



LIBERTY

Liberty Tubular Products
Ostrava a.s.
SEAMLESS PIPES

Seamless tubes and pipes

STANDARD	GRADES
ASTM A 53 (ASME SA53)	A, B
ASTM A 106 (ASME SA106)	A, B, C
ASTM A 192 (ASME SA192)	A 192
ASTM A 210 (ASME SA210)	A-1
ASTM A 333 (ASME SA333)	Gr 1, Gr 6
ASTM A 335 (ASME SA335)	P1, P5, P9, P11, P12, P22, P91
ASTM A 501 (ASME SA501)	Gr A, Gr B
ASTM A519 (ASME SA519)	MT 1010, MT 1015, MT 1020, 1010,1012, 1015, 1017, 1020, 1518
ČSN 42 0250	11 353.0, 11 353.1, 11 453.0, 11 453.1, 11 523.0, 11 523.1, 11 550.0, 11 550.1, 11 650.0, 11 650.1
ČSN 42 0251	12 021.1, 12 022.1
ČSN 42 0165	11 369.1, 11 503.11
DIN 1629	St 37.0, St 44.0, St 52.0
DIN 1630	St 37.4, St 44.4, St 52.4
DIN 17121	RSt 37–2, St 37–3, St 44–2, St 44–3, St 52–3
DIN 17175	St 35.8, St 45.8 – (only in category I.)
EN 10208-1,2	L210GA, L235GA, L 245GA, L290GA, L360GA, L245NB, L290NB, L360NB, L415NB
EN 10210-1,2	S235JRH, S275J0H, S275J2H, S275NLH S355J0H, S355J2H,S355K2H, S275NH, S355NH, S355NLH, S420NH, S420NLH, S460NH, S460NLH
EN 10216-1	P195TR1, P195TR2, P235TR1, P235TR2, P265TR1, P265TR2
EN 10216-2	P195GH, P235GH, P265GH, 16Mo3, 10CrMo5-5, 10CrMo9-10, 13CrMo4-5, X11CrMo5+NT1, X11CrMo9-1+NT1, X10CrMoVNb9-1
EN 10216-3	P275NL1, P275NL2, P355N, P355NH, P355NL1, P355NL2; P355NL2, P460N, P460NH, P460NL1, P460NL2
EN 10216-4	P215NL, P265NL
EN 10224	L235, L275, L355
EN 10225	S355G1+N, S355G14+N, S355G15+N
EN 10297-1	E235, E275, E315, E355, E275K2, E355K2, E420J2, E470
ČSN 42 5710 (ČSN 42 5711)	11 353.0, 11 353.1
DIN 2440 (DIN 2441)	St 33
NF A 49–115	TU 34-1
EN 10255	S195T
API Spec 5L (ISO 3183)	PSL 1: A, B, X42, X46, X52, X56, X60, X65, X70
	PSL 2 (+R) : BR, X42R,
	PSL 2 (+N) : BN, X42N, X46N, X52N, X56N, X60N,
	PSL 2 (+Q) : BQ, X42Q, X46Q, X52Q, X56Q, X60Q, X65Q, X70Q
	PSL 2 (+N) : BNS, X42NS, X46NS, X52NS,
	PSL 2 (+Q) : BQS, X42QS, X46QS, X52QS, X56QS, X60QS, X65QS, X70QS
ISO 3183 Annex M:	PSL 2 (+N) : BNO, X42NO, X46NO, X52NO,
	PSL 2 (+Q) : BQO, X42QO, X46QO, X52QO, X56QO, X60QO, X65QO, X70QO
	PSL 2 (+N) : BNE, X42NE, X52NE,
	PSL 2 (+Q) : X52QE, X60QE, X65QE, X70QE

APPLICATION
Standard Specification for Pipe, Steel, Black and hot-Dipped, Zinc-Coated, Welded and Seamless
Standard specification for seamless carbon steel pipe for high temperature service
Standard specification for seamless carbon steel boiler tubes for high-pressure service
Standard specification for seamless medium-carbon steel boiler and super heater tubes
Standard specification for seamless and welded steel pipes for low-temperature service
Standard specification for seamless Ferritic Alloy-Steel pipes for High-temperature service
Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing
Standard Specification for Seamless Carbon and Alloy Steel Mechanical Tubing
Hot rolled seamless tubes of class 10 to 16 steels
Seamless steel tubes with guaranteed properties at elevated temperatures
Sheets and pipes of ferrite-pearlite steels with guaranteed impact properties at low temperatures
Seamless circular tubes of non-alloy steels with special quality requirements
Seamless circular tubes of non-alloy steels for extra-high requirements
Seamless structural steel circular tubes for structural engineering purposes
Seamless steel tubes for elevated temperatures” quality grade I
Steel pipes for pipelines for combustible fluids
Hot finished structural hollow sections of non-alloy and fine grain steels
Seamless steel tubes for pressure purposes” Part 1: Non-alloy steel tubes with specified room temperature properties
Seamless steel tubes for pressure purposes” Part 2: Non-alloy and alloy steel tubes with specified elevated temperature properties
Seamless steel tubes for pressure purposes ” Part 3 – Alloy and fine grain steel tubes
Seamless steel tubes for pressure purposes ” Part 4 – Non-alloy and alloy steel tubes with specified low temperature properties
Non-alloy steel tubes and fittings for the conveyance of aqueous liquids including water for human consumption
Weldable structural steels for fixed offshore structures – Technical delivery conditions
Seamless steel tubes for mechanical and general engineering purposes
“Steel tubes suitable for screwing – medium (heavy) series”
“Steel tubes, medium (heavy) weight suitable for screwing”
“Hot-rolled seamless steel tubes suitable for threading”
“Non-alloyed steel tubes suitable for screwing”
Line pipe
PSL 2 pipe ordered for European onshore natural gas transmission pipelines

Dimensional range and weight according to EN 10220 (ISO 4200)

Outside diameter (mm)	Wall thickness (mm)										
	2,3 ¹	2,6	2,9	3,2	3,6	4	4,5	5	5,4 ²	5,6	6,3
21,3	1,08	1,20	1,32	1,43	1,57	1,71					
22 ^{3,4,5}	1,12	1,24	1,37	1,48	1,63	1,78					
25 ^{4,5}	1,29	1,44	1,58	1,72	1,90	2,07					
25,4 ^{1,3,4,5}	1,31	1,46	1,61	1,75	1,94	2,11					
26,9	1,40	1,56	1,72	1,87	2,07	2,26	2,49				
30 ^{1,4}		1,76	1,91	2,11	2,34	2,56	2,83				
31,8 ⁴		1,87	2,07	2,26	2,50	2,74	3,03	3,31			
33,7		1,99	2,20	2,41	2,67	2,93	3,24	3,54	3,77	3,88	
35 ^{4,5}		2,08	2,30	2,51	2,79	3,06	3,38	3,70	3,94	4,06	
38 ⁴		2,27	2,51	2,75	3,05	3,35	3,72	4,07	4,35	4,48	4,93
40 ^{1,3,4,5}		2,40	2,65	2,90	3,23	3,55	3,94	4,32	4,61	4,76	5,24
42,4		2,55	2,82	3,09	3,44	3,79	4,21	4,61	4,94 ¹	5,09 ¹	5,61 ¹
44,5 ^{1,4}		2,69	2,98	3,26	3,63	4,00	4,44	4,87	5,22 ¹	5,38 ¹	5,94 ¹
48,3		2,93	3,25	3,56	3,97	4,37	4,86	5,34	5,72 ¹	5,91 ¹	6,53 ¹
51 ^{1,4}			3,44	3,77	4,21	4,64	5,16	5,67	6,08 ¹	6,28 ¹	6,96 ¹
54 ^{1,4}			3,65	4,01	4,47	4,93	5,49	6,04	6,47 ¹	6,68 ¹	7,41 ¹
57 ⁴			3,87	4,25	4,74	5,23	5,83	6,41	6,87 ¹	7,10 ¹	7,89 ¹
60,3			4,11	4,51	5,03	5,55	6,19	6,82	7,31	7,55	8,39
63,5 ^{1,4}			4,33	4,76	5,32	5,87	6,55	7,21	7,74	8,00	8,89
70 ^{1,4}			4,80	5,27	5,90	6,51	7,27	8,01	8,60	8,89	9,90
73 ^{4,5}			5,01	5,51	6,16	6,81	7,60	8,38	9,00	9,31	10,4
76,1			5,24	5,75	6,44	7,11	7,95	8,77	9,42	9,74	10,8
82,5 ^{4,5}				6,26	7,00	7,74	8,66	9,56	10,3	10,6	11,8
88,9				6,76	7,57	8,38	9,37	10,3	11,1	11,5	12,8
101,6					8,70	9,63	10,8	11,9	12,8	13,3	14,8
108 ⁴					9,27	10,3	11,5	12,7	13,7	14,1	15,8
114,3					9,83	10,9	12,2	13,5	14,5	15,0	16,8
127 ⁴						12,1	13,6	15,0	16,2	16,8	18,8
133 ⁴						12,7	14,3	15,8	17,0	17,6	19,7
139,7						13,4	15,0	16,6	17,9	18,5	20,7
141,3 ^{3,4,5}							15,2	16,8	18,0	18,7	21,0
152,4 ^{4,5}							16,4	18,2	19,6	20,3	22,7
159 ⁴							17,1	19,0	20,5	21,2	23,7
168,3							18,2	20,1	21,7	22,5	25,2
177,8 ⁵								21,3	23,0	23,8	26,6
193,7									25,1	26,0	29,1
219,1											33,1
244,5											37,0
273											41,4 ¹

¹ The tubes can be ordered only by prior agreement.
² Wall thickness only acc to EN 10220.
³ Pipes out of dimensional series of DIN 2448.
⁴ Pipes out of dimensional series of EN 10210.
⁵ Pipes out of dimensional series of NF A 49 – 112.

Dimensional range and weight according to EN 10220 (ISO 4200)

Outside diameter (mm)	Wall thickness (mm)											
	7,1	8	8,8	10	11	12,5	14,2	16	17,5	20	22,2 ¹	25 ¹
42,4	6,18 ¹											
44,5 ^{1,4}	6,55 ¹											
48,3	7,21 ¹											
51 ^{1,4}	7,69 ¹											
54 ^{1,4}	8,21 ¹	9,08 ¹										
57 ⁴	8,74 ¹	9,67 ¹	10,5 ¹									
60,3	9,32	10,3	11,2	12,5 ¹								
63,5 ^{1,4}	9,88	11,0	11,9	13,2 ¹								
70 ^{1,4}	11,0	12,2	13,3	14,8 ¹								
73 ^{4,5}	11,5	12,8	13,95	15,5								
76,1	12,1	13,4	14,6	16,3								
82,5 ^{4,5}	13,2	14,7	16,0	17,9	19,4 ¹							
88,9	14,3	16,0	17,4	19,5	21,1	23,6	26,2 ¹					
101,6	16,5	18,5	20,1	22,6	24,6	27,5						
108 ⁴	17,7	19,7	21,5	24,2	26,3	29,4						
114,3	18,8	21,0	22,9	25,7	28,0	31,4	35,1	38,8 ¹	41,8 ¹	46,5 ¹		
127 ⁴	21,0	23,5	25,7	28,9	31,5	35,3	39,5	43,8 ¹	47,3 ¹	52,8 ¹		
133 ⁴	22,0	24,7	27,0	30,3	33,1	37,1	41,6	46,2 ¹	49,9 ¹	55,7 ¹		
139,7	23,2	26,0	28,4	32,0	34,9	39,2	43,9	48,8 ¹	52,7 ¹	59,0 ¹		
141,3 ^{3,4,5}	23,5	26,3	28,8	32,4	35,3	39,7	44,5	49,4 ¹	53,4 ¹	59,8 ¹		
152,4 ^{4,5}	25,4	28,5	31,2	35,1	38,4	43,1	48,4	53,8	58,2	65,3	71,3 ¹	
159 ⁴	26,6	29,8	32,6	36,7	40,1	45,2	50,7	56,4	61,1	68,6	74,9 ¹	82,6 ¹
168,3	28,2	31,6	34,6	39,0	42,7	48,0	54,0	60,1	65,1	73,1	80,0 ¹	88,4 ¹
177,8 ⁵	29,9	33,5	36,7	41,4	45,2	51,0	57,3	63,8	69,2	77,8	85,2 ¹	94,2 ¹
193,7	32,7	36,6	40,1	45,3	49,6	55,9	62,9	70,1	76,0	85,7	93,9 ¹	104 ¹
219,1	37,1	41,6	45,6	51,6	56,5	63,7	71,8	80,1	87,0	98,2	108 ¹	120 ¹
244,5	41,6	46,7	51,2	57,8	63,3	71,5	80,6	90,2	98,0	111	122 ¹	135 ¹
273	46,6	52,3	57,3	64,9	71,1	80,3	90,6	101	110	125 ¹	137 ¹	

1. The tubes can be ordered only by prior agreement.
2. Wall thickness only acc to EN 10220.
3. Pipes out of dimensional series of DIN 2448.
4. Pipes out of dimensional series of EN 10210.
5. Pipes out of dimensional series of NF A 49 – 112.

Dimensional range and weight according to ASME B36.10M

Specified diameter	Size NPS (ASTM)	Outside diameter		Wall thickness		Weight category	Schedule No. (ASTM)	Weight of pipe with plain ends	
		in	mm	in	mm			lb/ft	kg/m
1,2	1,2	0,84	21,3	0,109	2,77	STD	40	0,85	1,27
				0,147	3,73	XS	80	1,09	1,62
3,4	3,4	1,05	26,7	0,113	2,87	STD	40	1,13	1,69
				0,154	3,91	XS	80	1,48	2,2
1	1	1,315	33,4	0,133	3,38	STD	40	1,68	2,5
				0,179	4,55	XS	80	2,17	3,24
1 1/4	1 1/4	1,66	42,2	0,14	3,56	STD	40	2,27	3,39
				0,191	4,85	XS	80	3	4,47
1 1/2	1 1/2	1,9	48,3	0,145	3,68	STD	40	2,72	4,05
				0,2	5,08	XS	80	3,63	5,41
2 3/8	2	2,375	60,3	0,125	3,18	...	30	3,01	4,48
				0,141	3,58	...	...	3,37	5,01
				0,154	3,91	STD	40	3,66	5,44
				0,172	4,37	...	...	4,05	6,03
				0,188	4,78	...	...	4,4	6,54
				0,218	5,54	XS	80	5,03	7,48
				0,25	6,35	...	...	5,68	8,45
				0,281	7,14	...	...	6,29	9,36
				0,344	8,74	...	160	7,47	11,11
2 7/8	2 1/2	2,875	73	0,125	3,18	...	...	3,67	5,48
				0,141	3,58	...	...	4,12	6,13
				0,156	3,96	...	...	4,53	6,74
				0,172	4,37	...	...	4,97	7,4
				0,188	4,78	...	30	5,4	8,04
				0,203	5,16	STD	40	5,8	8,63
				0,216	5,49	...	...	6,14	9,14
				0,25	6,35	...	...	7,02	10,44
				0,276	7,01	XS	80	7,67	11,41
				0,375	9,53	...	160	10,02	14,92
3 1/2	3	3,5	88,9	0,125	3,18	...	...	4,51	6,72
				0,141	3,58	...	...	5,06	7,53
				0,156	3,96	...	...	5,58	8,3
				0,172	4,37	...	...	6,12	9,11
				0,188	4,78	...	30	6,66	9,92
				0,216	5,49	STD	40	7,58	11,29
				0,25	6,35	...	...	8,69	12,93
				0,281	7,14	...	...	9,67	14,4
				0,3	7,62	XS	80	10,26	15,27
				0,438	11,13	...	160	14,34	21,35
4	3 1/2	4	101,6	0,141	3,58	...	...	5,82	8,65
				0,156	3,96	...	...	6,41	9,54
				0,172	4,37	...	...	7,04	10,48
				0,188	4,78	...	30	7,66	11,41
				0,226	5,74	STD	40	9,12	13,57
				0,25	6,35	...	...	10,02	14,92
				0,281	7,14	...	...	11,17	16,63
				0,318	8,08	XS	80	12,52	18,64
4 1/2	4	4,5	114,3	0,141	3,58	...	...	6,57	9,78
				0,156	3,96	...	...	7,24	10,78
				0,172	4,37	...	...	7,96	11,85
				0,188	4,78	...	30	8,67	12,91
				0,203	5,16	...	...	9,32	13,89
				0,219	5,56	...	...	10,02	14,91
				0,237	6,02	STD	40	10,8	16,08
				0,25	6,35	...	...	11,36	16,91
				0,281	7,14	...	...	12,67	18,87
				0,312	7,92	...	...	13,97	20,78
				0,337	8,56	XS	80	15	22,32
				0,438	11,13	...	120	19,02	28,32
				0,531	13,49	...	160	22,51	33,54

Dimensional range and weight according to ASME B36.10M

Specified diameter	Size NPS (ASTM)	Outside diameter		Wall thickness		Weight category	Schedule No. (ASTM)	Weight of pipe with plain ends	
		in	mm	in	mm			lb/ft	kg/m
5 9/16	5	5,563	141,3	0,156	3,96	...	...	9,02	13,41
				0,188	4,78	...	...	10,8	16,09
				0,219	5,56	...	...	12,51	18,61
				0,258	6,55	STD	40	14,63	21,77
				0,281	7,14	...	...	15,87	23,62
				0,312	7,92	...	...	17,51	26,05
				0,344	8,74	...	...	19,19	28,57
				0,375	9,53	XS	80	20,8	30,97
				0,5	12,7	...	120	27,06	40,28
6 5/8	6	6,625	168,3	0,188	4,78	...	...	12,94	19,28
				0,203	5,16	...	...	13,94	20,76
				0,219	5,56	...	...	15	22,31
				0,25	6,35	...	...	17,04	25,36
				0,28	7,11	STD	40	18,99	28,26
				0,312	7,92	...	...	21,06	31,33
				0,344	8,74	...	...	23,1	34,39
				0,375	9,53	...	...	25,05	37,31
				0,432	10,97	XS	80	28,6	42,56
				0,5	12,7	...	...	32,74	48,73
				0,562	14,27	...	120	36,43	54,21
				0,625	15,88	...	...	40,09	59,69
				0,719	18,26	...	160	45,39	67,57
8 5/8	8	8,625	219,1	0,25	6,35	...	20	22,38	33,32
				0,277	7,04	...	30	24,72	36,82
				0,312	7,92	...	...	27,73	41,25
				0,322	8,18	STD	40	28,58	42,55
				0,344	8,74	...	...	30,45	45,34
				0,375	9,53	...	...	33,07	49,25
				0,406	10,31	...	60	35,67	53,09
				0,438	11,13	...	...	38,33	57,08
				0,5	12,7	XS	80	43,43	64,64
				0,562	14,27	...	...	48,44	72,08
				0,594	15,09	...	100	51	75,92
				0,625	15,88	...	...	53,45	79,59
				0,719	18,26	...	120	60,77	90,44
10 3/4	10	10,75	273	0,25	6,35	...	20	28,06	41,76
				0,279	7,09	...	...	31,23	46,49
				0,307	7,8	...	30	34,27	51,01
				0,344	8,74	...	...	38,27	56,96
				0,365	9,27	STD	40	40,52	60,29
				0,438	11,13	...	...	48,28	71,88
				0,5	12,7	XS	60	54,79	81,53
				0,562	14,27	...	...	61,21	91,05
				0,594	15,09	...	80	64,49	95,98
				0,625	15,88	...	...	67,65	100,69
				0,719	18,26	...	100	77,1	114,71

Production possibilities - Sizes offered for product group

WT (mm)	2,3	2,6	2,9	3,2	3,6	4,0	4,5	5,0	5,6	6,3
OD (mm)		(2,65)	(2,77-2,87)	(3,18 - 3,38)	(3,56 - 3,73)	(3,91 - 4,24)	(4,37 - 4,55)	(4,78 - 5,16)	(5,21 - 5,74)	(6,02 - 6,55)
21,3	A	AFPN	AFPN	AFPN	AFPN	AFPN				
25	A	AFPN	AFPN	AFPN	AFPN	AFPN				
26,9	A	AFPN	AFPN	AFPN	AFPN	AFPN	AFPN			
31,8		AFPN	AFPN	AFPN	AFPN	AFPN	AFPN	AFPN		
33,7		AFPN	AFPN	AFPN	AFPN	AFPN	AFPN	AFPN	AFPN	
35		AFPN	AFPN	AFPN	AFPN	AFPN	AFPN	AFPN	AFPN	
38		AFPN	AFPN	AFPN	AFPN	AFPN	AFPN	AFPN	AFPN	AFPN
42,4		AFPN	AFPN	AFPN	AFPN	AFPN	AFPN	AFPN	AFPN	AFPN
44,5		AFPN	AFPN	AFPN	AFPN	AFPN	AFPN	AFPN	AFPN	AFPN
48,3		AFPN	AFPN	AFPN	AFPN	AFPN	AFPN	AFPN	AFPN	AFPN
51			AFPN	AFPN	AFPN	AFPN	AFPN	AFPN	AFPN	AFPN
54			AFPN	AFPN	AFPN	AFPN	AFPN	AFPN	AFPN	AFPN
57			AFPN	AFPN	AFPN	AFPN	AFPN	AFPN	AFPN	AFPN
60,3			AFPLN	AFPLN	AFPLNEJ	AFPLNEJ	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU
63,5			AFPLN	AFPLN	AFPLNEJ	AFPLNEJ	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU
70			AFPLN	AFPLN	AFPLNEJ	AFPLNEJ	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU
73			AFPLN	AFPLN	AFPLNEJ	AFPLNEJ	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU
76,1			AFPLN	AFPLN	AFPLNEJ	AFPLNEJ	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU
82,5				AFPLN	AFPLNEJ	AFPLNEJ	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU
88,9				AFPLN	AFPLNEJ	AFPLNEJ	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU
101,6					AFPLNEJ	AFPLNEJ	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU
108,0					AFPLNEJ	AFPLNEJ	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU
114,3					AFPLNEJ	AFPLNEJ	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU
127,0						AFPLNEJ	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU
133,0						AFPLNEJ	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU
139,7						AFPLNEJ	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU
152,4							AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU
159,0							AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU
168,3							AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU
177,8								AFPLNEZJU	AFPLNEZJU	AFPLNEZJU
193,7									AFPLNEZJU	AFPLNEZJU
219,1										AFPLNEZJU
244,5										AFPLNEZJU
273,0										AFPLNEZJU

7,1	8,0	8,8	10,0	11,0	12,5	14,2	16,0	17,5	20,0	22,2	25,0		
(6,88 - 7,14)	(7,62 - 8,18)	(8,56 - 9,27)	(9,53)	(10,54 - 11,13)	(12,70)	(13,49 - 14,27)	(15,88)	(18,0 - 18,26)					
									structural	boiler	LP-PSL1	LP-PSL2	
									Ar / N / Q+T (NDT 12.5 %, 10 % or 5 %)	OK	OK	OK	OK
									Ar / N / N+T (NDT 12.5 %, 10 % or 5 %)	OK	OK	OK	OK
									Ar / N (NDT 12.5 %, 10 % or 5 %)	OK	OK	OK	OK
									Ar / N (NDT 12.5 % or 10 %)	OK	OK	OK	OK
									Ar / N / PSL2 (NDT 12.5 %)	OK	OK	OK	OK
AFPN									Structural - Ar/N (NDT 12.5 %, 10 % or 5 %)	OK	OK	-	-
AFPN									Structural - Ar/N (NDT 12.5 %)	OK	OK	-	-
AFPN									Ar / N / PSL1 (NDT 12.5 %)	OK	OK	OK	-
AFPN									YS = max 320MPa (NDT 12.5 %)	OK	OK	OK	-
AFPN	AFPN												
AFPN	AFPN	AFPN											
AFPLNEZJU	AFPLNEZJU	AFPLNEZ	AF										
AFPLNEZJU	AFPLNEZJU	AFPLNEZ	AF										
AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AF										
AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZ										
AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU									
AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU								
AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFNEZ	AFNZ							
AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU								
AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFNEZQ	AFNZ	AFNZ				
AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFNEZJUTQ	AFNEZ	AFNZ				
AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFNEZJUTQ	AFNEZJUT	AFNZ				
AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFNEZJUTQ	AFNEZJUT	AFNZ				
AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFNEZJUT	AFNZ	AFNZ			
AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFNZ	AFNZ			
AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFNZ	AFNZ		
AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFNZ	AFNZ		
AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AF	AF	
AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AF	AF	
AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AFPLNEZJU	AF	AF		

Production possibilities - High strength pipes acc to EN 10210-1, E 10216-3, E 10297-1, API 5L, ISO 3183 (defects to 12.5% of nominal WT) - YS min > 355MPa

WT (mm)	2,3	2,6	2,9	3,2	3,6	4,0	4,5	5,0	5,6	6,3
OD (mm)		(2,65)	(2,77 - 2,87)	(3,18 - 3,38)	(3,56 - 3,73)	(3,91 - 4,24)	(4,37 - 4,55)	(4,78 - 5,16)	(5,21 - 5,74)	(6,02 - 6,55)
60,3					PN	PN	PNZU	PNZU	PNZU	PNZU
63,5					PN	PN	PNZU	PNZU	PNZU	PNZU
70						PN	PNZU	PNZU	PNZU	PNZU
73						PN	PNZU	PNZU	PNZU	PNZU
76,1							PNZU	PNZU	PNZU	PNZU
82,5							PNZU	PNZU	PNZU	PNZU
88,9										
101,6										
108,0										
114,3									PNZU	PNZU
127,0						PN	PNZU	PNZU	PNZU	PNZU
133,0						PN	PNZU	PNZU	PNZU	PNZU
139,7						PN	PNZU	PNZU	PNZU	PNZU
152,4							PNZU	PNZU	PNZU	PNZU
159,0							PNZU	PNZU	PNZU	PNZU
168,3							PNZU	PNZU	PNZU	PNZU
177,8								PNZU	PNZU	PNZU
193,7									PNZU	PNZU
219,1										PNZU
244,5										PNZU
273,0										PNZU

Norm	Size group	Grades
EN 10210-1/06	Z	S420H, S420LH, S460H, S460LH
EN 10216-3/13	Z	P460N, P460NH, P460NL1, P460NL2
EN 10297-1/03	Z	E420J2 (+N)
	N	E470 (+Ar)
	Q	34CrMo4 (Q+T)
API 5L + ISO 3183 -PSL1	P	X60, X65-PSL1 (+Ar)
	Q	X60, X65, X70-PSL1 (+QT)
API 5L + ISO 3183 -PSL2	Z	X60N
ISO 3183 +M	Z	X60NE

7,1	8,0	8,8	10,0	11,0	12,5	14,2	16,0	17,5	20,0	22,2	25,0
(6,88 - 7,14)	(7,62 - 8,18)	(8,56 - 9,27)	(9,53)	(10,54 - 11,13)	(12,70)	(13,49 - 14,27)	(15,88)	(18,0 - 18,26)			
PNZU	PNZU	PNZ									
PNZU	PNZU	PNZ									
PNZU	PNZU	PNZU									
PNZU	PNZU	PNZU	PNZ								
PNZU	PNZU	PNZU	PNZU								
PNZU	PNZU	PNZU	PNZU	PNZU							
	Q	Q	Q	Q							
	Q	Q	Q	Q							
	Q	Q	Q	Q	Q						
PNZU	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZUQ	NZ	NZ	NZ		
PNZU	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZUQ	NZUQ	NZ	NZ		
PNZU	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZUQ	NZUQ	NZU	NZ		
PNZU	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZUQ	NZUQ	NZU	NZ		
PNZU	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZU	NZ	NZ
PNZU	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZU	NZU	NZ
PNZU	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZU	NZU	NZ
PNZU	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZU	NZU	NZU
PNZU	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZUQ	PNZU	NZU	
PNZU	PNZU	PNZU	PNZU	PNZU	PNZU	PNZU	PNZU	PNZU			

Only sizes marked „Q“
(offered only LP X60-X70 in Q+T condition),

Norm	Grade	WT	Rt 0,5 (MPa)		Rm (MPa)	Rt 0.5/Rm	A	KCV		Delivery condition
			min 1)	min 3)				min	Temp.	
API 5L+ISO 3183	X60/L415-PSL1		415	520	-	A2"	-	-	+AR	
	X65/L450-PSL1		450	535	-	A2"	-	-	+AR	
API 5L+ISO 3183	X60N/L415N-PSL2		415-565	520-760	-	A2"	T=27J	0°C	+N	
ISO 3183 + M	X60NE/L415NE-PSL1		415-565	520-760	-	20%	T=40J / L=60J	0°C	+N	
EN 10210-1	S420NH	max 16,0mm	420	520-680	-	19%	L=40J	-20°C	+N	
	S420NLH	>16,0mm	400	520-680	-	19%	L=27J	-50°C	+N	
	S460NH	max 16,0mm	460	540-720	-	17%	L=40J	-20°C	+N	
	S460NLH	>16,0mm	440	540-720	-	17%	L=27J	-50°C	+N	
EN 10216-3	P460N				-		T=27J / L=40J	-20°C	+N	
	P460NH	max 12,0mm	460	560-730	-	19%	T=27J / L=40J	-20°C	+N	
	P460NL1	>12 - 20mm	450	560-730	-	19%	T=27J / L=40J	-40°C	+N	
	P460NL2	>20,0mm	440	560-730	-	19%	T=27J / L=40J	-50°C	+N	
EN 10297-1	E470	max 16,0mm	470	650	-	17%	-	-	+AR	
		>16,0mm	430	600	-	17%	-	-	+AR	
	E420J2	max 16,0mm	420	600	-	19%	L=27J / T=20J	-20°C	+N	
		>16,0mm	400	560	-	19%	L=27J / T=20J	-20°C	+N	

Seamless tubes suitable for screwing

STANDARD	GRADES	APPLICATION
ČSN 42 5710	11 353.0, 11 353.1	"Steel tubes suitable for screwing – medium series"
ČSN 42 5711	11 353.0, 11 353.1	"Steel tubes suitable for screwing – heavy series"
DIN 2440	St 33	"Steel tubes, medium weight suitable for screwing"
DIN 2441	St 33	"Steel tubes, heavy weight suitable for screwing"
NF A 49–115	TU 34-1	"Hot-rolled seamless steel tubes suitable for threading"
EN 10255	S195T	"Non-alloyed steel tubes suitable for screwing"

Dimensional range

According to ČSN 42 5710, DIN 2440, ČSN 42 5711, DIN 2441

Size		Outside diameter	Wall thickness / weight			
DN	NPS		mm	ČSN 42 5710, DIN 2440		ČSN 42 5711, DIN 2441
			mm	Kg/m	mm	Kg/m
15	1/2	21,3	2,65	1,22	3,25	1,45
20	3/4	26,9	2,65	1,58	3,25	1,90
25	1	33,7	3,25	2,44	4,05	2,96
32	1 1/4	42,4	3,25	3,14	4,05	3,83
40	1 1/2	48,3	3,25	3,61	4,05	4,42
50	2	60,3	3,65	5,10	4,50	6,19
65	2 1/2	76,1	3,65	6,51	4,50	7,95
80	3	88,9	4,05	8,47	4,85	10,05
90	3 1/2	101,6	4,05	9,72	4,85	11,57
100	4	114,3	4,50	12,19	5,40	14,50
125	5	139,7	4,85	16,13	5,40	17,89

According to NF A 49–115, EN 10255

Size		Outside diameter	Wall thickness / weight			
DN	NPS		mm	Middle series		Heavy series
			mm	Kg/m	mm	Kg/m
15	1/2	21,3	2,6	1,21	3,2	1,43
20	3/4	26,9	2,6	1,56	3,2	1,87
25	1	33,7	3,2	2,41	4,0	2,93
32	1 1/4	42,4	3,2	3,09	4,0	3,79
40	1 1/2	48,3	3,2	3,56	4,0	4,37
50	2	60,3	3,6	5,03	4,5	6,19
65	2 1/2	76,1	3,6	6,44	4,5	7,95
80	3	88,9	4,0	8,38	4,9 (5,0)	10,15 (10,35)
90	3 1/2	101,6	4,0	9,63	4,9	11,69
100	4	114,3	4,5	12,19	5,4	14,50
125	5	139,7	4,5 (5,0)	15,00 (16,61)	5,4	17,89

The data in brackets are sizes according to EN 10255

According to EN 10255 – nonstandart series L a L1

Series L	Series L1	Size	Wall thickness (mm)	weight Kg/m
DN	DN	(") Outside diameter (mm)		
15	15	1/2	2,3	1,08
20	20	3/4	2,3	1,40
25	25	1	2,9	2,20
32	32	1 1/4	2,9	2,82
40	40	1 1/2	2,9	3,25
50	50	2	3,2	4,51
-	65	2 1/2	3,2	5,75
-	80	3	3,6	7,57
-	100	4	4,0	10,88
125	-	5	4,5	15,00

Note: Size marked „-“ is not produced or there is not defined size in mentioned series.

Lengths

Plain-end tubes and pipes are supplied from carbon or high-grade carbon steel in the following lengths:

- Production length – in a range of 4 – 14 m, lengths selected by the producer by technological possibilities
 - Set length – nominal length selected by the customer from the range of production lengths with a tolerance of ± 500 mm
 - Exact length – nominal length selected by the customer following agreement with the producer.
- Max. length of tubes:
- < Ø 60.3 mm 9.5 m
 - ≥ Ø 60.3 mm 12.5 m by technological possibility – see tables of sizes

Ends of tubes and pipes

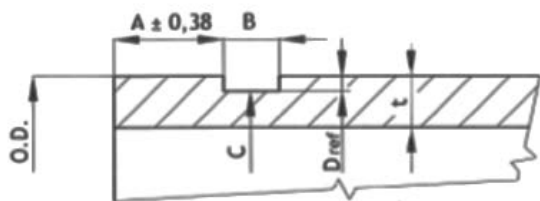
The tubes and pipes are standardly supplied with the square cut and de-burred ends. Other types of pipe end finish can be supplied after agreement with the producer (e.g. bevelled ends).

Pipes with WT ≤ 3,18mm are supplied only with square cut ends. Pipes with WT > 3,18mm can be supplied either with perpendicularly cut off ends or with beveled ends at an angle of 30° (-0/+5°) as per API Spec 5L, or ISO 3183, or ASTM A 106, or according to other standards (e.g. ASME B16.25, DIN 2559) with prior agreement.

Groove for Victaulic connection

Application for high universal connection with fast and simple instalation of pipeline
Pipes can be produced in grades acc. to customer requirement.

Design – outside groove on each pipe end:



O.D.	min. t	tol O.D.	A	B	tol. B	C	tol. C	D ref
Ø114,3	5,16	+1,14 -0,79	15,37	7,75	+0,25 -0,13	110,08	+0 -0,51	2,11
Ø168,3	5,56	+1,6 -0,79	15,37	7,75	+0,25 -0,13	163,96	+0 -0,56	2,16
Ø219,1	6,05	+1,6 -0,79	18,14	10,16	±0,25	214,4	+0 -0,64	2,34
Ø273,0	6,35	+1,6 -0,79	18,14	10,16	±0,25	268,28	+0 -0,69	2,39

Pipes are delivered without connection components and seal

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