API 5CT Casing and Tubing Data Sheet

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Chemical Composition

Chemical Composition, mass fraction (%)														
Group	Grade	Type	C		Mn		Mo		Cr		Ni	Cu	P	S	Si
			min.	max.	min.	max.	min.	max.	min.	max.	max.	max.	max.	max.	max
1	H40	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03	—
	J55	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03	—
	K55	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03	—
	N80	1	—	—	—	—	—	—	—	—	—	—	0.03	0.03	—
	N80	Q	—	—	—	—	—	—	—	—	—	—	0.03	0.03	—
	R95	—	—	0.45	—	1.90	—	—	—	—	—	—	0.03	0.03	0.45
2	M65	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03	—
	L80	1	—	0.43	—	1.90	—	—	—	—	0.25	0.35	0.03	0.03	0.45
	L80	9Cr	—	0.15	0.30	0.60	0.90	1.10	8.00	10.00	0.50	0.25	0.02	0.01	1
	L80	13Cr	0.15	0.22	0.25	1.00	—	—	12.00	14.00	0.50	0.25	0.02	0.01	1
	C90	1	—	0.35	—	1.20	0.25	0.85	—	1.50	0.99	—	0.02	0.01	—
	T95	1	—	0.35	—	1.20	0.25	0.85	0.40	1.50	0.99	—	0.02	0.01	—
	C110	—	—	0.35		1.20	0.25	1.00	0.40	1.50	0.99		0.02	0.005	—
3	P110		—	—	—	—	—	—	—	—	—	—	0.03	0.03	—
4	Q125	1	—	0.35	—	1.35	—	0.85	—	1.50	0.99	—	0.02	0.01	—

a. The carbon content for L80 may be increased up to 0,50 % maximum if the product is oil-quenched.
b. The molybdenum content for Grade C90 Type 1 has no minimum tolerance if the WT is less than 17,78 mm.
c. The carbon content for R95 may be increased up to 0,55 % maximum if the product is oil-quenched.
d. The molybdenum content for T95 Type 1 may be decreased to 0,15 % minimum if the WT is less than 17,78 mm.
e. For EW Grade P110, the phosphorus content shall be 0,020 % maximum and the sulfur content 0,010 % maximum.
NL = no limit. Elements shown shall be reported in product analysis.

Mechanical Properties

Mechanical Properties								
Group	Grade	Type	Total elongation under load	Yield strength MPa		Tensile strength min.	Hardeness max.	
			%	min.	max.	MPa	HRC	HBW
1	H40	—	**0.5**	276	552	**414**	—	—
	J55	—	**0.5**	379	552	**517**	—	—
	K55	—	**0.5**	379	552	**655**	—	—
	N80	1	**0.5**	552	758	**689**	—	—
	N80	Q	**0.5**	552	758	**689**	—	—
	R95	—	**0.5**	655	758	**724**	—	—
2	M65	—	**0.5**	448	586	**586**	22	235
	L80	1	**0.5**	552	655	**655**	23	241
	L80	9Cr	**0.5**	552	655	**655**	23	241
	L80	13Cr	**0.5**	552	655	**655**	23	241
	C90	1	**0.5**	621	724	**689**	25.4	255
	T95	1	**0.5**	655	758	**724**	25.4	255
	C110	—	**0.7**	758	828	**793**	30	286
3	P110	—	**0.6**	758	965	**862**	—	—
4	Q125	1	**0.65**	862	1034	**931**		—

a. In case of dispute, laboratory Rockwell C hardness testing shall be used as the referee method.
b. No hardness limits, but the maximum variation is controlled by manufacturer acc API 5CT.

For more information please view https://www.octalsteel.com/octg-steel-casing-pipe-and-tubing