

API 5CT Electric Welded Steel Pipes

Technical Data of Pipes Conforming to API 5CT

Label	Specific Outside Diameter		Wall Thickness		Mass of Plain end Pipe		Standard Test Pressure		
	mm	inch	mm	inch	kg/m	lb/ft	H40 MPa	J55 MPa	K55 MPa
4-1/2	114.30	4.500	5.21	0.205	14.02	9.41	20.1	27.6	27.6
			5.69	0.224	15.24	10.24	22.0	30.2	30.2
			6.35	0.250	16.91	11.36	24.5	33.7	33.7
			7.37	0.290	19.44	13.05	28.5	39.1	39.1
5-1/2	139.70	5.500	6.20	0.244	20.41	13.71	19.6	26.9	26.9
			6.98	0.275	22.85	15.36	22.1	30.3	30.3
			7.72	0.304	25.13	16.89	24.4	33.5	33.5
			9.17	0.361	29.52	19.83	29.0	39.8	39.8
6-5/8	168.28	6.625	7.32	0.288	29.06	19.51	19.2	26.4	26.4
			8.94	0.352	35.13	23.60	23.5	32.2	32.2
			10.59	0.417	41.18	27.67	27.8	38.2	38.2
			12.06	0.475	46.46	31.23	31.6	43.5	43.5
7	177.80	7.00	5.87	0.231	24.89	16.72	14.6	20.0	20.0
			6.91	0.272	29.12	19.56	17.2	23.6	23.6
			8.05	0.317	33.70	22.65	20.0	27.5	27.5
			9.19	0.362	38.21	25.69	22.8	31.3	31.3
			10.36	0.408	42.78	28.75	25.7	35.3	35.3
			11.51	0.453	47.20	31.70	28.6	39.3	39.3
7-5/8	193.68	7.625	7.62	0.300	34.96	23.49	17.4	23.9	23.9
			8.33	0.328	38.08	25.59	19.0	26.1	26.1

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	mm	inch	mm	inch	kg/m	lb/ft	H40 MPa	J55 MPa	K55 MPa
7-5/8	193.68	7.625	9.52	0.375	43.24	29.06	21.7	29.8	29.8
			10.92	0.430	49.22	33.07	24.9	34.2	34.2
8-5/8	219.08	8.625	6.71	0.264	35.14	23.60	13.5	18.6	18.6
			7.72	0.304	40.24	27.04	15.6	21.4	21.4
			8.94	0.352	46.33	31.13	18.0	24.7	24.7
			10.16	0.400	52.35	35.17	20.5	28.1	28.1
			11.43	0.450	58.53	39.33	23.0	31.6	31.6
9-5/8	244.48	9.625	7.92	0.312	46.20	31.06	14.3	19.6	19.6
			8.94	0.352	51.93	34.89	16.1	22.2	22.2
			10.03	0.395	57.99	38.97	18.1	24.9	24.9
			11.05	0.435	63.61	42.73	20.0	27.4	27.4
			11.99	0.472	68.75	46.18	21.7	29.7	29.7
10-3/4	273.05	10.750	7.09	0.279	46.50	31.23	8.6	11.8	11.8
			8.89	0.350	57.91	38.91	10.8	14.8	14.8
			10.16	0.400	65.87	44.26	12.3	16.9	16.9
			11.43	0.450	73.75	49.55	13.9	19.0	19.0

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Tolerances :

1) Outside Diameter :

Label I mm(in)	Outside Diameter, D
D ≥ 114.3 (4.500)	+ 1% of D - 0.5% of D

2) Wall Thickness :

Tolerance for Pipe
- 12.5%

3) Mass :

Single Lengths
+ 6.5% - 3.5%

Mechanical Properties:

Group 1	Grade - H40	Grade - J55	Grade - K55
Yield Strength MPa (min)	276 - 552	379 - 552	379 - 552
Tensile Strength MPa (min)	414	517	655
Elongation % minimum : Min .Elong. shall be determined by : $e = 1942.57 A^{0.2} / U^{0.9}$ (Where A= Area of test specimen, U= Min. specified tensile strength)			

Flattening Test:

Grade	D/t ratio	Distance between plates - mm
H40	W 16 < 16	0.5 X D D X (0.830-0.020 6 D/t)
J55 K55	W 16 3.93 to 16 < 3.93	0.65 X D D X (0.980-0.020 6 D/t) D X (1.104 - 0.051 8 D/t)
Where t= Wall thickness & D=Outside diameter		

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Chemical Properties : Composition (Max. %)

Group I	C	Mn	P	S
Grade H40	--	--	0.030	0.030
Grade J55	--	--	0.030	0.030
Grade K55	--	--	0.030	0.030

Destructive & Non-Destructive Testing :

Hydrostatic testing : 100% of pipe shall be tested at a pressure specified in above table.

NDT Group 1 : Weld seam of each pipe shall be tested by online Eddy Current test

Flattening Test :
i) No opening of the weld before the distance between the plates specified in above table.
ii) No evidence of lamination or burnt metal shall develop during the flattening until opposite wall of the pipe meet.

Drift Test : : Each length of pipe shall be drift tested throughout its entire length.

Charpy V Notch : : Grades H40, J55 & K55 Type 1:There is no mandatory CVN impact requirement.

Marking: : Stenciling as per the specification & customer requirement.

