

API 5L PIPELINES

Compositions

Standard	Type of pipe	Class	Grade	C	Si	Mn	P	S	V	Nb	Ti
				max	max	max	max	max	max	max	max
API SPEC 5L	SMLS	PLS1	L245 B L290	0.28	0.4	1.20	0.030	0.030	-----	-----	0.04
			X42 L320 X46	0.28		1.40	0.030	0.030			
			L360 X52 L390	0.28		1.40	0.030	0.030			
			X56 L415 X60	0.28		1.40	0.030	0.030			
			L450 X65 L485	0.28		1.40	0.030	0.030			
		X70 L245N BN	0.24	1.20	0.025	0.015					
		PLS2	L290N X42N	0.24	1.2	0.025	0.015	0.06	0.05	0.04	
			L320N X46N	0.24	1.4	0.025	0.015	0.07	0.05	0.04	
			L360N X52N	0.24	1.4	0.025	0.015	0.1	0.05	0.04	
			L390N X56N	0.24	1.4	0.025	0.015	0.1	0.05	0.04	
	L415N X60N		0.24	1.4	0.025	0.015	0.1	0.05	0.04		
	WELD	PLS1	L245 B	0.26	-	1.2	-	0.03	0.03	-	-
			L290 X42	0.26	-	1.3	-	0.03	0.03	-	-
			L320 X46	0.26	-	1.4	-	0.03	0.03	-	-
			L360 X52	0.26	-	1.4	-	0.03	0.03	-	-
			L390 X56	0.26	-	1.4	-	0.03	0.03	-	-
			L415 X60	0.26	-	1.4	-	0.03	0.03	-	-
			L450 X65	0.26	-	1.45	-	0.03	0.03	-	-
		L485 X70	0.26	-	1.65	-	0.03	0.03	-	-	
		PLS2	L245M BM	0.22	0.45	1.2	0.025	0.015	0.05	0.05	0.04
			L290M X42M	0.22	0.45	1.3	0.025	0.015	0.05	0.05	0.04
			L320M X46M	0.22	0.45	1.3	0.025	0.015	0.05	0.05	0.04
			L360M X52M	0.22	0.45	1.4	0.025	0.015	-	-	-
L390M X56M			0.22	0.45	1.4	0.025	0.015	-	-	-	
L415M X60M	0.12		0.45	1.6	0.025	0.015	-	-	-		
L450M X65M	0.12	0.45	1.6	0.025	0.015	-	-	-			
L485M X70M	0.12	0.45	1.7	0.025	0.015	-	-	-			
L555M X80M	0.12	0.45	1.85	0.025	0.015	-	-	-			

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Mechanical Properties

Standard	Class	Grade		Yield strength not less than (MPa)	Tensile strength (MPa)	Elongation(%)	Y.S/T.S
API SPEC 5L ISO 3183	PLS1	L245B	min	245	415	b	-
		L290X42	min	290	415	b	-
		L320X46	min	320	435	b	-
		L360X52	min	360	460	b	-
		L390X56	min	390	490	b	-
		L415X60	min	415	520	b	-
		L450X60	min	450	535	b	-
	L485X70	min	485	570	b	-	
	PLS2	L245N BN	min	245	415	b	-
		L245M BM	max	450	760	b	0.93
		L290NX42N	min	290	415	b	-
		L290MX42M	max	495	760	b	0.93
		L320NX46N	min	320	435	b	-
		L320MX46M	max	525	760	b	0.93
		L360NX52N	min	360	460	b	-
		L360MX52M	max	530	760	b	0.93
		L390NX56N	min	390	490	b	-
		L390MX56M	max	545	760	b	0.93
		L415NX60N	min	415	520	b	-
		L415MX60M	max	565	760	b	0.93
		L450MX65M	min	450	535	b	-
			max	600	760	b	0.93
		L485MX70M	min	485	570	b	-
			max	635	760	b	0.93
		L555MX80M	min	555	625	b	-
			max	705	825	b	0.93