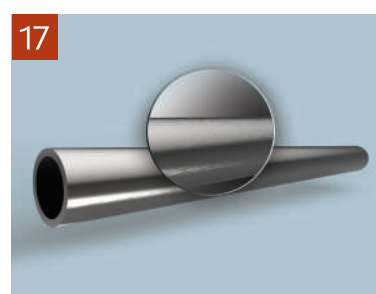
Warm straightening



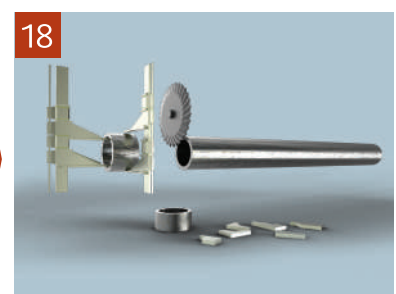
Nondestructive control of pipe body



NDT of pipe ends

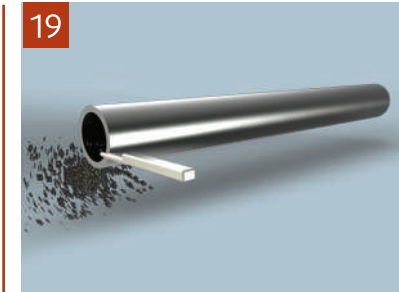


Visual inspection

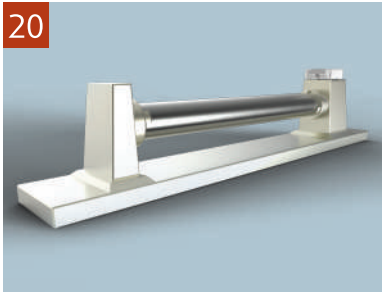


Sampling for mechanical tests and chemical composition analysis

# FINISHING OF PLAIN END PIPES



19 Beveling



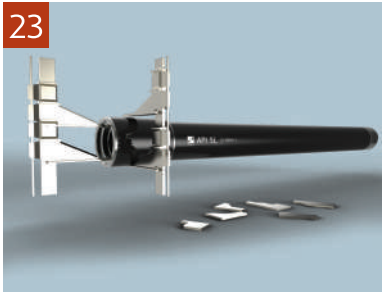
20 Hydraulic pressure test



21 Painting of pipes



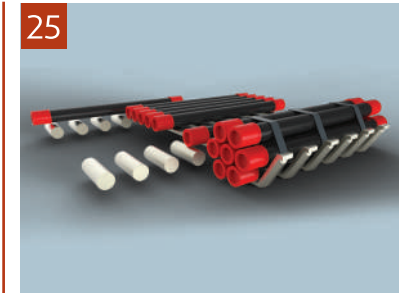
22 Marking



23 Final inspection



24 Bevel protection

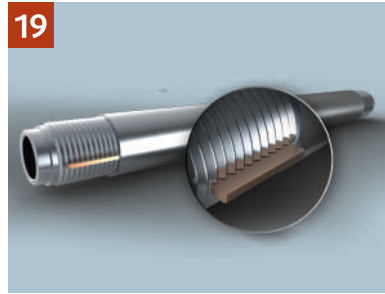


25 Bundling



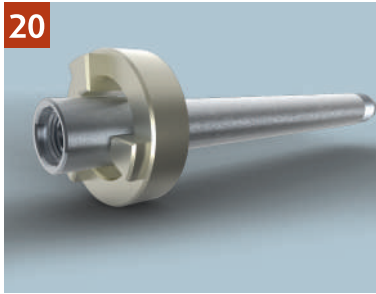
# OCTG FINISHING

19



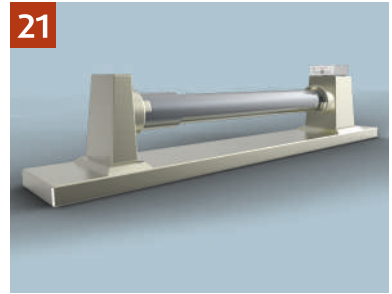
Threading and inspection of threads

20



Coupling

21



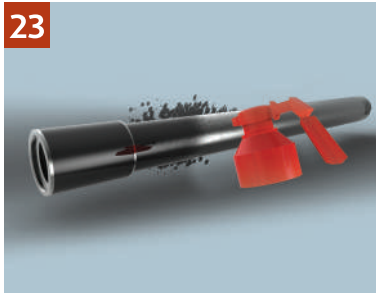
Hydraulic pressure test

22



Drifting

23



Painting/protective coat

24



Marking

25



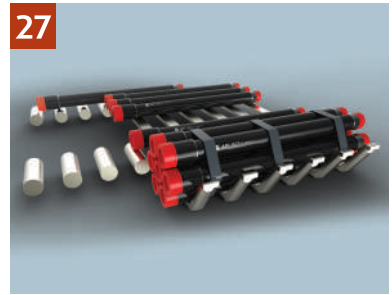
Final inspection

26



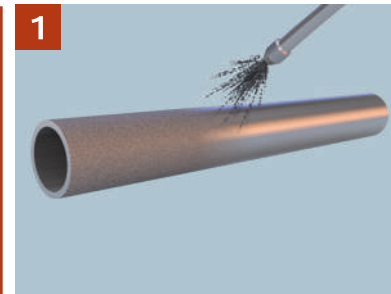
Bevel protection

27

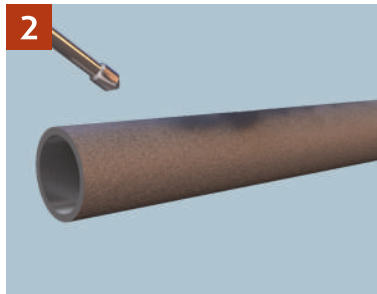


Bundling

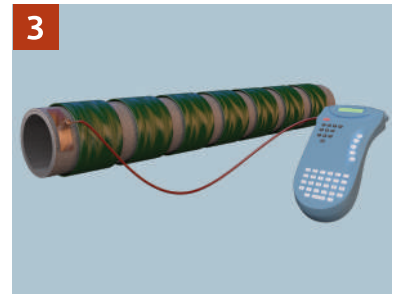
# 3-LAYER POLYETHYLENE/POLYPROPYLENE COATING FUSION BONDED EPOXY COATING



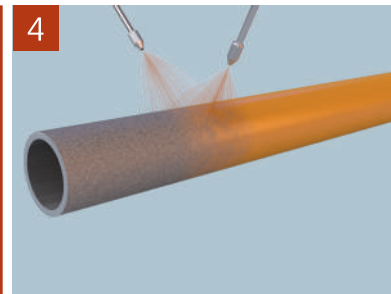
1 Shot blasting



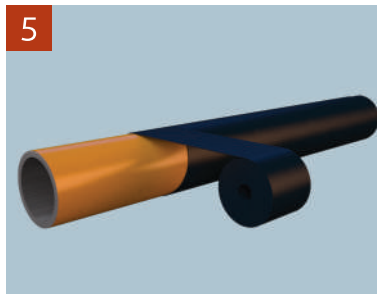
2 Dust removal



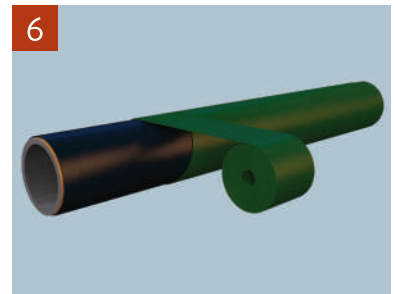
3 Induction heating



4 Epoxy powder application



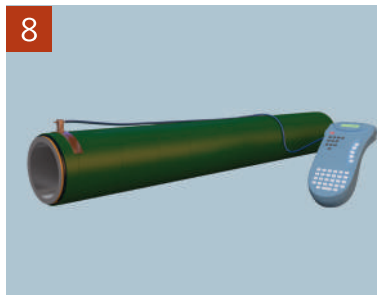
5 Adhesive application



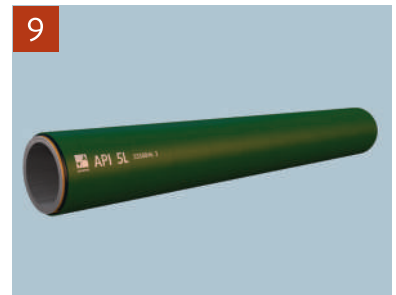
6 Polyethylen application



7 Pipe cooling



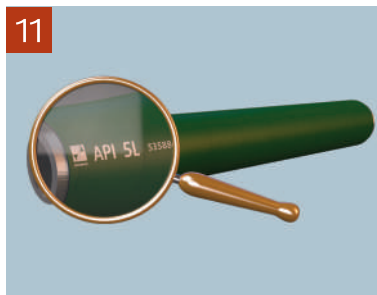
8 On-line holiday test



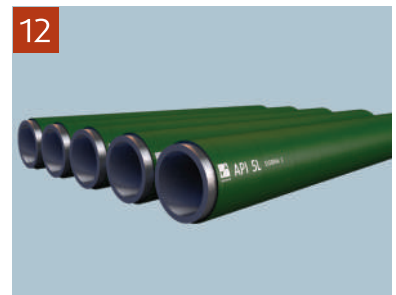
9 Pipe marking



10 Pipe ends processing



11 Final visual inspection marking ends protect



12 Storing

# LIST OF ACTIVE NORMATIVE AND TECHNICAL DOCUMENTATION

API Spec 5L, 46 edition (2018)	Specification for Line Pipe
API Spec 5CT, 11 edition (2023)	Specification for Casing and Tubing
API Spec 5DP, 2 edition (2020)	Drill pipes
API Spec 5B, 16 edition (2017)	Cutting, calibrating and quality control of threads of casing, tubing and pipelines
ASTM A53/A53M-24	Standard specification for steel pipes, without coating and with coating, lined in a hot bath, galvanized, welded and seamless
ASTM A106/A106M-19a	Standard specification for seamless carbon steel pipe for high-temperature service
BS EN 10226-3:2005	Pipe threads where a tight connection under pressure is made on the thread. Part 3: Testing with limit gauges.
DIN EN 10210-1:2006	Hot-formed hollow sections for steel structures made of non-alloy structural steels and fine-grained structural steels. Part 1. Technical delivery conditions
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DIN EN 10220:2003	Seamless and welded steel pipes - General tables of dimensions and linear weights
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EN 10297-1:2003	Circular steel tubes for mechanical structures and general engineering. Technical delivery conditions. Part 1. Non-alloy and alloy steel tubes
ISO 3183:2019	Oil and gas industry. Steel pipes for pipeline transport systems
ISO 11960:2020	Oil and gas industry. Steel pipes used as casing and tubing for wells
ISO 13680:2024	Petroleum and gas industries, including low carbon energy - Seamless products of corrosion resistant alloys for use as casing, tubing, joints and accessories - Technical delivery conditions
DVGW G 463:2021-11	High-pressure steel gas pipelines for design pressures above 16 bar; Design and construction
CSA Z245.1:22	Steel pipes
RCC-M 2022	Code for the design and manufacture of mechanical components for nuclear islands with pressurized water reactors (PWR)
Directive 2014/68/EU	Directive to comply with the laws of the Member States to place on the market the goods that are under pressure
PED 2014/68/EU, v.6.0	Recommendations relating to the Pressure Equipment Directive 2014/68/EU (PED)
Regulations 305/2011/EU	European Union regulation that establishes harmonized standards for the placing on the market of pathogenic viruses
AD 2000 Mer. W0 (2023)	General guidelines for materials
AD 2000 Mer. W4 (2024)	Pipes made of non-alloy and alloy steels
AD 2000 Mer. HP 100R (2017)	Building Codes Metal Pipelines
DNV-ST-F101	Subsea piping systems
DNV-CP-0252	Manufacturers' approval. Steel pipes and steel pipe fittings
DNV-CP-0346	Manufacturer Certification Scheme by DNV GL
DNV-RU-SHIP Pt.2 Ch.1	Chapter 1 General requirements for materials and workmanship
DNV-RU-SHIP Pt.2 Ch.2	Chapter 2 Steel materials
Rules LR-RU-002 Lloyd's Register	Rules for the production, testing and certification of materials.
Rules LR-MQ-003 MQPS Book C Lloyd's Register	Materials and qualification procedures for ships. Book C Procedure for approval of steel and rolled products plant.
RINA Rules 2023	Part D, Chapter 1, Section 2 Material Testing Procedures Part D, Chapter 2, Section 2 Steel Casing, Line Pipe, Tubing and Fittings
RINA Consulting S.p.A.	Description of the method for hydrogen-ready metal valves
Bureau Veritas Marine Division NR 216	Materials and welding rules for the classification of naval units
Bureau Veritas Marine Division NR 480	Confirmation of the process of production of metal materials
UL 852, 2 edition	Metal sprinkler pipe for fire protection service



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