



Grade	% Chemical Composition (Max)					Mechanical Properties (Min)			Marking Color
	C	Si	Mn	P	S	Yield Strength	Tensile Strength	Elongation	
						MPa	MPa	%	
HS 41	0.28	-	-	0.048	0.048	235	402	23	Green
HS 50	0.21	0.57	1.53	0.048	0.048	314	490	23	Red
HS 51	0.33	0.37	0.33 - 1.03	0.048	0.048	353	500	15	White

Nominal Size		Outside Diameter	Thickness (t)	Weight	Cross Sectional Area	Geometrical Moment of Inertia	Modulus of Section	Radius of Gyration
mm	inch	mm	mm	kg/m	cm <sup>2</sup>	cm <sup>4</sup>	cm <sup>3</sup>	cm
15	1/2"	21.7	2.00	0.972	1.238	0.607	0.560	0.700
20	3/4"	27.2	2.30	1.41	1.799	1.41	1.03	0.880
25	1"	34.0	2.30	1.80	2.291	2.89	1.70	1.12
32	1 1/4"	42.7	2.30	2.29	2.919	5.97	2.80	1.43
40	1 1/2"	48.6	2.30	2.63	3.345	8.99	3.70	1.64
			3.20	3.58	4.564	11.8	4.86	1.61
50	2"	60.5	3.20	4.52	5.760	23.7	7.84	2.03
			4.00	5.57	7.100	28.5	9.41	2.00
65	2 1/2"	76.3	3.20	5.77	7.349	49.2	12.9	2.59
			4.00	7.13	9.085	59.5	15.6	2.56
80	3"	89.1	3.20	6.78	8.636	79.8	17.9	3.04
			4.00	8.39	10.69	97.0	21.8	3.01
90	3 1/2"	101.6	3.20	7.76	9.892	120	23.6	3.48
			4.00	9.63	12.26	146	28.8	3.45
100	4"	114.3	3.20	8.77	11.17	172	30.2	3.93
			4.50	12.2	15.52	234	41.0	3.89
			5.60	15.00	19.12	283	49.6	3.85
125	5"	139.8	4.50	15.0	19.13	438	62.7	4.79
			6.00	19.8	25.22	566	80.9	4.74
150	6"	165.2	4.50	17.8	22.72	734	88.9	5.68
			6.00	23.6	30.01	952	115	5.63
175	7"	190.7	5.00	22.9	29.17	1260	132	6.57
			7.00	31.7	40.40	1710	179	6.50
200	8"	216.3	6.00	31.1	39.61	2190	203	7.44
			8.00	41.1	52.35	2840	263	7.37

Dimension Tolerances	Outside Diameter	Thickness	Weight
	DN ≤ 50 mm : ±0.5 mm DN > 50 mm : ±1%	2.0 mm ≤ t ≤ 3.2 mm : ±0.3 mm 4.0 mm ≤ t ≤ 8.0 mm : ±10%	±10%