



ARTROM STEEL TUBES S.A.

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 Subscribed and Paid Share Capital: 291.587.538,34 lei

LINE PIPE AND GREEN PIPE FOR TUBING AND CASING

1. Standards

- API Spec 5L;
- ISO 3183;
- API 5CT.

2. Used for

- Construction of long distance Pipe Lines for combustible liquids and gases;
- Conveying gas and oil; in oil and natural gas industries;
- Drilling and oil extraction.

3. Dimensions

According API 5L or API 5CT or ASME B36.10M in dimensional range corresponding to the workshop CPE (Tab.1 and Tab.3) or ASSEL (Tab.2 and Tab.4).

4. Tolerances

Standard	Outside Diameter	Wall Thickness	Weight
API 5L	±0.75%	+15/-12.5%	+10/-3,5% for single lengths -1,75% for carload lots
ISO 3183	±0.75%	+15/-12.5%	+10/-3,5% or single lengths -1,75% for carload lots
API 5CT	OD<114.3 ±0.79mm OD>=114.3 (+1/-0.5%)	According to customer.	+6.5/-3.5%

5. Chemical Composition (%)

According Tab.5 si Tab.6

6. Mechanical Properties

According Tab.7 si Tab.8

7. Lengths

Standard	Nominal length	Min. Length		Average Length		Max. Length	
		ft	m	ft	m	ft	m
API 5L & ISO 3183	20ft (6m)	16	4.88	17.5	5.33	22.5	6.86
	40ft (12m)	22	6.71	35.0	10.67	39.4	12.00
API 5CT	Total range length, inclusive			8.53 la 9.75 m ©			
	Range length for 100 % of carload: Permissible variation, max.			0.61			
© By agreement between purchaser and manufacturer, the maximum length may be increased to 10,36 m.							

8. Protection

- Unprotected;
- External varnished with black or clear lacquer;
- If required, the plain end pipes can be delivered with plastic plugs at both ends.

9. Marking

According to standard or per customer request.

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LRQA:
ISO 9001
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PED/AD-2000 W0/W4
Vd TUV

TUV CPR:
EN 10210-1,2
EN 10255

DNV
RINA
LR

10. Delivery

- In bundles up to 4000 kg (8800 lbs) tied in minimum six places with steel strip. Quantity tolerances: $\pm 5\%$ per size or / and per total.

11. Mill test report

Mill test reports are issued to customer requirements. Usually they comply with DIN 50049, EN 10204.

12. Quality certified

API 5L, API 5CT

Tab. 1 Dimensions – Line pipe HOT ROLLING CPE MILL – acc.API 5L & ISO 3183

Nominal	OD		WT		Weight		Lmax		Identification		
	in	mm	in	mm	lb/ft	kg/m	ft	m	STD/XS/XXS	Sch.	
1/2	0.840	21.3	0.095	2.41	0.76	1.12	40.0	12.2		30	
			0.109	2.77	0.85	1.27				STD	40
3/4	1.050	26.7	0.095	2.41	0.97	1.44	40.0	12.2		30	
			0.113	2.87	1.13	1.69				STD	40
1	1.315	33.4	0.109	2.77	1.41	2.09	40.0	12.2		10	
			0.114	2.90	1.46	2.18				30	
			0.133	3.38	1.68	2.50				STD	40
1 1/4	1.660	42.2	0.109	2.77	1.81	2.69	40.0	12.2		10	
			0.117	2.97	1.93	2.87				30	
			0.140	3.56	2.27	3.39				STD	40
1 1/2	1.900	48.3	0.109	2.77	2.09	3.11	40.0	12.2		10	
			0.125	3.18	2.37	3.53				30	
			0.145	3.68	2.72	4.05				STD	40
2	2.375	60.3	0.109	2.77	2.64	3.93	40.0	12.2		10	
			0.125	3.18	3.01	4.48				30	
			0.141	3.58	3.37	5.01				STD	40
			0.154	3.91	3.66	5.44					
			0.172	4.37	4.05	6.03					
			0.188	4.78	4.40	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					
			0.109	2.77	3.22	4.80					
0.120	3.05	3.53	5.26								
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	7.40								
0.188	4.78	5.40	8.04								
0.203	5.16	5.80	8.63	STD	40						
0.216	5.49	6.14	9.14								
0.250	6.35	7.02	10.44	XS	80						
0.276	7.01	7.67	11.41								
0.125	3.18	4.51	6.72			40.0	12.2		30		
0.141	3.58	5.06	7.53								
0.156	3.96	5.58	8.30								
0.172	4.37	6.12	9.11								
0.188	4.78	6.66	9.92								
0.216	5.49	7.58	11.29								
0.250	6.35	8.69	12.93								
0.281	7.14	9.67	14.40								
0.300	7.62	10.26	15.27	STD	40						
0.438	11.13	14.34	21.35								
3	3.500	88.9	0.125	3.18	5.18	7.72	40.0	12.2		80	
			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	7.66	11.41					
			0.226	5.74	9.12	13.57					
			0.250	6.35	10.02	14.92					
			0.281	7.14	11.17	16.63					
			0.318	8.08	12.52	18.64				XS	80
			0.438	11.13	14.34	21.35					
3 1/2	4.000	101.6	0.125	3.18	5.85	8.71	40.0	12.2		30	
			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	8.68	12.91					
			0.203	5.16	9.32	13.89					
			0.219	5.56	10.02	14.91					
			0.237	6.02	10.80	16.08					
			0.250	6.35	11.36	16.91					
			0.281	7.14	12.67	18.87				STD	40
0.312	7.92	13.97	20.78								
4	4.500	114.3	0.337	8.56	15.00	22.32	40.0	12.2		80	
			0.438	11.13	19.02	28.32				120	

Tab.2 Dimensions - Line pipe HOT ROLLING ASSEL MILL- acc. API 5L & ISO 3183

Nominal	OD		WT		Weight		L max		Identification	
	in	mm	in	mm	lb/ft	kg/m	ft	m	STD/XS/XXS	Sch.
2 1/2	2.874	73	0.375	9.53	10.02	14.92	40.0	12.2		160
			0.552	14.02	13.70	20.39	38.0	11.6	XXS	
3	3.500	88.9	0.438	11.13	14.34	21.35	37.0	11.3		160
			0.600	15.24	18.60	27.68	38.0	11.6	XXS	
4	4.500	114.3	0.438	11.13	19.02	28.32	31.0	9.5		120
			0.531	13.49	22.53	33.54	31.0	9.5		160
			0.674	17.12	27.57	41.03	31.0	9.5	XXS	
5	5.563	141.3	0.281	7.14	15.87	23.62	40.0	12.2		
			0.312	7.92	17.51	26.05	40.0	12.2		
			0.344	8.74	19.19	28.57	40.0	12.2		
			0.375	9.53	20.80	30.97	40.0	12.2	XS	80
			0.500	12.70	27.06	40.28	31.0	9.4		120
			0.625	15.88	32.99	49.12	31.0	9.4		160
6	6.625	168.3	0.281	7.14	15.87	23.62	40.0	12.2		
			0.312	7.92	17.51	26.05	40.0	12.2		
			0.344	8.74	19.19	28.57	40.0	12.2		
			0.375	9.53	20.80	30.97	40.0	12.2		
			0.432	10.97	28.60	42.56	40.0	12.2	XS	80
			0.500	12.70	32.74	48.73	40.0	12.2		
			0.562	14.27	36.43	54.21	31.0	9.4		120
			0.625	15.88	40.09	59.69	31.0	9.4		
			0.719	18.26	45.39	67.57	31.0	9.4		160
			0.750	19.05	47.10	70.12	31.0	9.4		
			0.864	21.95	53.21	79.22	31.0	9.4	XXS	
8	8.625	219.1	0.322	8.18	25.58	42.55	40.0	12.2	STD	40
			0.344	8.74	30.45	45.34	40.0	12.2		
			0.375	9.53	33.07	49.25	40.0	12.2		
			0.406	10.31	35.67	53.09	38.5	11.7		60
			0.438	11.13	38.33	57.08	38.5	11.7		
			0.500	12.7	43.63	64.64	36.4	11.1	XS	80
			0.562	14.27	48.44	72.08	34.8	10.6		
			0.594	15.09	51.00	75.92	31.2	9.5		100
			0.625	15.88	53.45	79.59	31.2	9.5		
			0.719	18.26	60.77	90.44	31.0	9.4		120
			0.750	19.05	63.14	93.98	31.0	9.4		
			0.812	20.62	67.82	100.93	31.0	9.4		140
			0.875	22.23	72.49	107.93	30.0	9.1	XXS	
0.906	23.01	74.76	111.27	30.0	9.1		160			
1.000	25.4	81.51	121.33	30.0	9.1					

Tab.3 Dimensions - GREEN PIPE FOR TUBING HOT ROLLING - according API 5CT

Outside diameter		Wall Thickness		Calculated mass for plain end
in	mm	in	mm	Kg/m
1.050	26.67	0.113	2.87	1.70
		0.154	3.91	2.20
1.315	33.40	0.133	3.38	2.53

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		0.179	4.55	3.26
1.660	42.16	0.140	3.56	3,42
		0.191	4.85	4,51
1.900	48,26	0.145	3,68	4,09
		0.200	5,08	5,43
		0.250	6,35	6,58
2 3/8	60,32	0.167	4,24	5,95
		0.190	4,83	6,85
		0.254	6,45	8,63
		0.295	7,49	9,82
		0.336	8,53	10,94
2 7/8	73,02	0.217	5,51	9,52
		0.276	7,01	11,61
		0.308	7,82	12,80
		0.340	8,64	13,91
		0.392	9,96	15,63
		0.440	11.18	17.11
5 1/2	88,90	0.216	5,49	11,46
		0.254	6,45	13,69
		0.289	7,34	15.18
		0.375	9,52	18,90
		0.430	10,92	21,28
		0.476	12,09	23,07
		0.530	13,46	25,30
4	101,60	0.226	5,74	14.14
		0.330	8,38	19,64
		0.415	10,54	23,96
		0.500	12,70	28,13
		0.610	15,49	33,04
4 1/2	114,30	0.271	6,88	18,75
		0.337	8,56	22,62
		0.380	9,65	25.30
		0.430	10,92	28.13
		0.500	12,70	32,00
		0.560	14,22	35,27
		0.630	16,00	38,84

Note: Execution in CPE mill, except the dimensions mark with yellow that are made in ASSEL mil.

Tab.4 Dimensions - GREEN PIPE FOR CASING HOT ROLLING - according API 5CT

Outside diameter		Wall Thickness		Calculated mass for plain end
in	mm	in	mm	Kg/m
4 1/2	114.30	0.205	5.21	14.02
		0.224	5.69	15.24
		0.250	6.35	16.91
		0.290	7.37	19.44
		0.337	8.56	22.32
5	127.00	0.296	7.52	22.16
		0.362	9.19	26.70
		0.437	11.10	31.73
		0.478	12.14	34.39
		0.500	12.70	35.80
5 1/2	139.70	0.275	6.98	22.85
		0.309	7.72	25.13
		0.361	9.17	29.52
		0.415	10.54	33.57
		0.500	12,70	39,78
		0.562	14,27	44,14
		0.625	15,88	48,49
		0.687	17,45	52,61
		0.750	19,05	56,68

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		0.812	20,62	60,55
		0.875	22,22	64,38
6 5/8	168.28	0.288	7.32	29.06
		0.352	8.94	35.13
		0.417	10.59	41.18
		0.475	12.06	46.46
7	177.80	0.272	6.91	29.12
		0.317	8.05	33.70
		0.362	9.19	38.21
		0.408	10.36	42.78
		0.453	11.51	47.20
		0.498	12.65	51.52
		0.540	13.72	55.52
		0.625	15,88	63,41
		0.687	17,45	69,01
		0.750	19,05	74,58
		0.812	20,62	79,93
7 5/8	193.68	0.328	8.33	38.08
		0.375	9.52	43.24
		0.430	10.92	49.22
		0.500	12.70	56.68
		0.562	14.27	63.14
		0.595	15.11	66.54
		0.625	15.88	69.63
		0.687	17.45	75.84
		0.750	19.05	82.04
7 3/4	196.85	0.595	15.11	67.72
8 5/8	219.08	0.352	8.94	46.33
		0.400	10.16	52.35
		0.450	11.43	58.53
		0.500	12.70	64.64
		0.557	14.15	71.51
9 5/8	244.48	0.797	20.24	111.93

Note: Execution in ASSEL mill, except the dimensions mark with yellow that are made in CPE mill.



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Tab.5 – Chemical Composition (%) acc. API 5L & ISO 3183

Delivery status	Level	Grade	Mass fraction, based upon heat and product analyses [%] max.														Carbon equivalent max. [%]		
			C	Si	Mn	P	S	V	Nb	Ti	Cu	Ni	Cr	Mo	Al tot	N	B	CEIIW	CEPcm
Normalization or rolling normalization	PSL1	L210 or A	0.22		0.90	0.03	0.03				0.50	0.50	0.50	0.15			0.001		
		L245 or B	0.28		1.20	0.03	0.03	Nb+V+Ti ≤0.15% Nb+V≤0.06%			0.50	0.50	0.50	0.15			0.001		
		L290 or X42	0.28		1.30	0.03	0.03	Nb+V+Ti≤0.15%			0.50	0.50	0.50	0.15			0.001		
		L320 or r X46	0.28		1.40	0.03	0.03	Nb+V+Ti≤0.15%			0.50	0.50	0.50	0.15			0.001		
		L360 or r X52	0.28		1.40	0.03	0.03	Nb+V+Ti≤0.15%			0.50	0.50	0.50	0.15			0.001		
		L390 or r X56	0.28		1.40	0.03	0.03	Nb+V+Ti≤0.15%			0.50	0.50	0.50	0.15			0.001		
		L415 or r X60	0.28		1.40	0.03	0.03	Nb+V+Ti≤0.15%			0.50	0.50	0.50	0.15			0.001		
L450 or X65	0.28		1.40	0.03	0.03	Nb+V+Ti≤0.15%			0.50	0.50	0.50	0.15			0.001				
Normalization	PSL2	L245N or BN	0.24	0.40	1.20	0.025	0.015	Nb+V≤0.06%		0.04	0.50	0.30	0.30	0.15			0.001	0.43	0.25
		L290N or X42N	0.24	0.40	1.20	0.025	0.015	0.06	0.05	0.04	0.50	0.30	0.30	0.15			0.001	0.43	0.25
		L320N or X46N	0.24	0.40	1.40	0.025	0.015	0.07	0.05	0.04	0.50	0.30	0.30	0.15			0.001	0.43	0.25
								Nb+V+Ti≤0.15%											
		L360N or X52N	0.24	0.45	1.40	0.025	0.015	0.10	0.05	0.04	0.50	0.30	0.30	0.15			0.001	0.43	0.25
								Nb+V+Ti≤0.15%											
		L390N or X56N	0.24	0.45	1.40	0.025	0.015	0.10	0.05	0.04	0.50	0.30	0.30	0.15			0.001	0.43	0.25
Nb+V+Ti≤0.15%																			
L415N or X60N	0.24	0.45	1.40	0.025	0.015	0.10	0.05	0.04	0.50	0.50	0.50	0.50			0.001	As agree			
						Nb+V+Ti≤0.15%													

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Delivery status	Level	Grade	Mass fraction, based upon heat and product analyses [%] max.														Carbon equivalent max. [%]			
			C	Si	Mn	P	S	V	Nb	Ti	Cu	Ni	Cr	Mo	Al tot	N	B	CEIIW	CEPcm	
Quenching and tempering (Q&T)	PSL2	L245Q or BQ	0.18	0.45	1.40	0.025	0.015	0.05	0.05	0.04	0.50	0.30	0.30	0.15			0.001	0.43	0.25	
		L290Q or X42Q	0.18	0.45	1.40	0.025	0.015	0.05	0.05	0.04	0.50	0.30	0.30	0.15			0.001	0.43	0.25	
		L320Q or X46Q	0.18	0.45	1.40	0.025	0.015	0.05	0.05	0.04	0.50	0.30	0.30	0.15			0.001	0.43	0.25	
		L360Q or X52Q	0.18	0.45	1.50	0.025	0.015	0.05	0.05	0.04	0.50	0.30	0.30	0.15			0.001	0.43	0.25	
		L390Q or X56Q	0.18	0.45	1.50	0.025	0.015	0.07	0.05	0.04	0.50	0.30	0.30	0.15			0.001	0.43	0.25	
								Nb+V+Ti≤0.15%										0.001	0.43	0.25
		L415Q or X60Q	0.18	0.45	1.70	0.025	0.015	Nb+V+Ti≤0.15%			0.50	0.50	0.50	0.50			0.001	0.43	0.25	
		L450Q or X65Q	0.18	0.45	1.70	0.025	0.015	Nb+V+Ti≤0.15%			0.50	0.50	0.50	0.50			0.001	0.43	0.25	
L485Q or X70Q	0.18	0.45	1.80	0.025	0.015	Nb+V+Ti≤0.15%			0.50	0.50	0.50	0.50			0.001	0.43	0.25			
Annex H Normalization	PSL2	L245NS or BNS	0.14	0.40	1.35	0.02	0.003	Nb+V≤0.06%		0.04	0.35	0.30	0.30	0.15	0.06	0.012	0.0005	0.36	0.19	
							Nb+V+Ti≤0.15%													
		L290NS or X42NS	0.14	0.40	1.35	0.02	0.003	0.05	0.05	0.04	0.35	0.30	0.30	0.15	0.06	0.012	0.0005	0.36	0.19	
		L320NS or X46NS	0.14	0.40	1.40	0.02	0.003	0.07	0.05	0.04	0.35	0.30	0.30	0.15	0.06	0.012	0.0005	0.38	0.20	
						Nb+V+Ti≤0.15%														
L360NS or X52NS	0.16	0.45	1.65	0.02	0.003	0.10	0.05	0.04	0.35	0.30	0.30	0.15	0.06	0.012	0.0005	0.43	0.22			
						Nb+V+Ti≤0.15%														
Annex H Q&T	PSL2	L245QS or BQS	0.14	0.40	1.35	0.02	0.003	0.04	0.04	0.04	0.35	0.30	0.30	0.15	0.06	0.012	0.0005	0.34	0.19	
		L290QS or X42QS	0.14	0.40	1.35	0.02	0.003	0.04	0.04	0.04	0.35	0.30	0.30	0.15	0.06	0.012	0.0005	0.34	0.19	
		L320QS or X46QS	0.15	0.45	1.40	0.02	0.003	0.05	0.05	0.04	0.35	0.30	0.30	0.15	0.06	0.012	0.0005	0.36	0.20	
		L360QS or X52QS	0.16	0.45	1.65	0.02	0.003	0.07	0.05	0.04	0.35	0.30	0.30	0.15	0.06	0.012	0.0005	0.39	0.20	
								Nb+V+Ti≤0.15%												
		L390QS or X56QS	0.16	0.45	1.65	0.02	0.003	0.07	0.05	0.04	0.35	0.30	0.30	0.15	0.06	0.012	0.0005	0.40	0.21	
								Nb+V+Ti≤0.15%												
L415QS or X60QS	0.16	0.45	1.65	0.02	0.003	0.08	0.05	0.04	0.35	0.50	0.50	0.50	0.06	0.012	0.0005	0.41	0.22			
						Nb+V+Ti≤0.15%														
L450QS or X65QS	0.16	0.45	1.65	0.02	0.003	0.09	0.05	0.06	0.35	0.50	0.50	0.50	0.06	0.012	0.0005	0.42	0.22			

ARTROM STEEL TUBES S.A. Cod: FCU-01, Ed. 5 Rev. 3/2025

LRQA:
ISO 9001
ISO 14001
ISO 45001LRQA:
IATF 16949TUV:
PED/AD-2000 W0/W4
Vd TUVTUV CPR:
EN 10210-1,2
EN 10255DNV
RINA
LR

Tab.6- Chemical Composition (%) acc.API 5CT

Standard	Level	Grade	Mass Fraction [%]												
			C		Mn		Mo		Cr		Ni	Cu	P	S	Si
			min	max	min	max	min	max	min	max	max	max	max	max	max
API 5CT	PSL1	H40											0.030	0.030	
		R95		0.45		1.90							0.030	0.030	0.45
		P110											0.030	0.030	
	PSL2	J55											0.030	0.030	
		K55											0.030	0.030	
		L80(1)		0.43		1.90					0.25	0.35	0.030	0.030	0.45
		N80(1)											0.030	0.030	
		N80(Q)											0.030	0.030	

Tab.7 – Mechanical Properties Acc. API 5L

Delivery status	Level	Grade	Yield Strength Rt0,5, ksi (MPa) minimum		Tensile Strength Rm, PSI (MPa) minimum		Ratio Rt05 / Rm
			minim	maxim	minim	maxim	
Normalization or rolling normalization	PSL1	L210 or A	30500(210)		48600(335)		
		L245 or r B	35500(245)		60200(415)		
		L290 or X42	42100(290)		60200(415)		
		L320 or X46	46400(320)		63100(435)		
		L360 or X52	52200(360)		66700(460)		
		L390 or X56	56600(390)		71100(490)		
		L415 or X60	60200(415)		75400(520)		
		L450 or X65	65300(450)		77600(535)		

ARTROM STEEL TUBES S.A. Cod: FCU-01, Ed. 5 Rev. 3/2025

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 TUV:
 PED/AD-2000 W0/W4
 Vd TUV

 TUV CPR:
 EN 10210-1,2
 EN 10255

 DNV
 RINA
 LR

Delivery status	Level	Grade	Yield Strength Rt0,5, ksi (MPa) minimum		Tensile Strength Rm, PSI (MPa) minimum		Ratio Rt05 / Rm
			minim	maxim	minim	maxim	
Normalization	PSL2	L245N or BN	35500(245)	65300(450)	60200(415)	95000(655)	0.93
		L290N or X42N	42100(290)	71800(495)	60200(415)	95000(655)	0.93
		L320N or X46N	46400(320)	76100(525)	63100(435)	95000(655)	0.93
		L360N or X52N	52200(360)	76900(530)	66700(460)	110200(760)	0.93
		L390N or X56N	56600(390)	79000(545)	71100(490)	110200(760)	0.93
		L415N or X60N	60200(415)	81900(565)	75400(520)	110200(760)	0.93
Quenching and tempering (Q&T)	PSL2	L245Q or BQ	35500(245)	65300(450)	60200(415)	95000(655)	0.93
		L290Q or X42Q	42100(290)	71800(495)	60200(415)	95000(655)	0.93
		L320Q or X46Q	46400(320)	76100(525)	63100(435)	95000(655)	0.93
		L360Q or X52Q	52200(360)	76900(530)	66700(460)	110200(760)	0.93
		L390Q or X56Q	56600(390)	79000(545)	71100(490)	110200(760)	0.93
		L415Q or X60Q	60200(415)	81900(565)	75400(520)	110200(760)	0.93
		L450Q or X65Q	65300(450)	87000(600)	77600(535)	110200(760)	0.93
Annex H Normalization	PSL2	L245NS or BNS	35500(245)	65300(450)	60200(415)	95000(655)	0.93
		L290NS or X42NS	42100(290)	71800(495)	60200(415)	95000(655)	0.93
		L320NS or X46NS	46400(320)	76100(525)	63100(435)	95000(655)	0.93
		L360NS or X52NS	52200(360)	76900(530)	66700(460)	110200(760)	0.93
Annex H Q&T	PSL2	L245QS or BQS	35500(245)	65300(450)	60200(415)	95000(655)	0.93
		L290QS or X42QS	42100(290)	71800(495)	60200(415)	95000(655)	0.93
		L320QS or X46QS	46400(320)	76100(525)	63100(435)	95000(655)	0.93
		L360QS or X52QS	52200(360)	76900(530)	66700(460)	110200(760)	0.93
		L390QS or X56QS	56600(390)	79000(545)	71100(490)	110200(760)	0.93
		L415QS or X60QS	60200(415)	81900(565)	75400(520)	110200(760)	0.93
		L450QS or X65QS	65300(450)	87000(600)	77600(535)	110200(760)	0.93

ARTROM STEEL TUBES S.A. Cod: FCU-01, Ed. 5 Rev. 3/2025

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LRQA:
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TUV:
PED/AD-2000 W0/W4
Vd TUV

TUV CPR:
EN 10210-1,2
EN 10255

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Tab.8 Mechanical Properties Acc.API 5CT

Level	Grade	Yield Strength (ksi)		Tensile Strength (ksi)	Total elongation under Load %	Hardness max.	
		minim	maxim	minim		HRC	HBW
PSL1	<i>H40</i>	40	80	60	0.5		
	<i>R95</i>	95	110	105	0.5		
	<i>P110</i>	110	140	125	0.6		
PSL2	<i>J55</i>	55	80	75	0.5		
	<i>K55</i>	55	80	95	0.5		
	<i>L80(1)</i>	80	95	95	0.5	23.0	241
	<i>N80(1)</i>	80	110	100	0.5		
	<i>N80(Q)</i>	80	110	100	0.5		

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ISO 45001

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Vd TUV

TUV CPR:
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DNV
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