

**BORUSAN MANNESMANN
BORU SAN. ve TİC. A.Ş.**

Head Office:
Meclisi Mebusan Caddesi 35,
Salıpazarı 34427 İstanbul / TURKEY
Phone: +90 212 393 59 59
Fax: +90 262 323 18 03

İzmit Factory:
Yeni Doğan Mahallesi P.K: 5 41001 İzmit / TURKEY
Phone: +90 212 393 59 59
Fax: +90 262 323 18 03
E-Mail: mannesmann@borusan.com

+90 212 393 58 58
Borusan Mannesmann Call Center | E-Mail: mannesmann@borusan.com | www.borusanmannesmann.com

**BORUSAN
MANNESMANN**



A COMPANY OF
BORUSAN HOLDING

LINE PIPE PRODUCT CATALOGUE

**BORUSAN
MANNESMANN**

BORUSAN MANNESMANN LINE PIPE PRODUCT CATALOGUE

March 2012





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Borusan Group at a Glance

Steel

The Pipe Group

Borusan Mannesmann
Borusan Stainless Steel Pipe
Borusan Engineering
Borusan İstikbal Trading

The Flat Steel Group

Borçelik
Kerim Çelik



Distributorship

The Earth Moving Equipments Group

Borusan Makina ve Güç Sistemleri

The Automotive Group

Borusan Otomotiv & Borusan Oto
Supsan Engine Valves
Manheim Turkey



Partners



Giwa Holding GmbH



Distributed Brands



Energy

Borusan EnBW Energy



Logistics

Borusan Logistics

Borusan International



— EnBW

In 4 major business areas
with 5.000 employees...



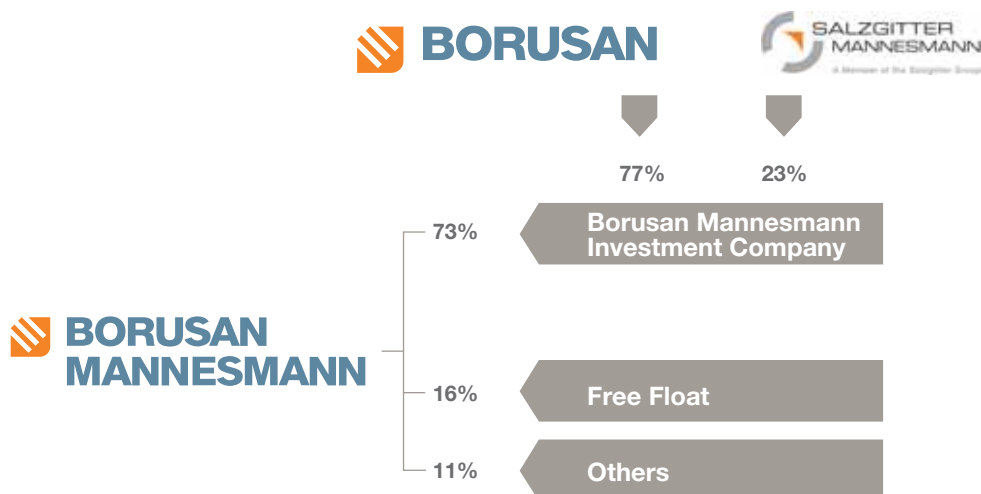
Borusan Mannesmann in Brief

- ✦ Flagship of Borusan Group with 54 years of pipe manufacturing experience.
- ✦ Operates with 5 plants, 4 in Turkey (2 HSAW, 2 ERW), 1 in Italy (ERW)
- ✦ Total annual capacity of 1 mn tons.
- ✦ Workforce of 1.250 people.
- ✦ 20 years of Contract Management competency
- ✦ Has its own port (Borusan Port) which brings operational flexibility in terms of logistics inbound and outbound.
- ✦ Together with Borusan Group's integrated logistic company Borusan Logistics; provides logistic services for every international pipeline project.
- ✦ Sole 24.5 m single seam API/ISO/EN large diameter line pipe producer in Europe



Corporate Structure:

Borusan Group and one of Europe's leading steel and technology companies; Salzgitter Mannesmann GMBH, merged their welded steel pipe investments in Turkey and named that partnership; "Borusan Mannesmann Boru Yatırım Holding" in 1998. The company has 73% shares of Borusan Mannesmann Boru San. ve Tic. A.Ş.



Borusan Mannesmann Line Pipe Production Facilities

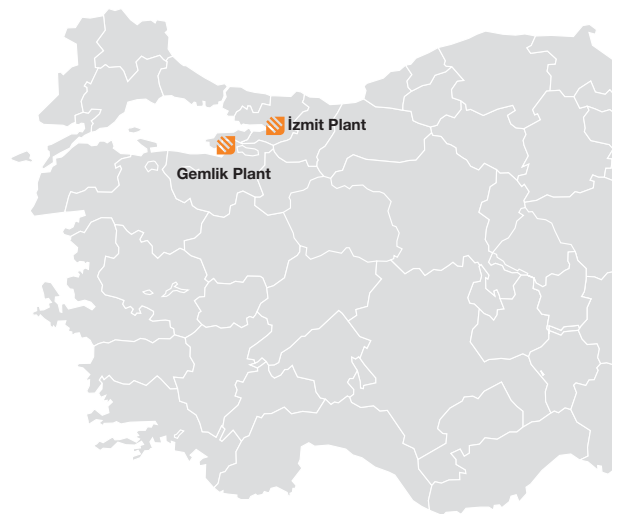


Gemlik Two Step Spiral Pipe Plant

Process	Helically Two Step SAW
OD	20" - 64"
Wall Thickness	Up to 25.4 mm
Lenght up to	24.5 m
Grade including	X80
Coating	PE, PP, FBE, Dual Layer FBE (ARO), FCE, SFE

Gemlik ERW Pipe Plant

Process	HFI - ERW
OD	1/2" - 12 3/4"
Wall Thickness	Up to 12,5 mm
Lenght up to	18.3 m
Grade including	X70
Coating	PE, PP





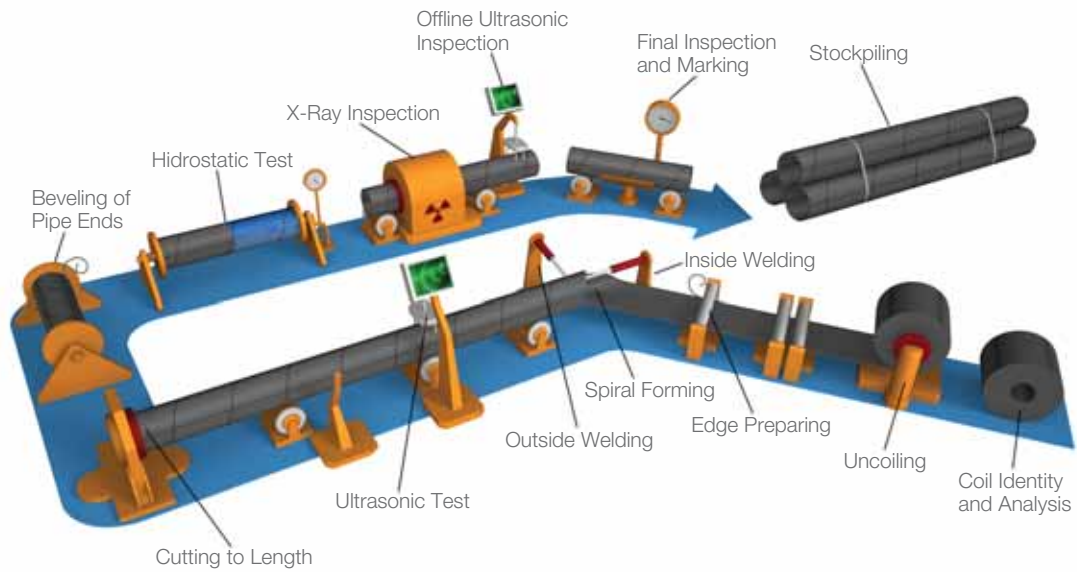
Izmit Spiral Pipe Plant

Process	Helically SAW
OD	14" - 100"
Wall Thickness	Up to 25.4 mm
Length up to	18.3 m
Grade including	X70
Coating	PE, PP, FBE, FCE, SFE, Cement Mortar Lining

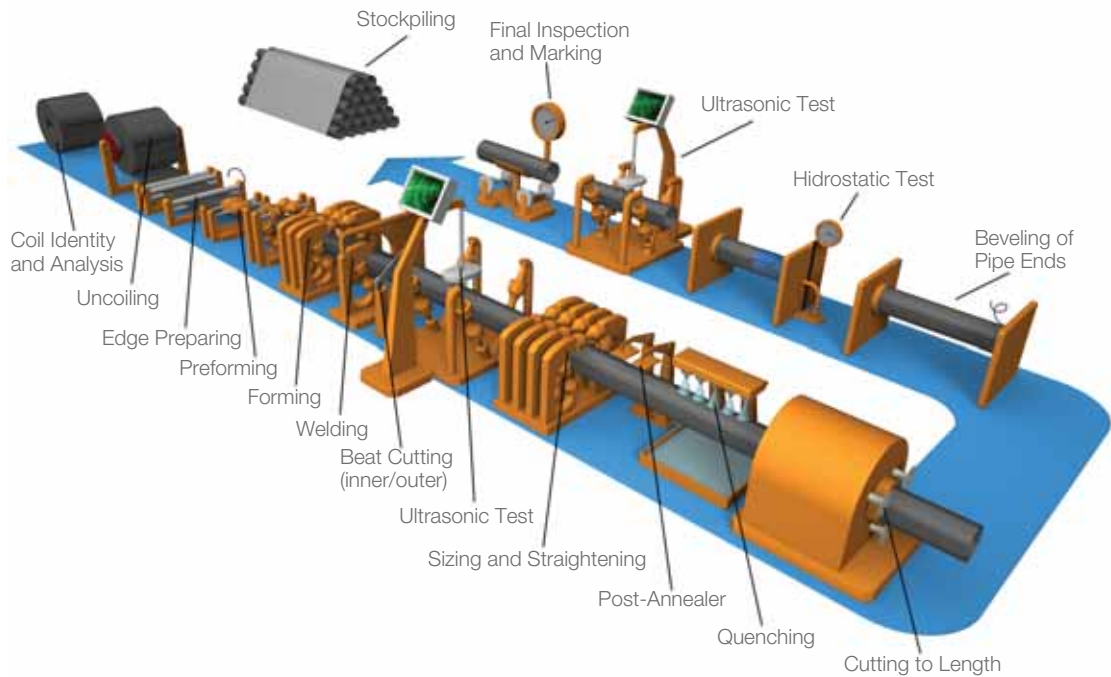


Production Flow

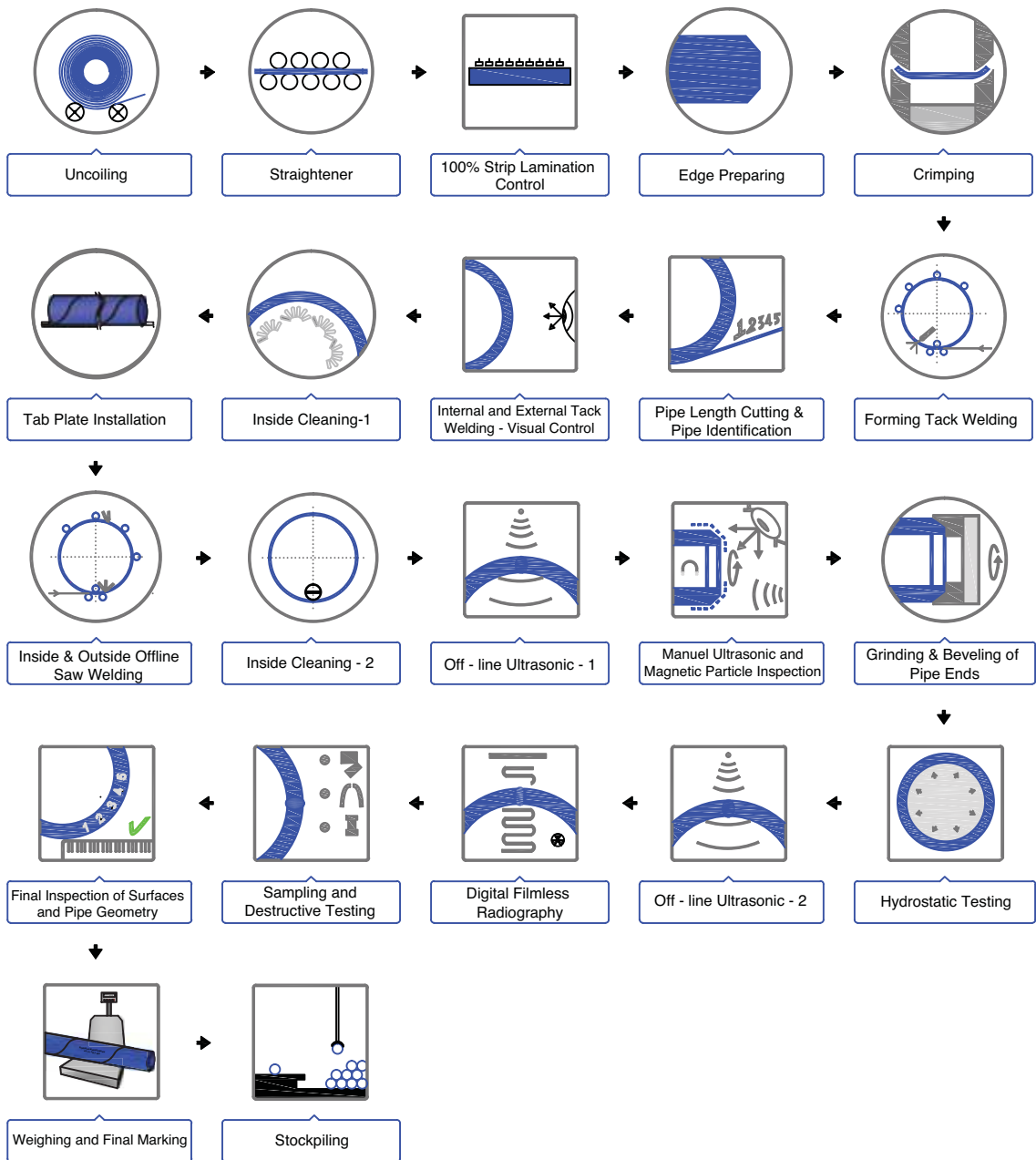
Online Helical Submerged Arc Welded Pipe



Electric Resistance Welded Pipe



Offline Helical Submerged Arc Welded Pipe



Production Range - SAWH Line Pipes

OD	Wall Thickness (mm & inch)																											
	mm	inch	4	4.5	5	5.5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25		
355.6	14	34.7	39.0	43.2	47.5	51.7	60.2	66.6	76.92	85.2	93.5	0.472	0.512	0.551	0.591	0.630	0.663	0.709	0.748	0.787	0.827	0.866	0.906	0.945	1.000			
406.4	16	39.7	44.6	49.5	54.4	59.2	68.9	76.6	88.2	97.8	107.3	116.7	126.1	135.5														
457.2	18	44.7	50.2	55.8	61.3	66.8	77.7	86.6	99.5	110.3	121.0	131.7	142.4	153.0														
508	20	49.7	55.9	62.0	68.3	74.3	86.5	96.6	110.7	122.8	134.8	146.8	158.7	170.5	182.4	194.1												
559	22	54.7	61.5	68.3	75.1	81.8	95.3	108.7	122.1	135.4	148.7	161.9	175.0	188.2	201.2	214.2												
610	24	59.8	67.2	74.6	82.0	89.4	104.1	118.8	133.4	148.0	162.5	177.0	191.4	205.8	220.1	234.4	248.6	262.8										
660	26	64.7	72.7	80.8	88.8	96.8	112.7	128.6	144.5	160.3	176.0	191.8	207.4	223.0	238.6	254.1	269.6	285.0										
711.2	28	69.8	78.4	87.1	95.7	104.3	121.6	138.7	155.8	172.9	189.9	206.9	223.8	240.7	257.5	274.3	291.0	307.7	324.3	340.9								
762	30			93.3	102.6	111.9	130.3	148.7	167.1	185.4	203.7	221.9	240.1	258.2	276.3	294.3	312.3	330.2	348.1	366.0								
812.8	32			99.6	109.5	119.4	139.1	158.8	178.4	198.0	217.5	237.0	256.4	275.8	295.1	314.4	333.6	352.8	371.9	391.0	410.0							
863.6	34			105.9	116.4	126.9	147.9	168.8	189.7	210.5	231.3	252.0	272.7	293.3	313.9	334.4	354.9	375.3	395.7	416.1	436.3							
914	36			112.1	123.2	134.3	156.6	178.7	200.9	222.9	244.9	266.9	288.8	310.7	332.5	354.3	376.0	397.7	419.3	440.9	462.4	483.9						
965.2	38				130.2	141.9	165.4	188.8	212.2	235.6	258.8	282.1	305.3	328.4	351.5	374.5	397.5	420.4	443.3	466.2	489.0	511.7	534.4					
1016	40				137.1	149.4	174.2	198.9	223.5	248.1	272.6	297.1	321.5	345.9	370.3	394.6	418.8	443.0	467.1	491.2	515.3	539.3	563.2	587.1				
1067	42					157.0	183.0	208.9	234.8	260.7	286.5	312.2	337.9	363.5	389.1	414.7	440.2	465.6	491.0	516.4	541.7	566.9	592.1	617.29				
1118	44					164.5	191.8	219.0	246.1	273.2	300.3	327.3	354.2	381.1	408.0	434.8	461.6	488.3	514.9	541.5	568.1	594.6	621.1	647.47				
1168	46					171.9	200.4	228.8	257.2	285.6	313.8	342.1	370.3	398.4	426.5	454.5	482.5	510.5	538.4	566.2	594.0	621.7	649.4	677.06				
1219	48						209.2	238.9	268.5	298.1	327.7	357.2	386.6	416.0	445.4	474.7	503.9	533.1	562.2	591.3	620.4	649.4	678.3	707.25				
1321	52						226.8	259.0	291.2	323.3	355.4	387.4	419.3	451.2	483.1	514.9	546.7	578.4	610.0	641.7	673.2	704.7	736.2	767.62				
1372	54						235.6	269.1	302.5	335.9	369.2	402.5	435.7	468.8	502.0	535.0	568.0	601.0	633.9	666.8	699.6	732.4	765.1	797.8				
1422	56							279.0	313.6	348.2	382.7	417.2	451.7	486.1	520.4	554.8	589.0	623.2	657.4	691.5	725.5	759.5	793.5	827.4	861.3			
1524	60							299.1	336.2	373.4	410.4	447.4	484.4	521.3	558.2	595.0	631.8	668.5	705.2	741.8	778.3	814.9	851.3	887.8	924.1			
1626	64							319.2	358.9	398.5	438.1	477.6	517.1	556.5	595.9	635.2	674.5	713.8	752.9	792.1	831.2	870.2	909.2	948.1	987.0			
1676	66								370.0	410.8	451.6	492.4	533.1	573.8	614.4	655.0	695.5	736.0	776.4	816.7	857.1	897.3	937.5	977.7	1017.8			
1727	68									423.4	465.5	507.5	549.5	591.4	633.3	675.1	716.9	758.6	800.3	841.9	883.5	925.0	966.5	1007.9	1049.3			
1829	72										493.2	537.7	582.2	626.6	671.0	715.3	759.6	803.9	848.1	892.2	936.3	980.3	1024.3	1068.3	1112.2			
2032	80											548.2	597.8	647.3	696.7	746.1	795.4	844.7	894.0	943.2	992.3	1041.4	1090.5	1139.5	1188.4	1237.3		
2083	82												562.1	612.9	663.6	714.3	765.0	815.6	866.1	916.6	967.1	1017.5	1067.8	1118.1	1168.4	1218.6	1268.8	
2235	88													657.8	712.3	766.8	821.2	875.5	929.8	984.1	1038.3	1092.4	1146.5	1200.6	1254.6	1308.6	1362.5	
2540	100														810.1	872.1	934.0	995.9	1057.7	1119.5	1181.2	1242.9	1304.5	1366.1	1427.6	1489.1	1550.5	

Production Range - ERW Line Pipes

OD	Wall Thickness (mm & inch)																						
	mm	2.8	2.9	3.4	3.56	3.68	3.7	3.9	4.5	5.1	5.2	6	6.6	7	7.1	8.1	8.4	8.6	9.3	9.5	11	12	12.5
mm	inch	0.109	0.113	0.133	0.140	0.145	0.147	0.154	0.179	0.200	0.203	0.237	0.258	0.277	0.280	0.318	0.331	0.337	0.365	0.375	0.432	0.472	0.492
21.3	1/2	1.28	1.32	1.50	1.56	1.60	1.61	1.67															
26.9	3/4	1.66	1.72	1.97	2.05	2.11	2.12	2.21	2.49														
33.7	1	2.13	2.20	2.54	2.65	2.72	2.74	2.87	3.24	3.60											X52		
42.4	1 1/4	2.73	2.82	3.27	3.41	3.51	3.53	3.70	4.21	4.69	4.77										X60		
48.3	1 1/2	3.14	3.25	3.76	3.93	4.05	4.07	4.27	4.86	5.43	5.53										X65		
60.3	2 3/8	3.97	4.10	4.77	4.98	5.14	5.16	5.42	6.19	6.94	7.07										X70		
73	2 7/8	4.85	5.01	5.84	6.10	6.29	6.32	6.65	7.60	8.54	8.69	9.91											
88.9	3 1/2		6.15	7.17	7.49	7.73	7.77	8.17	9.37	10.54	10.73	12.27											
114.3	4 1/2		7.97	9.30	9.72	10.04	10.09	10.62	12.18	13.73	13.99	16.02	17.53	18.52	18.77	21.21	21.94	22.42	24.08				
141.3	5 9/16			11.56	12.09	12.49	12.55	13.21	15.18	17.13	17.45	20.02	21.92	23.18	23.50	26.61	27.53	28.14	30.27	30.88	35.35		
168.3	6 5/8					14.94	15.02	15.81	18.18	20.53	20.91	24.01	26.32	27.84	28.22	32.00	33.12	33.87	36.46	37.20	42.67	46.25	48.03
219.1	8 5/8					19.55	19.65	20.70	23.81	26.91	27.43	31.53	34.59	36.61	37.12	42.15	43.65	44.64	48.12	49.10	56.45	61.29	63.68
273	10 3/4							25.88	29.80	33.69	34.34	39.51	43.36	45.92	46.56	52.91	54.81	56.07	60.48	61.73	71.07	77.24	80.30
323.9	12 3/4								35.44	40.09	40.87	47.04	51.64	54.70	55.47	63.08	65.35	66.87	72.15	73.65	84.88	92.30	95.99

We can meet all X 42 requirements in our production range.

Production Standards

Petroleum and Gas Line Pipes

- API 5L/ISO 3183 : Requirements of PSL 1 & PSL 2
 - Annex G : Resistance to ductile fracture propagation
 - Annex H : For Sour Service
- EN 10208 : Requirements of Part 1 & Part 2
- GOST 20295 : Requirements of Type 1, 2 and 3.

Water Line Pipes

With protective OD and/or ID coating, plain (beveled) or sleeve welded joints.

- EN 10217-1 : SAWH & ERW
- EN 10224 : SAWH & ERW
- AWWA C 200 : SAWH & ERW
- BS 534 : SAWH & ERW

General Purpose Pipes

- EN 10217-3 : SAWH - Alloy, fine grain
 - Service condition: max 400°C, min -50°C
- EN 10217-5 : SAWH - Alloy or non-alloy,
 - Service condition: max 400°C,
- EN 10217-6 : SAWH - Non-alloy,
 - Service condition: - 40°C
- ASTM A139 : SAWH

Piling & Construction Pipes

- ASTM A 252 : SAWH
- EN 10219 : SAWH & ERW
- EN 10210 : SAWH & ERW

Pipe Lengths: any desired lengths between 6 - 24,5 m

These are our general production standards and specifications.
We can meet other production standards and specifications upon request.



Quality System Certificates



- ISO 9001
- ISO 14001
- ISO 10002
- ISO 29001
- ISO 31000
- ISO 17025
- OHSAS 18001
- API 5L
- API 5CT
- API QR
- API Q1
- AD 2000HP0
- AD 2000 W0
- ANSI/AWWA C205
- ÜHP
- UNE
- PED 97/23 EC
- B-MARK
- NSF Certified
- FM Certified
- UL/CUL Listed
- CE Certified
- DNW Certified
- BV MARINE Certified
- DSAWH
- DVGW 7101-2
- DIN 30670
- EN 10208-2
- EN 10217
- EN 10219
- EN 10305
- EN ISO 3834-2
- SI 530
- SI 103
- SI 1458
- SI 314