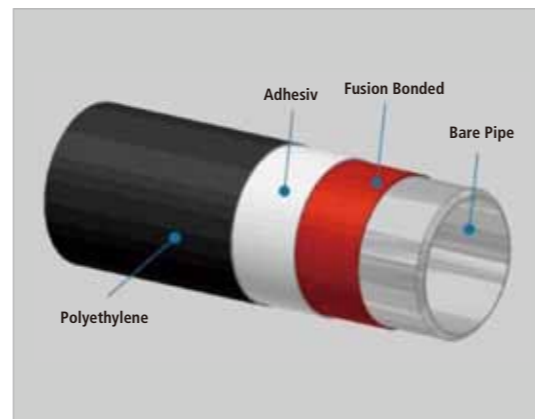


Line Pipe

ILJIN Steel manufactures a wide range of line pipe for onshore and offshore applications.

Line pipe is available in sizes ranging from 1 to 7 inches and can be produced by seamless method according to API 5L, EN and DNV standards

The pipe is inspected for internal and external defects using ultrasonic inspection equipment. The pipe is automatically packed in bundles and tied with steel banding or wires in compliance with API loading and transportation standards



Chemical Composition for PSL2, API Spec 5L / ISO 3183

Steel Grade (Steel Name)	Mass fraction, based upon heat & product analysis %, max									Carbon equivalent
	C	Si	Mn	P	S	V	Nb	Ti	other	CE _{IW}
L245N or BN	0.24	0.4	1.2	0.025	0.015			0.04	*	≤0.43
L290N or X42N	0.24	0.4	1.2	0.025	0.015	0.06	0.05	0.04	*	≤0.43
L320N or X46N	0.24	0.4	1.4	0.025	0.015	0.04	0.05	0.04	*	≤0.43
L360N or X52N	0.24	0.45	1.4	0.025	0.015	0.1	0.05	0.04	*	≤0.43
L390N or X56N	0.24	0.45	1.4	0.025	0.015	0.1	0.05	0.04	*	≤0.43
L415N or X60N	0.24	0.45	1.4	0.025	0.015	0.1	0.05	0.04	*	≤0.43
L290Q or X42Q	0.18	0.45	1.4	0.025	0.015	0.05	0.05	0.04	*	≤0.43
L320Q or X46Q	0.18	0.45	1.4	0.025	0.015	0.05	0.05	0.04	*	≤0.43
L360Q or X52Q	0.18	0.45	1.5	0.025	0.05	0.05	0.05	0.04	*	≤0.43
L390Q or X56Q	0.18	0.45	1.5	0.025	0.015	0.07	0.05	0.04	*	≤0.43
L415Q or X60Q	0.18	0.45	1.70	0.025	0.015	*	*	*	*	≤0.43
L450Q or X65Q	0.18	0.45	1.70	0.025	0.015	*	*	*	*	≤0.43
L485Q or X70Q	0.18	0.45	1.80	0.025	0.015	*	*	*	*	≤0.43
L555Q or X80Q	0.18	0.45	1.90	0.025	0.015	*	*	*	*	as agreed

* Calculated according to API Spec 5L / ISO 3183

Products

Standard / Grade		API 5L Grade B / X42 / X46 / X52 / X60 / X65 / X70 / X80
Main Size	O.D	21.3mm ~ 304.8mm (NPS 1/2" ~ 12")
	Length	6,401mm ~ 18,288mm (SRL / DRL / TRL)
Manufacturing Method		Hot Finished : NPS 2" and above Cold Finished : Less than NPS 2"
Delivery Option	End Finish	Plain-End Beveled, Plain-End Square Cut
	Coating	Outside Surface : Varnish Coated 3-LPE (FBE+Adhesive+PE) Inside Surface : PE

Chemical Composition for Sour&Offshore, API Spec 5L / ISO 3183

Steel Grade (Steel Name)	Mass fraction, based upon heat & product analysis %, max															Carbon equivalent	
	C	Si	Mn	P	S	V	Nb	Ti	Al	Cu	Ni	Cr	Mo	B	N	other	CE _{IW}
L360Q(S) or X52Q(S)	0.16	0.45	1.65	0.020	0.008	0.07	0.05	0.04	0.06	0.35	0.3	0.3	0.15	0.0005	0.12	*	≤0.20 + 0.03
L390Q(S) or X52Q(S)	0.16	0.45	1.65	0.020	0.008	0.07	0.05	0.04	0.06	0.35	0.3	0.3	0.15	0.0005	0.12	*	≤0.21 + 0.03
L415Q(S) or X60Q(S)	0.16	0.45	1.65	0.020	0.008	0.08	0.05	0.04	0.06	0.35	0.3	0.3	0.15	0.0005	0.12	*	≤0.22 + 0.03
L450Q(S) or X65Q(S)	0.16	0.45	1.65	0.020	0.008	0.09	0.05	0.06	0.06	0.35	0.3	0.3	0.15	0.0005	0.12	*	≤0.22 + 0.03
L485Q(S) or X70Q(S)	0.16	0.45	1.65	0.020	0.008	0.09	0.05	0.06	0.06	0.35	0.3	0.3	0.15	0.0005	0.12	*	≤0.22 + 0.03

* Other
(1) Ca ≤ 0.006%
(2) Al/N ≥ 2:1 (Not application to Ti killed or Ti treated steel)

Line Pipe

Mechanical Properties for PSL2, API Spec 5L / ISO 3183

Steel Grade	Pipe Body (Seamless)			
	Yield Strength R _{10.5} , MPa (Psi)		Tensile Strength R _{10.5} , MPa (Psi)	
	min	max	min	max
X42 / L290	290 (42 100)	495 (71 800)	415 (60 200)	760(110 200)
X46 / L320	320 (46 400)	525 (76 100)	435 (63 100)	760(110 200)
X52 / L360	360 (52 200)	530 (76 900)	460 (66 700)	760(110 200)
X56 / L390	390 (56 600)	545 (79 000)	490 (71 100)	760 (110 200)
X60 / L415	415 (60 200)	565 (81 900)	520 (75 400)	760 (110 200)
X65 / L450	450 (65 300)	600 (87 000)	535 (77 600)	760 (110 200)
X70 / L485	485 (70 300)	635 (92 100)	570 (82 700)	760 (110 200)
X80 / L555	555 (80 500)	705 (102 300)	625 (90 600)	825 (199 700)

Coating Pipe Range

(Unit : mm)				
Coatings	O.D	W.T	Length	Coatings
External	60.33~273	3.9~25	12,800	3LPE
Internal	114.3~273	6.0~25	6,400	PE

External Three Layer PE Coating

Parameter	Specification
Application Standard	API, DIN
Coating Thickness	1 st Layer : 100~175 μm 2 nd Layer : 150~400 μm 3 rd Layer : 3000 μm
Pipe end space	130~150mm
Adhesion Strength	Under Room Temp. : 150N/cm length
Pressure Resistance	Under Room Temp. : 0.2mm
Elongation(%)	Under-40°C : 100

Seamless Line Pipe Dimensional Range

O.D	Wall Thickness														Wall Thickness													
	inch	0.079	0.118	0.131	0.137	0.157	0.196	0.216	0.255	0.275	0.295	0.314	0.354	0.374	0.393	0.433	0.472	0.511	0.551	0.590	0.629	0.669	0.748	0.787	0.866	0.944	0.984	
inch	mm	2.0	3.0	3.35	3.5	4.0	5.0	5.5	6.5	7.0	7.5	8.0	9.0	9.5	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0	19.0	20.0	22.0	24.0	25.0	
1.051	26.7																											
1.314	33.4																											
1.661	42.2																											
1.902	48.3																											
2.374	60.3																											
2.874	73.0																											
3.500	88.9																											
4.000	101.6																											
4.500	114.3																											
5.562	141.3																											
6.625	168.3																											
7.000	177.8																											
7.625	193.68																											
8.625	219.1																											
9.625	244.8																											
10.748	273																											
12.000	304.8																											