STEEL & PIPES

Your One Stop Comprehensive Steel Shop

PRODUCT CATALOGUE

EAST LONDON

15 PONTOON ROAD
CENTRAL
043 743 2870

QUEENSTOWN

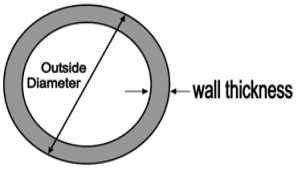
17 FACTORY ROAD
SOUTH BOURNE
045 8381889

MTHATHA

16 TEXTILE STREET
VULINLEDLA HEIGHTS
0475311531

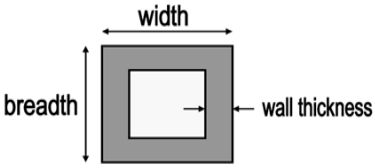
HOW TUBING IS MEASURED

CIRCULAR TUBE :



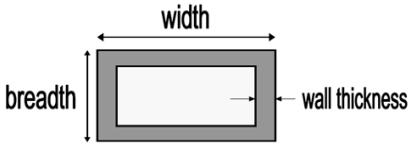
Diameter(mm)x wall thickness(mm) x length (M)

SQUARE TUBE :



Width(mm) x breadth(mm) x wall thickness (mm) x length (M)

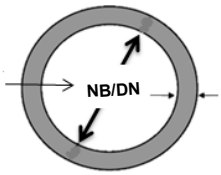
RECTANGULAR TUBE :



Width(mm) x breadth(mm) x wall thickness (mm) x length (M)

HOW PIPE IS MEASURED

NB: Nominal Bore / **DN:** Diameter Nominal



Schedule No. (eg SCHED 40) Strength (eg. STD)
or
Wall thickness (eg. 5.49mm)

eg. 200 NB SCHED 40x6M … nominal inside diameter (mm) x Wall thickness (mm) x length (M)

The most important difference between pipe & tube is the dimensional attribute. Pipes are manufactured corresponding to the Inner Diameter (Nominal Bore) & Tubes are manufactured corresponding to Outside Diameter (OD).

For pipes, the **bore** is the hollow centre, and **Nominal** is used in the sense of "in name only" or approximate. Nominal bore is actually the approximate internal measurement across the diameter of the mouth of a pipe - NOT necessarily the expected diameter.

As we know, pipes are for carrying fluids and gasses and therefore the internal diameter is critical for allowing us to calculate capacity, flow rates etc. However, regulations govern the size of a pipe's outside dimensions to ensure it is manufactured in standard sizes for easy fitting. But because pipes vary in material, weight, and the way they are formed, internal dimensions of pipes that share the same outer dimension may vary. For this reason, any measurement of that internal dimensions can only be "nominal"

It is worth remembering also that nominal bore can have different names. In the inch system, nominal bore is abbreviated as NB; in metric systems it is "diameter nominal" (DN), or "Nominal pipe Size" (NPS) in North America.

Example: 2" NB Sch 80 Pipe has Outer Diameter (OD) as 60.3MM and 5.49MM Wall thickness (WT)
whereas a 2" x 5mm WT Tube has an OD of 50.8MM. Nominal Bore of 2" Pipe is nearly equal to 2" (50.8MM) & Tube has calculated inner diameter of 40.8MM

CIRCULAR TUBE

SIZE (MM)	WALL (MM)	LENGTHS AVAILABLE (M)	KILOGRAMS PER METER	MANUFACTURING STANDARD	MATERIAL GRADE
12.7	1.6	6	0.438	SANS 657 / EN10219	CQ / SAE 1008
15.9	1.6	6	0.560	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	0.686	SANS 657 / EN10219	CQ / SAE 1008
17	2.0	6	0.739	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	1.035	SANS 657 / EN10219	CQ / SAE 1008
19.1	1.6	6	0.690	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	0.840	SANS 657 / EN10219	CQ / SAE 1008
21.4	1.6	6	0.778	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	0.953	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	1.158	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	1.361	SANS 657 / EN10219	CQ / SAE 1008
25.4	1.6	6	0.939	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	1.154	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	1.411	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	1.657	SANS 657 / EN10219	CQ / SAE 1008
26.9	1.6	6	1.002	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	1.233	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	1.502	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	1.768	SANS 657 / EN10219	CQ / SAE 1008
31.8	1.6	6	1.189	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	1.467	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	1.817	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	2.123	SANS 657 / EN10219	CQ / SAE 1008
34.1	1.6	6	1.282	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	1.562	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	1.942	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	2.293	SANS 657 / EN10219	CQ / SAE 1008
	3.5	6	2.643	SANS 657 / EN10219	CQ / SAE 1008
	4.0	6	2.969	SANS 657 / EN10219	CQ / SAE 1008
38.1	1.6	6	1.440	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	1.780	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	2.192	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	2.790	SANS 657 / EN10219	CQ / SAE 1008
	4.0	6	3.364	SANS 657 / EN10219	CQ / SAE 1008
	4.5	6	3.729	SANS 657 / EN10219	CQ / SAE 1008
42.8	1.6	6	1.642	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	2.010	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	2.484	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	2.944	SANS 657 / EN10219	CQ / SAE 1008
	3.5	6	3.397	SANS 657 / EN10219	CQ / SAE 1008

SIZE (MM)	WALL (MM)	LENGTHS AVAILABLE (M)	KILOGRAMS PER METER	MANUFACTURING STANDARD	MATERIAL GRADE
42.8	4.0	6	3.827	SANS 657 / EN10219	CQ / SAE 1008
44.5	1.6	6	1.690	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	2.096	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	3.070	SANS 657 / EN10219	CQ / SAE 1008
	4.0	6	4.000	SANS 657 / EN10219	CQ / SAE 1008
	4.5	6	4.440	SANS 657 / EN10219	CQ / SAE 1008
48.5	1.6	6	1.846	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	2.288	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	2.830	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	3.358	SANS 657 / EN10219	CQ / SAE 1008
	3.5	6	3.875	SANS 657 / EN10219	CQ / SAE 1008
	4.0	6	4.366	SANS 657 / EN10219	CQ / SAE 1008
	4.5	6	4.870	SANS 657 / EN10219	CQ / SAE 1008
50.8	1.6	6	1.940	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	2.406	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	3.089	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	3.533	SANS 657 / EN10219	CQ / SAE 1008
	3.5	6	4.083	SANS 657 / EN10219	CQ / SAE 1008
	4.0	6	4.616	SANS 657 / EN10219	CQ / SAE 1008
	4.5	6	5.138	SANS 657 / EN10219	CQ / SAE 1008
57.1	1.6	6	2.191	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	2.718	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	3.089	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	4.003	SANS 657 / EN10219	CQ / SAE 1008
	4.0	6	5.248	SANS 657 / EN10219	CQ / SAE 1008
	4.5	6	5.837	SANS 657 / EN10219	CQ / SAE 1008
60.3	1.6	6	2.317	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	2.875	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	3.700	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	4.224	SANS 657 / EN10219	S 355
	3.5	6	4.900	SANS 657 / EN10219	S 355
	4.0	6	5.551	SANS 657 / EN10219	S 355
	4.5	6	6.154	SANS 657 / EN10219	S 355
63.5	1.6	6	2.440	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	3.031	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	3.758	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	4.472	SANS 657 / EN10219	S 355
	3.5	6	5.174	SANS 657 / EN10219	S 355
	4.0	6	5.875	SANS 657 / EN10219	S 355
	4.5	6	6.541	SANS 657 / EN10219	S 355
70	3.0	6	4.980	SANS 657 / EN10219	S 355
73	2.0	6	3.500	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	5.180	SANS 657 / EN10219	S 355
	4.5	6	7.600	SANS 657 / EN10219	S 355

SIZE (MM)	WALL (MM)	LENGTHS AVAILABLE (M)	KILOGRAMS PER METER	MANUFACTURING STANDARD	MATERIAL GRADE
73	5.0	6	8.380	SANS 657 / EN10219	S 355
76.2	1.6	6	2.942	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	3.658	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	4.534	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	5.416	SANS 657 / EN10219	S 355
	3.5	6	6.261	SANS 657 / EN10219	S 355
	4.0	6	7.105	SANS 657 / EN10219	S 355
	4.5	6	7.939	SANS 657 / EN10219	S 355
	5.0	6	8.778	SANS 657 / EN10219	S 355
	6.0	6	10.386	SANS 657 / EN10219	S 355
88.9	2.0	6	4.286	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	5.327	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	6.355	SANS 657 / EN10219	S 355
	3.5	6	7.371	SANS 657 / EN10219	S 355
	4.0	6	8.375	SANS 657 / EN10219	S 355
	4.5	6	9.366	SANS 657 / EN10219	S 355
	5.0	6	10.344	SANS 657 / EN10219	S 355
	6.0	6	12.265	SANS 657 / EN10219	S 355
95	1.6	6 / 6.1	3.685	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6 / 6.1	4.586	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6 / 6.1	5.702	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6 / 6.1	6.806	SANS 657 / EN10219	S 355
	3.5	6.1	7.897	SANS 657-1(Def 3.1)	S 355
	4.0	6.1	8.976	SANS 657-1(Def 3.1)	S 355
	4.5	6.1	10.043	SANS 657-1(Def 3.1)	S 355
	5.0	6.1	11.090	SANS 657-1(Def 3.1)	S 355
	6.0	6.1	13.170	SANS 657-1(Def 3.1)	S 355
101.6	1.6	6	3.703	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	4.908	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	6.104	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	7.288	SANS 657 / EN10219	S 355
	3.5	6	8.460	SANS 657 / EN10219	S 355
	4.0	6	9.619	SANS 657 / EN10219	S 355
	4.5	6	10.760	SANS 657 / EN10219	S 355
	5.0	6	11.911	SANS 657 / EN10219	S 355
	6.0	6	14.135	SANS 657 / EN10219	S 355
114.3	2.0	6	5.534	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	6.893	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	8.221	SANS 657 / EN10219	S 355
	3.5	6	8.555	SANS 657 / EN10219	S 355
	4.0	6	10.880	SANS 657 / EN10219	S 355
	4.5	6	12.170	SANS 657 / EN10219	S 355
	5.0	6	13.465	SANS 657 / EN10219	S 355
	6.0	6	16.011	SANS 657 / EN10219	S 355

SIZE (MM)	WALL (MM)	LENGTHS AVAILABLE (M)	KILOGRAMS PER METER	MANUFACTURING STANDARD	MATERIAL GRADE
127	2.0	6	6.165	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	7.669	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	9.166	SANS 657 / EN10219	S 355
	3.5	6	10.660	SANS 657 / EN10219	S 355
	4.0	6	12.120	SANS 657 / EN10219	S 355
	4.5	6	13.59	SANS 657 / EN10219	S 355
	5.0	6	15.044	SANS 657 / EN10219	S 355
	6.0	6	17.88	SANS 657 / EN10219	S 355
139.7	3.0	6	10.110	SANS 657 / EN10219	S 355
	3.5	6	11.760	SANS 657 / EN10219	S 355
	4.0	6	13.390	SANS 657 / EN10219	S 355
	4.5	6	15.000	SANS 657 / EN10219	S 355
	5.0	6	16.610	SANS 657 / EN10219	S 355
	6.0	6	19.780	SANS 657 / EN10219	S 355
152.4	2.0	6	7.493	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	9.335	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	11.050	SANS 657 / EN10219	S 355
	3.5	6	12.850	SANS 657 / EN10219	S 355
	4.0	6	14.640	SANS 657 / EN10219	S 355
	4.5	6	16.410	SANS 657 / EN10219	S 355
	5.0	6	18.180	SANS 657 / EN10219	S 355
	6.0	6	21.660	SANS 657 / EN10219	S 355
165.1	3.0	6	11.990	SANS 657 / EN10219	S 355
	3.5	6	13.950	SANS 657 / EN10219	S 355
	4.0	6	15.890	SANS 657 / EN10219	S 355
	4.5	6	17.810	SANS 657 / EN10219	S 355
	5.0	6	19.740	SANS 657 / EN10219	S 355
	6.0	6	23.540	SANS 657 / EN10219	S 355
177.8	3.0	6	13.000	SANS 657 / EN10219	S 355
	4.0	6	17.230	SANS 657 / EN10219	S 355
	4.5	6	19.340	SANS 657 / EN10219	S 355
	6.0	6	25.300	SANS 657 / EN10219	S 355
193.7	3.0	6 / 6.1	14.130	SANS 657 / EN10219	S 355
	3.5	6 / 6.1	16.440	SANS 657 / EN10219	S 355
	4.0	6	18.530	SANS 657 / EN10219	S 355
	4.5	6 / 6.1	21.030	SANS 657 / EN10219	S 355
	5.0	6	23.300	SANS 657 / EN10219	S 355
	6.0	6 / 6.1	27.820	SANS 657 / EN10219	S 355
219.1	3.0	6	15.981	SANS 657 / EN 10219	S 355
	3.5	6.1 / 9.144 / 12.2	18.600	SANS 657 / EN 10219	S 355
	4.0	6	21.217	SANS 657 / EN 10219	S 355
	4.5	6.1 / 9.144 /12.2	23.810	SANS 657 / EN 10219	S 355
	6.0	6.1 / 9.144 /12.2	31.530	SANS 657 / EN 10219	S 355

SQUARE TUBE

SIZE (MM)	WALL (MM)	LENGTHS AVAILABLE (M)	KILOGRAMS PER METER		MANUFACTURING STANDARD	MATERIAL GRADE
			OFF-MILL	DRAWN		
10 x 10	1.6	6	0.438	0.438	SANS 657 / EN10219	CQ / SAE 1008
12.7 x 12.7	1.6	6	0.575	0.575	SANS 657 / EN10219	CQ / SAE 1008
15.9 x 15.9	1.6	6	0.734	0.734	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	0.894	0.894	SANS 657 / EN10219	CQ / SAE 1008
19.1 x 19.1	1.6	6	0.894	0.894	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	1.097	1.097	SANS 657 / EN10219	CQ / SAE 1008
25.4 x 25.4	1.6	6	1.212	1.212	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	1.496	1.496	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	1.817	1.817	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	2.164	2.164	SANS 657 / EN10219	CQ / SAE 1008
30 x 30	1.6	6	1.440	1.440	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	1.780	1.780	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	2.192	2.192	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	2.790	2.790	SANS 657 / EN10219	CQ / SAE 1008
31.8 x 31.8	1.6	6	1.513	1.513	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	1.894	1.894	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	2.391	2.391	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	2.831	2.831	SANS 657 / EN10219	CQ / SAE 1008
	4.0	6	3.364	3.364	SANS 657-1(Def 3.1)	CQ / SAE 1008
35 x 35	1.6	6	1.695	1.695	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.0	6	2.090	2.090	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	3.070	3.070	SANS 657-1(Def 3.1)	CQ / SAE 1008
38.1 x 38.1	1.6	6	1.850	1.850	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	2.293	2.293	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	2.892	2.892	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	3.326	3.326	SANS 657 / EN10219	CQ / SAE 1008
	4.0	6	4.366	4.366	SANS 657-1(Def 3.1)	CQ / SAE 1008
	4.5	6	4.870	4.870	SANS 657-1(Def 3.1)	CQ / SAE 1008
40 x 40	1.6	6	1.940	1.940	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	2.413	2.413	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	2.985	2.985	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	3.546	3.546	SANS 657 / EN10219	CQ / SAE 1008
	4.0	6	4.616	4.616	SANS 657-1(Def 3.1)	CQ / SAE 1008
	4.5	6	5.138	5.138	SANS 657-1(Def 3.1)	CQ / SAE 1008
44.5 x 44.5	1.6	6	2.191	2.191	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.0	6	2.718	2.718	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.5	6	3.089	3.089	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	4.003	4.003	SANS 657-1(Def 3.1)	CQ / SAE 1008
	4.0	6	5.248	5.248	SANS 657-1(Def 3.1)	CQ / SAE 1008
	4.5	6	5.837	5.837	SANS 657-1(Def 3.1)	CQ / SAE 1008
50 x 50	1.6	6	2.448	2.448	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	3.090	3.090	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	3.979	3.979	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	4.472	4.472	SANS 657 / EN10219	CQ / SAE 1008
	3.5	6	5.174	5.174	SANS 657 / EN10219	S 355
	4.0	6	5.864	5.864	SANS 657 / EN10219	S 355

SIZE (MM)	WALL (MM)	LENGTHS AVAILABLE (M)	KILOGRAMS PER METER		MANUFACTURING STANDARD	MATERIAL GRADE
			OFF-MILL	DRAWN		
50 x 50	4.5	6	6.541	6.541	SANS 657 / EN10219	S 355
	5.0	6	7.220	7.220	SANS 657 / EN10219	S 355
	6.0	6	8.440	8.440	SANS 657 / EN10219	S 355
60 x 60	1.6	6	2.973	2.973	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	3.652	3.652	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	4.534	4.534	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	5.416	5.416	SANS 657 / EN10219	S 355
	3.5	6	6.261	6.261	SANS 657-1(Def 3.1)	S 355
	4.0	6	7.105	7.105	SANS 657 / EN10219	S 355
	4.5	6	7.939	7.939	SANS 657 / EN10219	S 355
	5.0	6	8.778	8.778	SANS 657-1(Def 3.1)	S 355
	6.0	6	10.386	10.386	SANS 657-1(Def 3.1)	S 355
63.5 x 63.5	1.6	6	3.126	2.274	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	3.888	3.658	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	4.829	4.534	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	5.758	5.416	SANS 657 / EN10219	S 355
	3.5	6	6.675	6.261	SANS 657-1(Def 3.1)	S 355
	4.0	6	7.579	7.105	SANS 657-1(Def 3.1)	S 355
	4.5	6	8.471	7.939	SANS 657 / EN10219	S 355
	5.0	6	9.351	8.778	SANS 657-1(Def 3.1)	S 355
	6.0	6	11.073	10.386	SANS 657-1(Def 3.1)	S 355
70 x 70	2.0	6	4.286	4.286	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.5	6	5.327	5.327	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	6.355	6.355	SANS 657-1(Def 3.1)	S 355
	3.5	6	7.371	7.371	SANS 657-1(Def 3.1)	S 355
	4.0	6	8.375	8.375	SANS 657-1(Def 3.1)	S 355
	4.5	6	9.366	9.366	SANS 657-1(Def 3.1)	S 355
	5.0	6	10.344	10.344	SANS 657-1(Def 3.1)	S 355
	6.0	6	12.265	12.265	SANS 657-1(Def 3.1)	S 355
75 x 75	1.6	6	3.765	3.444	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	4.687	4.426	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	5.827	5.327	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	6.956	6.355	SANS 657 / EN10219	S 355
	3.5	6	8.072	7.371	SANS 657 / EN10219	S 355
	4.0	6	9.176	8.375	SANS 657 / EN10219	S 355
	4.5	6	10.267	9.366	SANS 657 / EN10219	S 355
	5.0	6	11.346	10.344	SANS 657 / EN10219	S 355
	6.0	6	13.468	12.265	SANS 657 / EN10219	S 355
80 x 80	2.0	6	4.908	4.908	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.5	6	6.104	6.104	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	7.288	7.288	SANS 657-1(Def 3.1)	S 355
	3.5	6	8.460	8.460	SANS 657-1(Def 3.1)	S 355
	4.0	6	9.619	9.619	SANS 657-1(Def 3.1)	S 355
	4.5	6	10.760	10.760	SANS 657-1(Def 3.1)	S 355
	5.0	6	11.911	11.911	SANS 657-1(Def 3.1)	S 355
	6.0	6	14.135	14.135	SANS 657-1(Def 3.1)	S 355
	8.0	6	18.516	18.516	SANS 657-1(Def 3.1)	S 355
90 x 90	2.0	6	5.534	5.534	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.5	6	6.890	6.890	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	8.221	8.221	SANS 657-1(Def 3.1)	S 355

SIZE (MM)	WALL (MM)	LENGTHS AVAILABLE (M)	KILOGRAMS PER METER		MANUFACTURING STANDARD	MATERIAL GRADE
			OFF-MILL	DRAWN		
90 x 90	3.5	6	9.555	9.555	SANS 657-1(Def 3.1)	S 355
	4.0	6	10.880	10.880	SANS 657-1(Def 3.1)	S 355
	4.5	6	12.170	12.170	SANS 657-1(Def 3.1)	S 355
	5.0	6	12.465	12.465	SANS 657-1(Def 3.1)	S 355
	6.0	6	16.011	16.011	SANS 657-1(Def 3.1)	S 355
100 x 100	2.0	6	6.160	6.160	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	7.669	7.669	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	9.166	9.166	SANS 657 / EN10219	S 355
	3.5	6	10.650	10.650	SANS 657 / EN10219	S 355
	4.0	6	12.120	12.120	SANS 657 / EN10219	S 355
	4.5	6	13.580	13.580	SANS 657 / EN10219	S 355
	5.0	6	15.030	15.030	SANS 657 / EN10219	S 355
	6.0	6 / 12	17.900	17.900	SANS 657 / EN10219	S 355
	8.0	6.1 / 12.2	23.476	23.536	SANS 657 / EN10219	S 355
	10.0	6.1 / 12.2	28.852	28.928	SANS 657 / EN10219	S 355
110 x 110	3.0	6	10.110	10.110	SANS 657-1(Def 3.1)	S 355
	3.5	6	11.760	11.760	SANS 657-1(Def 3.1)	S 355
	4.0	6	13.390	13.390	SANS 657-1(Def 3.1)	S 355
	4.5	6	15.000	15.000	SANS 657-1(Def 3.1)	S 355
	5.0	6	16.610	16.610	SANS 657-1(Def 3.1)	S 355
	6.0	6	19.780	19.780	SANS 657-1(Def 3.1)	S 355
115 x 115	3.0	6	10.110	10.608	SANS 657-1(Def 3.1)	S 355
	3.5	6	11.760	12.334	SANS 657-1(Def 3.1)	S 355
	4.0	6	13.390	14.046	SANS 657-1(Def 3.1)	S 355
	4.5	6	15.000	15.747	SANS 657-1(Def 3.1)	S 355
	5.0	6	16.610	17.435	SANS 657-1(Def 3.1)	S 355
	6.0	6	19.780	20.774	SANS 657-1(Def 3.1)	S 355
120 x 120	2.0	6	7.493	7.493	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.5	6	9.355	9.355	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	11.050	11.050	SANS 657 / EN10219	S 355
	3.5	6	12.850	12.850	SANS 657 / EN10219	S 355
	4.0	6	14.640	14.640	SANS 657 / EN10219	S 355
	4.5	6	16.140	16.140	SANS 657 / EN10219	S 355
	5.0	6	18.180	18.180	SANS 657 / EN10219	S 355
	6.0	6	21.160	21.160	SANS 657 / EN10219	S 355
	8.0	6.1 /12.2	28.410	28.410	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	6.1 /12.2	35.020	35.020	SANS 657-1(Def 3.1)	S 235 or S 355
127 x 127	3.0	6.1	11.739	11.739	SANS 657-1(Def 3.1)	S 355
	3.5	6.1	13.652	13.652	SANS 657-1(Def 3.1)	S 355
	4.0	6.1	15.553	15.553	SANS 657-1(Def 3.1)	S 355
	4.5	6.1	17.442	17.442	SANS 657-1(Def 3.1)	S 355
	5.0	6.1	19.740	19.318	SANS 657-1(Def 3.1)	S 355
	6.0	6.1	23.520	23.034	SANS 657-1(Def 3.1)	S 355
	8.0	6.1	28.410	30.318	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	6.1	35.020	37.404	SANS 657-1(Def 3.1)	S 235 or S 355
130 x 130	3.0	6	11.990	11.990	SANS 657-1(Def 3.1)	S 355
	3.5	6	13.950	13.950	SANS 657-1(Def 3.1)	S 355
	4.0	6	15.890	15.890	SANS 657-1(Def 3.1)	S 355
	4.5	6	17.810	17.810	SANS 657-1(Def 3.1)	S 355
	5.0	6	19.740	19.740	SANS 657-1(Def 3.1)	S 355

SIZE (MM)	WALL (MM)	LENGTHS AVAILABLE (M)	KILOGRAMS PER METER		MANUFACTURING STANDARD	MATERIAL GRADE
			OFF-MILL	DRAWN		
130 x 130	6.0	6	23.540	23.540	SANS 657-1(Def 3.1)	S 355
133.3 x 133.3	3.0	6	11.990	11.990	SANS 657-1(Def 3.1)	S 355
	3.5	6	13.950	13.950	SANS 657-1(Def 3.1)	S 355
	4.0	6	15.890	15.890	SANS 657-1(Def 3.1)	S 355
	4.5	6	17.810	17.810	SANS 657-1(Def 3.1)	S 355
	5.0	6	19.740	19.740	SANS 657-1(Def 3.1)	S 355
	6.0	6	25.340	25.340	SANS 657-1(Def 3.1)	S 355
140 x 140	3.0	6	12.870	12.870	SANS 657-1(Def 3.1)	S 355
	3.5	6	13.950	13.950	SANS 657-1(Def 3.1)	S 355
	4.0	6	15.890	15.890	SANS 657-1(Def 3.1)	S 355
	4.5	6	19.340	19.340	SANS 657-1(Def 3.1)	S 355
	5.0	6	19.740	19.740	SANS 657-1(Def 3.1)	S 355
	6.0	6	25.300	25.300	SANS 657-1(Def 3.1)	S 355
150 x 150	3.0	6	13.905	14.105	SANS 657 / EN10219	S 355
	3.5	6	16.179	16.416	SANS 657 / EN10219	S 355
	4.0	6	18.441	18.712	SANS 657 / EN10219	S 355
	4.5	6	20.691	20.995	SANS 657 / EN10219	S 355
	5.0	6	22.928	23.267	SANS 657 / EN10219	S 355
	6.0	6	27.366	27.772	SANS 657 / EN10219	S 355
	8.0	6.1 / 12.2	35.900	36.094	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	6.1 / 12.2	44.390	44.624	SANS 657-1(Def 3.1)	S 235 or S 355
160 x 160	3.5	6.1 / 12.2	17.310	17.310	SANS 657-1(Def 3.1)	S 355
	4.5	6.1 / 12.2	22.140	22.140	SANS 657-1(Def 3.1)	S 355
	6.0	6.1 / 12.2	29.296	29.296	SANS 657-1(Def 3.1)	S 355
	8.0	6.1 / 12.2	38.606	35.900	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	6.1 / 12.2	47.764	44.390	SANS 657-1(Def 3.1)	S 235 or S 355
165.1 x 165.1	3.5	6.1	17.827	17.827	SANS 657-1(Def 3.1)	S 355
	4.5	6.1	22.867	22.867	SANS 657-1(Def 3.1)	S 355
	6.0	6.1 / 12.2	30.267	30.267	SANS 657-1(Def 3.1)	S 355
177.8 x 177.8	3.5	6.1 / 9.144 /12.2	18.600	18.600	SANS 657-1(Def 3.1)	S 355
	4.5	6.1 / 9.144 / 12.2	23.810	23.810	SANS 657-1(Def 3.1)	S 355
	6.0	6.1 / 9.144 / 12.2	31.530	31.530	SANS 657-1(Def 3.1)	S 355
	8.0	6.1 / 9.144 / 12.2	41.630	41.630	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	6.1 / 9.144 / 12.2	51.550	51.550	SANS 657-1(Def 3.1)	S 235 or S 355
180 x 180	3.5	6.1 / 9.144 /12.2	18.600	18.600	SANS 657-1(Def 3.1)	S 355
	4.5	6.1 / 9.144 / 12.2	23.810	23.810	SANS 657-1(Def 3.1)	S 355
	6.0	6.1 / 9.144 / 12.2	31.530	31.530	SANS 657-1(Def 3.1)	S 355
	8.0	6.1 / 9.144 / 12.2	41.630	41.630	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	6.1 / 9.144 / 12.2	51.550	51.550	SANS 657-1(Def 3.1)	S 235 or S 355
200 x 200	4.5	6.1 /12.2	27.755	26.580	SANS 657-1(Def 3.1)	S 235 or S 355
	6.0	6.1 / 12.2	36.785	35.210	SANS 657-1(Def 3.1)	S 235 or S 355
	8.0	6.1 / 12.2	48.652	46.560	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	6.1 / 12.2	60.322	57.700	SANS 657-1(Def 3.1)	S 235 or S 355
225 x 225	4.5	6.1 / 9.144 / 12.2	31.287	29.800	SANS 657-1(Def 3.1)	S 235 or S 355
	6.0	6.1 / 9.144 / 12.2	41.494	39.510	SANS 657-1(Def 3.1)	S 235 or S 355
	8.0	6.1 / 9.144 / 12.2	54.930	52.290	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	6.1 / 9.144 / 12.2	68.170	64.870	SANS 657-1(Def 3.1)	S 235 or S 355
250 x 250	4.5	6.1 / 9.144 / 12.2	34.820	34.820	SANS 657-1(Def 3.1)	S 235 or S 355
	6.0	6.1 / 9.144 / 12.2	46.210	46.210	SANS 657-1(Def 3.1)	S 235 or S 355
	8.0	6.1 / 9.144 / 12.2	61.220	61.220	SANS 657-1(Def 3.1)	S 235 or S 355

SIZE (MM)	WALL (MM)	LENGTHS AVAILABLE (M)	KILOGRAMS PER METER		MANUFACTURING STANDARD	MATERIAL GRADE
			OFF-MILL	DRAWN		
250 x 250	10.0	6.1 / 9.144 / 12.2	76.030	76.030	SANS 657-1(Def 3.1)	S 235 or S 355
260 x 260	4.5	6.1 / 9.144 / 12.2	36.231	35.460	SANS 657-1(Def 3.1)	S 235
	6.0	6.1 / 9.144 / 12.2	48.086	47.060	SANS 657-1(Def 3.1)	S 235 or S 355
	8.0	6.1 / 9.144 / 12.2	63.721	62.350	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	6.1 / 9.144 / 12.2	79.158	77.450	SANS 657-1(Def 3.1)	S 235 or S 355
270 x 270	4.5	6.1 / 9.144 / 12.2	37.644	35.460	SANS 657-1(Def 3.1)	S 235
	6.0	6.1 / 9.144 / 12.2	49.970	47.060	SANS 657-1(Def 3.1)	S 235 or S 355
	8.0	6.1 / 9.144 / 12.2	66.232	63.350	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	6.1 / 9.144 / 12.2	82.297	77.450	SANS 657-1(Def 3.1)	S 235 or S 355
300 x 300	4.5	6.1 / 9.144 / 12.2	41.882	39.010	SANS 657-1(Def 3.1)	S 235
	6.0	6.1 / 9.144 / 12.2	55.621	51.786	SANS 657-1(Def 3.1)	S 235 or S 355
	8.0	6.1 / 9.144 / 12.2	73.767	68.670	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	6.1 / 9.144 / 12.2	91.716	85.340	SANS 657-1(Def 3.1)	S 235 or S 355

RECTANGULAR TUBE

SIZE (MM)	WALL (MM)	LENGTHS AVAILABLE (M)	KILOGRAMS PER METER		MANUFACTURING STANDARD	MATERIAL GRADE
			OFF-MILL	DRAWN		
25.4 x 12.7	1.6	6	0.894	0.894	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	1.094	1.094	SANS 657 / EN10219	CQ / SAE 1008
30 x 20	1.6	6	1.189	1.189	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.0	6	1.467	1.467	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.5	6	1.817	1.817	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	2.123	2.123	SANS 657-1(Def 3.1)	CQ / SAE 1008
31.8 x 19.1	1.6	6	1.212	1.212	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	1.469	1.469	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	1.817	1.817	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	2.123	2.123	SANS 657-1(Def 3.1)	CQ / SAE 1008
38.1 x 19.1	1.6	6	1.435	1.435	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	1.780	1.780	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	2.192	2.192	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	2.790	2.790	SANS 657-1(Def 3.1)	CQ / SAE 1008
38.1 x 25.4	1.6	6	1.531	1.440	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	1.894	1.780	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	2.390	2.192	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	2.768	2.597	SANS 657-1(Def 3.1)	CQ / SAE 1008
	4.0	6	3.592	3.364	SANS 657-1(Def 3.1)	CQ / SAE 1008
40 x 20	1.6	6	1.440	1.440	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	1.781	1.781	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	2.190	2.190	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	2.597	2.597	SANS 657-1(Def 3.1)	CQ / SAE 1008
40 x 30	1.6	6	1.690	1.690	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.0	6	2.096	2.096	SANS 657-1(Def 3.1)	CQ / SAE 1008
44.5 x 25.4	1.6	6	1.690	1.690	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.0	6	2.096	2.096	SANS 657-1(Def 3.1)	CQ / SAE 1008
44.5 x 31.8	1.6	6	1.846	1.846	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.0	6	2.288	2.288	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.5	6	2.830	2.830	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	3.358	3.358	SANS 657-1(Def 3.1)	CQ / SAE 1008
	4.0	6	4.366	4.366	SANS 657-1(Def 3.1)	CQ / SAE 1008
50 x 20	1.6	6	1.690	1.690	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.0	6	2.096	2.096	SANS 657-1(Def 3.1)	CQ / SAE 1008
50.8 x 25.4	1.6	6	1.850	1.850	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	2.293	2.293	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	2.803	2.803	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	3.326	3.326	SANS 657 / EN10219	CQ / SAE 1008
	4.0	6	4.366	4.366	SANS 657-1(Def 3.1)	CQ / SAE 1008
	4.5	6	4.882	4.882	SANS 657-1(Def 3.1)	CQ / SAE 1008
50 x 30	1.6	6	1.940	1.940	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.0	6	2.406	2.406	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.5	6	3.089	3.089	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	3.533	3.533	SANS 657-1(Def 3.1)	CQ / SAE 1008
	4.0	6	4.616	4.616	SANS 657-1(Def 3.1)	CQ / SAE 1008
50.8 x 38.1	1.6	6	2.190	2.190	SANS 657 / EN10219	CQ / SAE 1008

SIZE (MM)	WALL (MM)	LENGTHS AVAILABLE (M)	KILOGRAMS PER METER		MANUFACTURING STANDARD	MATERIAL GRADE
			OFF-MILL	DRAWN		
50.8 x 38.1	2.0	6	2.718	2.718	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	3.366	3.366	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	4.003	4.003	SANS 657 / EN10219	CQ / SAE 1008
50 x 40	1.6	6	2.191	2.191	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.0	6	2.718	2.718	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.5	6	3.089	3.089	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	4.003	4.003	SANS 657-1(Def 3.1)	CQ / SAE 1008
	4.0	6	5.248	5.248	SANS 657-1(Def 3.1)	CQ / SAE 1008
57.2 x 19.1	1.6	6	1.876	1.876	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.0	6	2.288	2.288	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.5	6	2.830	2.830	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	3.358	3.358	SANS 657-1(Def 3.1)	CQ / SAE 1008
60 x 20	1.6	6	1.940	1.940	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.0	6	2.406	2.406	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.5	6	3.089	3.089	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	3.533	3.533	SANS 657-1(Def 3.1)	CQ / SAE 1008
60 x 30	1.6	6	2.191	2.191	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.0	6	2.718	2.718	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.5	6	3.089	3.089	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	4.003	4.003	SANS 657-1(Def 3.1)	CQ / SAE 1008
60 x 40	1.6	6	2.440	2.440	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.0	6	3.041	3.041	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	3.770	3.770	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	4.487	4.487	SANS 657 / EN10219	S 355
	3.5	6	5.174	5.174	SANS 657-1(Def 3.1)	S 355
	4.0	6	5.875	5.875	SANS 657-1(Def 3.1)	S 355
	4.5	6	6.541	6.541	SANS 657-1(Def 3.1)	S 355
63.5 x 25.4	1.6	6	2.191	2.191	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.0	6	2.718	2.718	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.5	6	3.089	3.089	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	4.003	4.003	SANS 657-1(Def 3.1)	CQ / SAE 1008
	4.0	6	5.248	5.248	SANS 657-1(Def 3.1)	CQ / SAE 1008
63.5 x 38.1	1.6	6	2.440	2.440	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.0	6	3.031	3.031	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.5	6	3.758	3.758	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	4.476	4.476	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.5	6	5.174	5.174	SANS 657-1(Def 3.1)	CQ / SAE 1008
	4.0	6	5.875	5.875	SANS 657-1(Def 3.1)	CQ / SAE 1008
	4.5	6	6.541	6.541	SANS 657-1(Def 3.1)	CQ / SAE 1008
63.5 x 50.8	2.0	6	3.031	3.489	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	4.472	5.160	SANS 657-1(Def 3.1)	S 355
	4.5	6	6.541	7.574	SANS 657-1(Def 3.1)	S 355
70 x 20	1.6	6	2.191	2.191	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.0	6	2.718	2.718	SANS 657-1(Def 3.1)	CQ / SAE 1008
76.2 x 25.4	1.6	6	2.410	2.410	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	3.031	3.031	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	3.758	3.758	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	4.471	4.471	SANS 657 / EN10219	S 355
	3.5	6	5.173	5.173	SANS 657-1(Def 3.1)	S 355
	4.0	6	5.875	5.875	SANS 657-1(Def 3.1)	S 355

SIZE (MM)	WALL (MM)	LENGTHS AVAILABLE (M)	KILOGRAMS PER METER		MANUFACTURING STANDARD	MATERIAL GRADE
			OFF-MILL	DRAWN		
76.2 x 25.4	4.5	6	6.541	6.541	SANS 657-1(Def 3.1)	S 355
76.2 x 38.1	1.6	6	2.817	2.440	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	3.501	3.031	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	4.346	3.758	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	5.160	4.472	SANS 657 / EN10219	S 355
	3.5	6	6.597	5.174	SANS 657-1(Def 3.1)	S 355
	4.0	6	6.807	5.875	SANS 657-1(Def 3.1)	S 355
	4.5	6	7.939	6.541	SANS 657-1(Def 3.1)	S 355
76.2 x 50.8	1.6	6	3.090	3.090	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	3.844	3.844	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	4.774	4.774	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	5.691	5.691	SANS 657 / EN10219	S 355
	3.5	6	6.597	6.597	SANS 657-1(Def 3.1)	S 355
	4.0	6	7.499	7.499	SANS 657 / EN10219	S 355
	4.5	6	8.371	8.371	SANS 657 / EN10219	S 355
	5.0	6	8.778	8.778	SANS 657-1(Def 3.1)	S 355
	6.0	6	10.386	10.386	SANS 657-1(Def 3.1)	S 355
80 x 40	1.6	6	2.937	2.937	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	3.652	3.652	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	4.534	4.534	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	5.403	5.403	SANS 657 / EN10219	S 355
	3.5	6	6.261	6.261	SANS 657-1(Def 3.1)	S 355
	4.0	6	7.105	7.105	SANS 657-1(Def 3.1)	S 355
	4.5	6	7.939	7.939	SANS 657-1(Def 3.1)	S 355
	5.0	6	8.778	8.778	SANS 657-1(Def 3.1)	S 355
80 x 60	2.0	6	4.286	4.286	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.5	6	5.327	5.327	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	6.355	6.355	SANS 657-1(Def 3.1)	S 355
	3.5	6	7.371	7.371	SANS 657-1(Def 3.1)	S 355
	4.0	6	8.375	8.375	SANS 657-1(Def 3.1)	S 355
	4.5	6	9.366	9.366	SANS 657-1(Def 3.1)	S 355
	5.0	6	10.344	10.344	SANS 657-1(Def 3.1)	S 355
	6.0	6	73.030	73.030	SANS 657-1(Def 3.1)	S 355
90 x 50	2.0	6	4.286	4.286	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.5	6	5.327	5.327	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	6.355	6.355	SANS 657-1(Def 3.1)	S 355
	3.5	6	7.371	7.371	SANS 657-1(Def 3.1)	S 355
	4.0	6	8.375	8.375	SANS 657-1(Def 3.1)	S 355
	4.5	6	9.366	9.366	SANS 657-1(Def 3.1)	S 355
	5.0	6	10.344	10.344	SANS 657-1(Def 3.1)	S 355
	6.0	6	12.172	12.172	SANS 657-1(Def 3.1)	S 355
90 x 60	2.0	6	4.586	4.286	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	6.806	6.355	SANS 657-1(Def 3.1)	S 355
	3.5	6	7.897	7.371	SANS 657-1(Def 3.1)	S 355
	4.0	6	8.976	8.375	SANS 657-1(Def 3.1)	S 355
	4.5	6	10.043	9.366	SANS 657-1(Def 3.1)	S 355
	5.0	6	11.090	10.344	SANS 657-1(Def 3.1)	S 355
	6.0	6	13.170	12.265	SANS 657-1(Def 3.1)	S 355
100 x 40	2.0	6	4.286	4.286	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.5	6	5.327	5.327	SANS 657-1(Def 3.1)	SAE 1008

SIZE (MM)	WALL (MM)	LENGTHS AVAILABLE (M)	KILOGRAMS PER METER		MANUFACTURING STANDARD	MATERIAL GRADE
			OFF-MILL	DRAWN		
100 x 40	3.0	6	6.385	6.385	SANS 657-1(Def 3.1)	S 355
	3.5	6	7.371	7.371	SANS 657-1(Def 3.1)	S 355
	4.0	6	8.375	8.375	SANS 657-1(Def 3.1)	S 355
	4.5	6	9.366	9.366	SANS 657-1(Def 3.1)	S 355
	5.0	6	10.344	10.344	SANS 657-1(Def 3.1)	S 355
100 x 50	1.6	6	3.673	3.673	SANS 657 / EN10219	CQ / SAE 1008
	2.0	6	4.583	4.583	SANS 657 / EN10219	CQ / SAE 1008
	2.5	6	5.690	5.690	SANS 657 / EN10219	CQ / SAE 1008
	3.0	6	6.801	6.801	SANS 657 / EN10219	S 355
	3.5	6	7.891	7.891	SANS 657 / EN10219	S 355
	4.0	6	8.969	8.969	SANS 657 / EN10219	S 355
	4.5	6	10.034	10.034	SANS 657 / EN10219	S 355
	5.0	6	11.129	11.129	SANS 657 / EN10219	S 355
	6.0	6	13.104	13.104	SANS 657 / EN10219	S 355
100 x 60	2.0	6	4.908	4.908	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.5	6	6.104	6.104	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	7.288	7.288	SANS 657-1(Def 3.1)	S 355
	3.5	6	8.460	8.460	SANS 657-1(Def 3.1)	S 355
	4.0	6	9.619	9.619	SANS 657-1(Def 3.1)	S 355
	4.5	6	10.760	10.760	SANS 657-1(Def 3.1)	S 355
	5.0	6	11.911	11.911	SANS 657-1(Def 3.1)	S 355
	6.0	6	14.135	14.135	SANS 657-1(Def 3.1)	S 355
100 x 63.5	1.6	6	3.945	3.945	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.0	6	4.908	4.908	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.5	6	6.104	6.104	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	7.288	7.288	SANS 657-1(Def 3.1)	S 355
	3.5	6	8.460	8.460	SANS 657-1(Def 3.1)	S 355
	4.0	6	9.619	9.619	SANS 657-1(Def 3.1)	S 355
	4.5	6	10.760	10.760	SANS 657-1(Def 3.1)	S 355
	5.0	6	11.910	11.910	SANS 657-1(Def 3.1)	S 355
	6.0	6	14.135	14.135	SANS 657-1(Def 3.1)	S 355
100 x 80	2.0	6	5.534	5.534	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.5	6	6.893	6.893	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	8.221	8.221	SANS 657-1(Def 3.1)	S 355
	3.5	6	9.555	9.555	SANS 657-1(Def 3.1)	S 355
	4.0	6	10.880	10.880	SANS 657-1(Def 3.1)	S 355
	4.5	6	12.170	12.170	SANS 657-1(Def 3.1)	S 355
	5.0	6	13.465	13.465	SANS 657-1(Def 3.1)	S 355
	6.0	6	16.011	16.011	SANS 657-1(Def 3.1)	S 355
120 x 40	2.0	6	4.908	4.908	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.5	6	6.104	6.104	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	7.288	7.288	SANS 657-1(Def 3.1)	S 355
	3.5	6	8.460	8.460	SANS 657-1(Def 3.1)	S 355
	4.0	6	9.619	9.619	SANS 657-1(Def 3.1)	S 355
	4.5	6	10.760	10.760	SANS 657-1(Def 3.1)	S 355
	5.0	6	11.911	11.911	SANS 657-1(Def 3.1)	S 355
120 x 60	2.0	6	5.534	5.534	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.5	6	6.893	6.893	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	8.221	8.221	SANS 657-1(Def 3.1)	S 355
	3.5	6	9.555	9.555	SANS 657-1(Def 3.1)	S 355

SIZE (MM)	WALL (MM)	LENGTHS AVAILABLE (M)	KILOGRAMS PER METER		MANUFACTURING STANDARD	MATERIAL GRADE
			OFF-MILL	DRAWN		
120 x 60	4.0	6	10.880	10.880	SANS 657-1(Def 3.1)	S 355
	4.5	6	12.170	12.170	SANS 657-1(Def 3.1)	S 355
	5.0	6	13.465	13.465	SANS 657-1(Def 3.1)	S 355
	6.0	6	16.011	16.011	SANS 657-1(Def 3.1)	S 355
120 x 80	2.0	6	6.165	6.165	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.5	6	7.669	7.669	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	9.166	9.166	SANS 657-1(Def 3.1)	S 355
	3.5	6	10.660	10.660	SANS 657-1(Def 3.1)	S 355
	4.0	6	12.130	12.130	SANS 657-1(Def 3.1)	S 355
	4.5	6	13.590	13.590	SANS 657-1(Def 3.1)	S 355
	5.0	6	15.040	15.040	SANS 657-1(Def 3.1)	S 355
	6.0	6	17.900	17.900	SANS 657-1(Def 3.1)	S 355
127 x 63.5	2.0	6	5.881	5.534	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.5	6	7.321	6.893	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	8.748	8.211	SANS 657-1(Def 3.1)	S 355
	3.5	6	10.163	9.555	SANS 657-1(Def 3.1)	S 355
	4.0	6	11.566	10.880	SANS 657-1(Def 3.1)	S 355
	4.5	6	12.956	12.170	SANS 657-1(Def 3.1)	S 355
	5.0	6	14.334	13.465	SANS 657-1(Def 3.1)	S 355
	6.0	6	17.903	16.011	SANS 657-1(Def 3.1)	S 355
127 x 76	2.0	6	6.160	6.160	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.5	6	7.669	7.669	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	9.116	9.116	SANS 657-1(Def 3.1)	S 355
	3.5	6	10.650	10.650	SANS 657-1(Def 3.1)	S 355
	4.0	6	12.120	12.120	SANS 657-1(Def 3.1)	S 355
	4.5	6	13.580	13.580	SANS 657-1(Def 3.1)	S 355
	5.0	6	15.278	15.278	SANS 657-1(Def 3.1)	S 355
	6.0	6	17.880	17.880	SANS 657-1(Def 3.1)	S 355
127 x 101.6	3.0	6	10.543	10.133	SANS 657-1(Def 3.1)	S 355
	3.5	6	12.257	11.756	SANS 657-1(Def 3.1)	S 355
	4	6	13.959	13.386	SANS 657-1(Def 3.1)	S 355
	4.5	6	15.648	15.003	SANS 657-1(Def 3.1)	S 355
	5.0	6	17.325	16.609	SANS 657-1(Def 3.1)	S 355
	6.0	6	20.642	19.782	SANS 657-1(Def 3.1)	S 355
130 x 50	2.0	6	5.534	5.534	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.5	6	6.893	6.893	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	8.211	8.211	SANS 657-1(Def 3.1)	S 355
	3.5	6	9.555	9.555	SANS 657-1(Def 3.1)	S 355
	4.0	6	10.880	10.880	SANS 657-1(Def 3.1)	S 355
	4.5	6	12.170	12.170	SANS 657-1(Def 3.1)	S 355
	5.0	6	13.465	13.465	SANS 657-1(Def 3.1)	S 355
	6.0	6	16.011	16.011	SANS 657-1(Def 3.1)	S 355
140 x 80	3.0	6	10.110	10.110	SANS 657-1(Def 3.1)	S 355
	3.5	6	11.760	11.760	SANS 657-1(Def 3.1)	S 355
	4.0	6	13.390	13.390	SANS 657-1(Def 3.1)	S 355
	4.5	6	15.000	15.000	SANS 657-1(Def 3.1)	S 355
	5.0	6	16.610	16.610	SANS 657-1(Def 3.1)	S 355
	6.0	6	19.780	19.780	SANS 657-1(Def 3.1)	S 355
150 x 50	2.0	6	6.165	6.165	SANS 657-1(Def 3.1)	S 355

SIZE (MM)	WALL (MM)	LENGTHS AVAILABLE (M)	KILOGRAMS PER METER		MANUFACTURING STANDARD	MATERIAL GRADE
			OFF-MILL	DRAWN		
150 x 50	2.5	6	7.669	7.669	SANS 657-1(Def 3.1)	S 355
	3.0	6	9.166	9.166	SANS 657-1(Def 3.1)	S 355
	3.5	6	10.660	10.660	SANS 657-1(Def 3.1)	S 355
	4.0	6	12.120	12.120	SANS 657-1(Def 3.1)	S 355
	4.5	6	13.590	13.590	SANS 657-1(Def 3.1)	S 355
	5.0	6	15.044	15.044	SANS 657-1(Def 3.1)	S 355
	6.0	6	17.880	17.880	SANS 657-1(Def 3.1)	S 355
152.4 x 76.2	3.0	6	10.543	10.133	SANS 657-1(Def 3.1)	S 355
	3.5	6	12.257	11.756	SANS 657-1(Def 3.1)	S 355
	4.0	6	13.959	13.386	SANS 657-1(Def 3.1)	S 355
	4.5	6	15.648	15.003	SANS 657-1(Def 3.1)	S 355
	5.0	6	17.325	16.607	SANS 657-1(Def 3.1)	S 355
	6.0	6	20.642	19.782	SANS 657-1(Def 3.1)	S 355
152.4 x 114.3	3.0	6	12.304	11.992	SANS 657-1(Def 3.1)	S 355
	3.5	6	14.312	13.948	SANS 657-1(Def 3.1)	S 355
	4.0	6	16.306	15.891	SANS 657-1(Def 3.1)	S 355
	4.5	6	18.289	17.822	SANS 657-1(Def 3.1)	S 355
	5.0	6	20.260	19.740	SANS 657-1(Def 3.1)	S 355
	6.0	6	24.164	23.540	SANS 657-1(Def 3.1)	S 355
150 x 100	2.0	6	7.749	7.493	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.5	6	9.656	9.335	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	11.550	11.050	SANS 657-1(Def 3.1)	S 355
	3.5	6	13.342	12.850	SANS 657-1(Def 3.1)	S 355
	4.0	6	15.302	14.640	SANS 657-1(Def 3.1)	S 355
	4.5	6	17.159	16.410	SANS 657-1(Def 3.1)	S 355
	5.0	6	19.004	18.180	SANS 657-1(Def 3.1)	S 355
	6.0	6	22.657	21.660	SANS 657-1(Def 3.1)	S 355
	8	6.1 / 12.2	29.815	28.410	SANS 657-1(Def 3.1)	S 355
	10	6.1 / 12.2	36.776	35.020	SANS 657-1(Def 3.1)	S 355
152 x 127	3.0	6	13.000	13.000	SANS 657-1(Def 3.1)	S 355
	3.5	6	13.590	13.590	SANS 657-1(Def 3.1)	S 355
	4.0	6	17.230	17.230	SANS 657-1(Def 3.1)	S 355
	4.5	6	19.340	19.340	SANS 657-1(Def 3.1)	S 355
	5.0	6	19.740	19.740	SANS 657-1(Def 3.1)	S 355
	6.0	6	23.540	23.540	SANS 657-1(Def 3.1)	S 355
160 x 80	2.0	6	7.493	7.493	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.5	6	9.335	9.335	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	11.050	11.050	SANS 657-1(Def 3.1)	S 355
	3.5	6	12.850	12.850	SANS 657-1(Def 3.1)	S 355
	4.0	6	14.640	14.640	SANS 657-1(Def 3.1)	S 355
	4.5	6	16.410	16.410	SANS 657-1(Def 3.1)	S 355
	5.0	6	18.180	18.180	SANS 657-1(Def 3.1)	S 355
	6.0	6	21.660	21.660	SANS 657-1(Def 3.1)	S 355
	8.0	6	28.410	28.410	SANS 657-1(Def 3.1)	S 355
	10.0	6	31.490	31.490	SANS 657-1(Def 3.1)	S 355
160 x 90	2.0	6	7.493	7.493	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.5	6	9.335	9.335	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	11.050	11.050	SANS 657-1(Def 3.1)	S 355
	3.5	6	12.850	12.850	SANS 657-1(Def 3.1)	S 355
	4.0	6	14.640	14.640	SANS 657-1(Def 3.1)	S 355

SIZE (MM)	WALL (MM)	LENGTHS AVAILABLE (M)	KILOGRAMS PER METER		MANUFACTURING STANDARD	MATERIAL GRADE
			OFF-MILL	DRAWN		
160 x 90	4.5	6	16.410	16.410	SANS 657-1(Def 3.1)	S 355
	5.0	6	18.180	18.180	SANS 657-1(Def 3.1)	S 355
	6.0	6	21.660	21.660	SANS 657-1(Def 3.1)	S 355
	8.0	6	28.410	29.815	SANS 657-1(Def 3.1)	S 235
165.1 x 101.6	3.0	6	12.337	11.990	SANS 657-1(Def 3.1)	S 355
	3.5	6	14.350	13.590	SANS 657-1(Def 3.1)	S 355
	4.0	6	16.351	15.890	SANS 657-1(Def 3.1)	S 355
	4.5	6	18.339	17.810	SANS 657-1(Def 3.1)	S 355
	5.0	6	20.315	19.740	SANS 657-1(Def 3.1)	S 355
	6.0	6	24.230	23.540	SANS 657-1(Def 3.1)	S 355
177.1 x 88.9	3.0	6	12.304	11.990	SANS 657-1(Def 3.1)	S 355
	3.5	6	14.311	13.950	SANS 657-1(Def 3.1)	S 355
	4.0	6	16.307	15.890	SANS 657-1(Def 3.1)	S 355
	4.5	6	18.289	17.810	SANS 657-1(Def 3.1)	S 355
	5.0	6	20.260	19.740	SANS 657-1(Def 3.1)	S 355
	6.0	6	24.164	23.540	SANS 657-1(Def 3.1)	S 355
177.7 x 127	3.0	6	14.130	14.130	SANS 657-1(Def 3.1)	S 355
	3.5	6	16.440	16.440	SANS 657-1(Def 3.1)	S 355
	4.0	6	18.712	18.712	SANS 657-1(Def 3.1)	S 355
	4.5	6	21.030	21.030	SANS 657-1(Def 3.1)	S 355
	5.0	6	23.300	23.300	SANS 657-1(Def 3.1)	S 355
	6.0	6.1	27.820	27.820	SANS 657-1(Def 3.1)	S 355
	8.0	6.1 / 12.2	35.900	36.684	SANS 657-1(Def 3.1)	S 355
	10	6.1 / 12.2	44.388	44.388	SANS 657-1(Def 3.1)	S 355
180 x 60	2.0	6	7.493	7.493	SANS 657-1(Def 3.1)	CQ / SAE 1008
	2.5	6	9.335	9.335	SANS 657-1(Def 3.1)	CQ / SAE 1008
	3.0	6	11.050	11.050	SANS 657-1(Def 3.1)	S 355
	3.5	6	12.850	12.850	SANS 657-1(Def 3.1)	S 355
	4.0	6	14.640	14.640	SANS 657-1(Def 3.1)	S 355
	4.5	6	16.410	16.410	SANS 657-1(Def 3.1)	S 355
	5.0	6	18.180	18.180	SANS 657-1(Def 3.1)	S 355
	6.0	6	21.660	21.660	SANS 657-1(Def 3.1)	S 355
190.5 x 76.2	3.0	6	12.337	11.990	SANS 657-1(Def 3.1)	S 355
	3.5	6	14.350	13.590	SANS 657-1(Def 3.1)	S 355
	4.0	6	16.351	15.890	SANS 657-1(Def 3.1)	S 355
	4.5	6	18.339	17.810	SANS 657-1(Def 3.1)	S 355
	5.0	6	20.315	19.740	SANS 657-1(Def 3.1)	S 355
	6.0	6	24.230	23.540	SANS 657-1(Def 3.1)	S 355
200 x 100	3.0	6	13.905	14.108	SANS 657-1(Def 3.1)	S 355
	3.5	6	16.179	16.416	SANS 657-1(Def 3.1)	S 355
	4.0	6	18.441	18.712	SANS 657-1(Def 3.1)	S 355
	4.5	6	20.691	20.995	SANS 657-1(Def 3.1)	S 355
	5.0	6	22.928	23.267	SANS 657-1(Def 3.1)	S 355
	6.0	6 / 12.2	27.366	27.772	SANS 657-1(Def 3.1)	S 355
	8.0	6.1 / 12.2	36.094	35.900	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	6.1 / 12.2	44.624	44.390	SANS 657-1(Def 3.1)	S 235 or S 355
200 x 150	3.5	6.1 / 9.144 / 12.2	18.600	18.600	SANS 657-1(Def 3.1)	S 355
	4.5	6.1 / 9.144 / 12.2	23.810	23.810	SANS 657-1(Def 3.1)	S 355
	6.0	6.1 / 9.144 / 12.2	31.530	31.530	SANS 657-1(Def 3.1)	S 355
	8.0	6.1 / 9.144 / 12.2	41.630	41.630	SANS 657-1(Def 3.1)	S 235 or S 355

SIZE (MM)	WALL (MM)	LENGTHS AVAILABLE (M)	KILOGRAMS PER METER		MANUFACTURING STANDARD	MATERIAL GRADE
			OFF-MILL	DRAWN		
200 x 150	10.0	6.1 / 9.144 / 12.2	51.550	51.550	SANS 657-1(Def 3.1)	S 235 or S 355
228.6 x 101.6	3.5	6.1 / 12.2	17.820	17.820	SANS 657-1(Def 3.1)	S 235
	4.5	6.1 / 12.2	22.800	22.800	SANS 657-1(Def 3.1)	S 235
	6.0	6.1 / 12.2	30.180	30.180	SANS 657-1(Def 3.1)	S 235
228.6 x 127	3.5	6.1 / 9.144 / 12.2	18.600	18.600	SANS 657-1(Def 3.1)	S 355
	4.5	6.1 / 9.144 / 12.2	23.810	23.810	SANS 657-1(Def 3.1)	S 355
	6.0	6.1 / 9.144 / 12.2	31.530	31.530	SANS 657-1(Def 3.1)	S 355
	8.0	6.1 / 9.144 / 12.2	41.630	41.630	SANS 657-1(Def 3.1)	S 235
	10.0	6.1 / 9.144 / 12.2	51.550	51.550	SANS 657-1(Def 3.1)	S 235
228.6 x 177	4.5	6.1 / 12.2	26.580	26.580	SANS 657-1(Def 3.1)	S 235
	6.0	6.1 / 12.2	35.210	35.210	SANS 657-1(Def 3.1)	S 235
	8.0	6.1 / 12.2	46.560	46.560	SANS 657-1(Def 3.1)	S 235
	10.0	6.1 / 12.2	57.700	57.700	SANS 657-1(Def 3.1)	S 235
250 x 100	3.5	6.1 / 9.144 / 12.2	18.600	18.600	SANS 657-1(Def 3.1)	S 355
	4.5	6.1 / 9.144 / 12.2	23.810	23.810	SANS 657-1(Def 3.1)	S 355
	6.0	6.1 / 9.144 / 12.2	31.530	31.530	SANS 657-1(Def 3.1)	S 355
	8.0	6.1 / 9.144 / 12.2	41.630	41.630	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	6.1 / 9.144 / 12.2	51.550	51.550	SANS 657-1(Def 3.1)	S 235 or S 355
250 x 150	4.5	6.1 / 9.144 / 12.2	27.755	26.580	SANS 657-1(Def 3.1)	S 235 or S 355
	6	6.1 / 9.144 / 12.2	36.785	35.210	SANS 657-1(Def 3.1)	S 235 or S 355
	8.0	6.1 / 9.144 / 12.2	48.652	46.560	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	6.1 / 9.144 / 12.2	60.322	57.700	SANS 657-1(Def 3.1)	S 235 or S 355
250 x 180	4.5	6.1 / 9.144 / 12.2	29.800	29.800	SANS 657-1(Def 3.1)	S 235
	6.0	6.1 / 9.144 / 12.2	39.510	39.510	SANS 657-1(Def 3.1)	S 235
	8.0	6.1 / 9.144 / 12.2	52.290	52.290	SANS 657-1(Def 3.1)	S 235
	10.0	6.1 / 9.144 / 12.2	64.870	64.870	SANS 657-1(Def 3.1)	S 235
260 x 190	4.5	6.1 / 9.144 / 12.2	31.287	29.800	SANS 657-1(Def 3.1)	S 235
	6.0	6.1 / 9.144 / 12.2	41.494	39.510	SANS 657-1(Def 3.1)	S 235
	8.0	6.1 / 9.144 / 12.2	54.930	52.290	SANS 657-1(Def 3.1)	S 235
	10.0	6.1 / 9.144 / 12.2	68.170	64.870	SANS 657-1(Def 3.1)	S 235
270 x 180	4.5	6.1 / 9.144 / 12.2	31.287	29.800	SANS 657-1(Def 3.1)	S 235
	6.0	6.1 / 9.144 / 12.2	41.494	39.510	SANS 657-1(Def 3.1)	S 235
	8.0	6.1 / 9.144 / 12.2	54.930	52.290	SANS 657-1(Def 3.1)	S 235
	10.0	6.1 / 9.144 / 12.2	68.170	64.870	SANS 657-1(Def 3.1)	S 235
280 x 150	4.5	6.1 / 9.144 / 12.2	29.800	29.800	SANS 657-1(Def 3.1)	S 235
	6.0	6.1 / 9.144 / 12.2	39.510	39.510	SANS 657-1(Def 3.1)	S 235
	8.0	6.1 / 9.144 / 12.2	52.290	52.290	SANS 657-1(Def 3.1)	S 235
	10.0	6.1 / 9.144 / 12.2	64.870	64.870	SANS 657-1(Def 3.1)	S 235
280 x 170	4.5	6.1 / 9.144 / 12.2	31.287	29.800	SANS 657-1(Def 3.1)	S 235
	6.0	6.1 / 9.144 / 12.2	41.494	39.510	SANS 657-1(Def 3.1)	S 235
	8.0	6.1 / 9.144 / 12.2	54.93	52.290	SANS 657-1(Def 3.1)	S 235
	10.0	6.1 / 9.144 / 12.2	68.17	64.870	SANS 657-1(Def 3.1)	S 235
290 x 160	4.5	6.1 / 9.144 / 12.2	31.287	29.800	SANS 657-1(Def 3.1)	S 235
	6.0	6.1 / 9.144 / 12.2	41.494	39.510	SANS 657-1(Def 3.1)	S 235
	8.0	6.1 / 9.144 / 12.2	54.93	52.290	SANS 657-1(Def 3.1)	S 235
	10.0	6.1 / 9.144 / 12.2	68.170	64.870	SANS 657-1(Def 3.1)	S 235
300 x 100	4.5	6.1 / 9.144 / 12.2	27.755	26.550	SANS 657-1(Def 3.1)	S 235
	6.0	6.1 / 9.144 / 12.2	36.785	35.210	SANS 657-1(Def 3.1)	S 235 or S 355
	8.0	6.1 / 9.144 / 12.2	48.652	46.560	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	6.1 / 9.144 / 12.2	60.322	57.700	SANS 657-1(Def 3.1)	S 235 or S 355

SIZE (MM)	WALL (MM)	LENGTHS AVAILABLE (M)	KILOGRAMS PER METER		MANUFACTURING STANDARD	MATERIAL GRADE
			OFF-MILL	DRAWN		
300 x 150	4.5	6.1 / 9.144 / 12.2	31.287	29.800	SANS 657-1(Def 3.1)	S 235 or S 355
	6.0	6.1 / 9.144 / 12.2	41.494	39.510	SANS 657-1(Def 3.1)	S 235 or S 355
	8.0	6.1 / 9.144 / 12.2	54.930	52.290	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	6.1 / 9.144 / 12.2	68.170	64.870	SANS 657-1(Def 3.1)	S 235 or S 355
300 x 200	6.0	6.1 / 9.144 / 12.2	46.203	39.500	SANS 657-1(Def 3.1)	S 235 or S 355
	8.0	6.1 / 9.144 / 12.2	61.209	52.290	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	6.1 / 9.144 / 12.2	76.019	64.870	SANS 657-1(Def 3.1)	S 235 or S 355
300 x 220	4.5	6.1 / 9.144 / 12.2	35.460	35.460	SANS 657-1(Def 3.1)	S 235
	6.0	6.1 / 9.144 / 12.2	47.060	47.060	SANS 657-1(Def 3.1)	S 235
	8.0	6.1 / 9.144 / 12.2	62.350	62.350	SANS 657-1(Def 3.1)	S 235
	10.0	6.1 / 9.144 / 12.2	77.450	77.450	SANS 657-1(Def 3.1)	S 235
300 x 240	4.5	6.1 / 9.144 / 12.2	37.644	35.460	SANS 657-1(Def 3.1)	S 235
	6.0	6.1 / 9.144 / 12.2	49.97	47.060	SANS 657-1(Def 3.1)	S 235
	8.0	6.1 / 9.144 / 12.2	66.232	62.350	SANS 657-1(Def 3.1)	S 235
	10.0	6.1 / 9.144 / 12.2	82.277	77.450	SANS 657-1(Def 3.1)	S 235
306 x 206	4.5	6.1 / 9.144 / 12.2	35.460	35.460	SANS 657-1(Def 3.1)	S 235
	6.0	6.1 / 9.144 / 12.2	47.060	47.060	SANS 657-1(Def 3.1)	S 235
	8.0	6.1 / 9.144 / 12.2	62.350	62.350	SANS 657-1(Def 3.1)	S 235
	10.0	6.1 / 9.144 / 12.2	77.450	77.450	SANS 657-1(Def 3.1)	S 235
320 x 220	4.5	6.1 / 9.144 / 12.2	37.644	35.460	SANS 657-1(Def 3.1)	S 235
	6.0	6.1 / 9.144 / 12.2	49.970	47.060	SANS 657-1(Def 3.1)	S 235 or S 355
	8.0	6.1 / 9.144 / 12.2	66.232	62.350	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	6.1 / 9.144 / 12.2	82.297	77.450	SANS 657-1(Def 3.1)	S 235 or S 355
340 x 100	4.5	6.1 / 9.144 / 12.2	29.800	29.800	SANS 657-1(Def 3.1)	S 235
	6.0	6.1 / 9.144 / 12.2	39.510	39.510	SANS 657-1(Def 3.1)	S 235
	8.0	6.1 / 9.144 / 12.2	52.290	52.290	SANS 657-1(Def 3.1)	S 235
	10.0	6.1 / 9.144 / 12.2	64.541	64.870	SANS 657-1(Def 3.1)	S 235
340 x 200	4.5	6.1 / 9.144 / 12.2	37.644	35.460	SANS 657-1(Def 3.1)	S 235
	6.0	6.1 / 9.144 / 12.2	49.970	47.060	SANS 657-1(Def 3.1)	S 235 or S 355
	8.0	6.1 / 9.144 / 12.2	66.232	62.350	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	6.1 / 9.144 / 12.2	82.297	77.450	SANS 657-1(Def 3.1)	S 235 or S 355
350 x 100	4.5	6.1 / 9.144 / 12.2	29.800	29.800	SANS 657-1(Def 3.1)	S 235
	6.0	6.1 / 9.144 / 12.2	39.510	39.510	SANS 657-1(Def 3.1)	S 235
	8.0	6.1 / 9.144 / 12.2	52.290	52.290	SANS 657-1(Def 3.1)	S 235
	10.0	6.1 / 9.144 / 12.2	64.860	64.860	SANS 657-1(Def 3.1)	S 355

CONVEYOR TUBE

SIZE (MM)	WALL (MM)	LENGTHS AVAILABLE (M)	KILOGRAMS PER METER	MANUFACTURING STANDARD	MATERIAL GRADE
127	3.8	7.32	11,545	SANS 657-3	CQ / SAE 1008
	4.5	7.32	13,596	SANS 657-3	CQ / SAE 1008
152.4	4.0	7.32	14,636	SANS 657-3	CQ / SAE 1008

BUNTON TUBE

THEORECTICAL BUNTON CHARACTERISTICS				ACTUAL DRAWN BUNTON CHARACTERISTICS				LENGTHS AVAILABLE (M)	MANUFACTURING STANDARD	MATERIAL GRADE
DIMENSIONS (MM)	WALL THICKNESS (MM)	KILOGRAMS PER METER	REQUIRED INPUT TUBE ø	DIMENSIONS (MM)	WALL THICKNESS (MM)	KILOGRAMS PER METER	AVAILABLE INPUT TUBE ø			
203.2 x 101.6	8.0	31.27	166.28	205.66 x 102.83	7.11	28.26	168.3	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	38.54	166.28		10.97	42.56	168.3	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
203.2 x 152.4	8.0	34.86	184.74	209 x 156.75	8.0	35.90	190	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	43.09	184.74		10.0	44.39	190	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
228.6 x 101.6	8.0	34.41	182.45	238.05 x 105.8	8.0	35.90	190	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	42.52	182.45		10.0	44.39	190	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
228.6 X 152.4	8.0	38.05	200.91	216.18 X 144.12	8.0	35.90	190	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	47.07	200.91		10.0	44.39	190	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
254 x 101.6	8.0	37.60	198.62	242.98 x 97.19	8.0	35.90	190	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	46.51	198.62		10.0	44.39	190	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
254 x 152.4	8.0	41.24	217.08	256.37 x 153.82	8.0	41.63	219	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	51.06	217.08		10.0	51.55	219	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
279.4 x 101.6	8.0	40.79	214.79	285.01 x 103.64	8.0	41.63	219	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	50.50	214.79		10.0	51.55	219	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
300 x 150	8.0	46.85	245.50	298.8 x 149.4	8.0	46.65	244.5	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	58.07	245.49		10.0	57.83	244.5	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
304.8 x 101.6	8.0	43.98	230.96	289.15 x 96.38	8.0	41.63	219	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	54.48	230.96		10.0	51.55	219	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
342.9 x 152.4	8.0	52.41	273.67	342.05 x 152.02	8.0	52.29	273	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	65.02	273.67		10.0	64.87	273	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
355.6 x 101.6	8.0	50.36	263.30	368.7 x 105.34	8.0	52.29	273	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	62.46	263.30		10.0	64.87	273	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
355.6 x 127	8.0	52.18	272.53	356.22 x 127.22	8.0	52.29	273	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	64.74	272.53		10.0	64.87	273	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
355.6 x 152.4	8.0	54.00	281.76	344.55 x 147.67	8.0	52.29	273	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	67.01	281.76		10.0	64.87	273	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
381 x 101.6	8.0	53.55	279.47	372.19 x 99.25	8.0	52.29	273	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	66.45	279.47		10.0	64.87	273	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
381 x 127	8.0	55.37	288.70	360.29 x 120.09	8.0	52.29	273	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	68.72	288.70		10.0	64.87	273	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
406.4 x 152.4	8.0	60.38	314.10	418.95 x 157.11	8.0	62.35	323.9	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	74.99	314.10		10.0	77.45	323.9	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
457.2 x 152.4	8.0	66.76	346.44	469.29 x 156.43	8.0	68.67	355.6	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	82.96	346.44		10.0	85.34	355.6	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
482.6 x 127	8.0	68.13	353.38	485.63 x 127.8	8.0	68.67	355.6	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355
	10.0	84.67	353.38		10.0	85.34	355.6	6.1 / 9.144 / 12.2	SANS 657-1(Def 3.1)	S 235 or S 355

WATER PIPE

NOMINAL BORE (MM)	OUTSIDE DIAMETER (MM)	WALL THICKNESS (MM)	CLASS	KILOGRAMS PER METER	MANUFACTURING STANDARD	MATERIAL GRADE	SANS 62 MAXIMUM WORKING PRESSURE RATING BAR	
							SCREW THREADED ENDS	PLAIN END PIPES
15	21.3	2.3	MEDIUM	1.123	SANS 62	SAE 1008	40	70
15	21.3	2.8	HEAVY	1.277	SANS 62	SAE 1008	40	80
20	26.7	2.3	MEDIUM	1.442	SANS 62	SAE 1008	40	70
20	26.7	2.8	HEAVY	1.664	SANS 62	SAE 1008	40	80
25	34	2.8	MEDIUM	2.154	SANS 62	SAE 1008	40	70
25	34	3.5	HEAVY	2.632	SANS 62	SAE 1008	40	80
32	42.4	2.8	MEDIUM	2.734	SANS 62	SAE 1008	40	70
32	42.4	3.5	HEAVY	3.357	SANS 62	SAE 1008	40	80
40	48.3	2.8	MEDIUM	3.142	SANS 62	SAE 1008	40	70
40	48.3	3.5	HEAVY	3.867	SANS 62	SAE 1008	40	80
50	60.3	3.2	MEDIUM	4.506	SANS 62	SAE 1008	20	60
50	60.3	3.9	HEAVY	5.424	SANS 62	SAE 1008	20	70
65	76.1	3.2	MEDIUM	5.761	SANS 62	SAE 1008	20	60
65	76.1	3.9	HEAVY	6.953	SANS 62	SAE 1008	20	70
80	88.9	3.5	MEDIUM	7.371	SANS 62	SAE 1008	20	60
80	88.9	4.2	HEAVY	8.773	SANS 62	SAE 1008	20	70
100	114.3	3.9	MEDIUM	10.618	SANS 62	SAE 1008	20	50
100	114.3	4.7	HEAVY	12.703	SANS 62	SAE 1008	20	60
125	139.7	4.2	MEDIUM	14.034	SANS 62	SAE 1008	20	50
125	139.7	4.7	HEAVY	15.647	SANS 62	SAE 1008	20	60
150	165.1	4.2	MEDIUM	16.665	SANS 62	SAE 1008	20	50
150	165.1	4.7	HEAVY	18.591	SANS 62	SAE 1008	20	60

CONVEYANCE PIPE (LARGE BORE)

SIZE	WALL	AVAILABLE (M)	KILOGRAMS PER METER	MANUFACTURING STANDARD	MATERIAL GRADE	SANS 719		
						GRADE B	GRADE C	GRADE D
						min yield strength 241	min yield strength 290	min yield strength 355
(MM)	(MM)					TEST PRESSURE RATING KPa		
152.4	8.0	6.1	28.410	SANS 719 / API 5L	GR B or C / X42	18970	22830	27950
	10.0	6.1	35.020	SANS 719 / API 5L	GR B or C / X42	23720	28540	34940
190	8.0	6.1 / 12.2	35.900	SANS 719 / API 5L	GR B or C / X42	15220	18310	22420
	10.0	6.1 / 12.2	44.390	SANS 719 / API 5L	GR B or C / X42	19020	22890	28020
204	3.5	6.1 /12.2	17.310	SANS 719 / API 5L	GR B or C / X42	6200	7460	9130
	4.5	6.1 /12.2	22.140	SANS 719 / API 5L	GR B or C / X42	7970	9590	11740
	6.0	6.1 /12.2	29.296	SANS 719 / API 5L	GR B or C / X42	10630	12790	15660
219.1	3.5	6.1 / 9.144 / 12.2	18.600	SANS 719 / API 5L	GR B or C / X42	5770	6950	8510
	4.5	6.1 / 9.144 /12.2	23.810	SANS 719 / API 5L	GR B or C / X42	7430	8930	10940
	6.0	6.1 / 9.144 /12.2	31.530	SANS 719 / API 5L	GR B or C / X42	9900	11910	14580
	8.0	6.1 / 9.144 /12.2	41.630	SANS 719 / API 5L	GR B or C / X42	13200	15890	19450
	10.0	6.1 / 9.144 /12.2	51.550	SANS 719 / API 5L	GR B or C / X42	16500	19860	24310
244.5	4.5	6.1 / 12.2	26.580	SANS 719 / API 5L	GR B or C / X42	6660	8020	9820
	6.0	6.1 /12.2	35.210	SANS 719 / API 5L	GR B or C / X42	8880	10690	13090
	8.0	6.1 /12.2	46.560	SANS 719 / API 5L	GR B or C / X42	11850	14260	17450
	10.0	6.1 /12.2	57.700	SANS 719 / API 5L	GR B or C / X42	14810	17820	21820
273.1	4.5	6.1 / 9.144 / 12.2	29.800	SANS 719 / API 5L	GR B or C / X42	5960	7170	8770
	6.0	6.1 / 9.144 /12.2	39.510	SANS 719 / API 5L	GR B or C / X42	7950	9560	11700
	8.0	6.1 / 9.144 /12.2	52.290	SANS 719 / API 5L	GR B or C / X42	10590	12740	15600
	10.0	6.1 / 9.144 /12.2	64.870	SANS 719 / API 5L	GR B or C / X42	13240	15930	19500
323.9	4.5	6.1 / 9.144 / 12.2	35.460	SANS 719 / API 5L	GR B or C / X42	5020	6040	7390
	6.0	6.1 / 9.144 /12.2	47.051	SANS 719 / API 5L	GR B or C / X42	6700	8050	9860
	8.0	6.1 / 9.144 /12.2	62.350	SANS 719 / API 5L	GR B or C / X42	8930	10740	13140
	10.0	6.1 / 9.144 /12.2	77.450	SANS 719 / API 5L	GR B or C / X42	11160	13420	16430
355.6	4.5	6.1 / 9.144 / 12.2	39.010	SANS 719 / API 5L	GR B or C / X42	4580	5490	6730
	6.0	6.1 / 9.144 /12.2	51.786	SANS 719 / API 5L	GR B or C / X42	6100	7330	8970
	8.0	6.1 / 9.144 /12.2	68.670	SANS 719 / API 5L	GR B or C / X42	8130	9770	11960
	10.0	6.1 / 9.144 /12.2	85.340	SANS 719 / API 5L	GR B or C / X42	10170	12210	14950
406.4	4.5	6.1 / 9.144 / 12.2	44.560	SANS 719 / API 5L	GR B or C / X42	4000	4820	5900
	6.0	6.1 / 9.144 /12.2	59.200	SANS 719 / API 5L	GR B or C / X42	5340	6420	7860
	8.0	6.1 / 9.144 / 12.2	78.530	SANS 719 / API 5L	GR B or C / X42	7120	8570	10490
	10.0	6.1 / 9.144 /12.2	97.654	SANS 719 / API 5L	GR B or C / X42	8900	10710	13110
457.2	4.5	6.1 / 9.144 / 12.2	50.220	SANS 719 / API 5L	GR B or C / X42	3560	4280	5240
	6.0	6.1 / 9.144 /12.2	66.740	SANS 719 / API 5L	GR B or C / X42	4750	5710	6990
	8.0	6.1 / 9.144 /12.2	88.600	SANS 719 / API 5L	GR B or C / X42	6330	7610	9320
	10.0	6.1 / 9.144 /12.2	110.25	SANS 719 / API 5L	GR B or C / X42	6910	9510	11650
508	4.5	6.1 / 9.144 / 12.2	55.88	SANS 719 / API 5L	GR B or C / X42	3200	3850	4710
	6.0	6.1 / 9.144 /12.2	74.29	SANS 719 / API 5L	GR B or C / X42	4270	5130	6280
	8.0	6.1 / 9.144 /12.2	98.64	SANS 719 / API 5L	GR B or C / X42	5690	6850	8380
	10.0	6.1 / 9.144 /12.2	122.830	SANS 719 / API 5L	GR B or C / X42	7120	8560	10480
610	6.0	6.1 / 9.144 /12.2	89.390	SANS 719 / API 5L	GR B or C / X42	3560	4270	5230
	8.0	6.1 / 9.144 /12.2	118.790	SANS 719 / API 5L	GR B or C / X42	4740	5700	6980
	10.0	6.1 / 9.144 /12.2	147.99	SANS 719 / API 5L	GR B or C / X42	5930	7130	8730
711	6.0	6.1 / 9.144 /12.2	104.330	SANS 719 / API 5L SPIRAL	GR C / X42	3050	3670	4490

Please note: We specialize in non - standard items.

SIZE	WALL	AVAILABLE (M)	KILOGRAMS PER METER	MANUFACTURING STANDARD	MATERIAL GRADE	SANS 719		
						GRADE B	GRADE C	GRADE D
						min yield strength 241	min yield strength 290	min yield strength 355
(MM)	(MM)					TEST PRESSURE RATING KPa		
711	8.0	6.1 / 9.144 /12.2	138.720	SANS 719 / API 5L SPIRAL	GR C / X42	4070	4890	5990
	10.0	6.1 / 9.144 /12.2	172.900	SANS 719 / API 5L SPIRAL	GR C / X42	5080	6110	7480
762	6.0	6.1 / 9.144 / 12.2	111.880	SANS 719 / API 5L SPIRAL	GR C / X42	2840	3420	4190
	8.0	6.1 / 9.144 /12.2	148.780	SANS 719 / API 5L SPIRAL	GR C / X42	3790	4560	5590
	10.0	6.1 / 9.144 /12.2	185.480	SANS 719 / API 5L SPIRAL	GR C / X42	4740	5700	6980
813	6.0	6.1 / 9.144 / 12.2	119.430	SANS 719 / API 5L SPIRAL	GR C / X42	2670	3210	3930
	8.0	6.1 / 9.144 /12.2	158.840	SANS 719 / API 5L SPIRAL	GR C / X42	3560	4280	5240
	10.0	6.1 / 9.144 /12.2	198.060	SANS 719 / API 5L SPIRAL	GR C / X42	4450	5350	6550
914	6.0	6.1 / 9.144 / 12.2	134.370	SANS 719 / API 5L SPIRAL	GR C / X42	2370	2850	3490
	8.0	6.1 / 9.144 /12.2	178.770	SANS 719 / API 5L SPIRAL	GR C / X42	3160	3800	4660
	10.0	6.1 / 9.144 /12.2	222.970	SANS 719 / API 5L SPIRAL	GR C / X42	3960	4750	5820
1016	6.0	6.1 / 9.144 / 12.2	149.470	SANS 719 / API 5L SPIRAL	GR C / X42	2130	2560	3140
	8.0	6.1 / 9.144 /12.2	198.900	SANS 719 / API 5L SPIRAL	GR C / X42	2840	3420	4190
	10.0	6.1 / 9.144 /12.2	248.130	SANS 719 / API 5L SPIRAL	GR C / X42	3550	4280	5240

SEAMLESS PIPE

NOMINAL BORE		SCHEDULE	OUTSIDE DIAMETER		WALL THICKNESS	INTERNAL DIAMETER	MASS APPROX	MANUFACTURING STANDARD	MATERIAL GRADE	PRESSURE / TEMPERATURE RATINGS FOR SEAMLESS CARBON STEEL PIPE TO ASTM A106 GRADE B MAXIMUM ALLOWABLE PRESSURE/TEMPERATURE RATINGS IN MPa FOR CHEMICAL PLANT AND PETROLEUM REFINERY PIPING SYSTEMS TO ANSI/ASME B31.3a -1981. PLEASE NOTE: THIS IS A GENERAL GUIDE ONLY. TO ESTABLISH EXACT WORKING PRESSURES PLEASE REFER TO ASME B31.3							
NB										TEMPERATURE °C							
										-29 to 38	205	260	350	370	400	430	450
DN	NPS									ALLOWABLE STRESS MPa							
MM	INCH	STRENGTH / No.	MM	INCH	(MM)	(MM)	KG/M			137.80	137.80	130.22	117.13	115.75	89.57	74.41	59.94
6	⅛	STD / 40	10.3	0.41	1.73	6.84	0.36	ASTM A106/API 5L	B	-	-	-	-	-	-	-	-
		XS / 80			2.41	5.48	0.46	ASTM A106/API 5L	B	-	-	-	-	-	-	-	-
8	¼	STD / 40	13.7	0.539	2.24	9.22	0.63	ASTM A106/API 5L	B	-	-	-	-	-	-	-	-
		XS / 80			3.02	7.66	0.80	ASTM A106/API 5L	B	-	-	-	-	-	-	-	-
10	⅜	STD / 40	17.1	0.673	2.31	12.48	0.85	ASTM A106/API 5L	B	-	-	-	-	-	-	-	-
		XS / 80			3.20	10.70	1.10	ASTM A106/API 5L	B	-	-	-	-	-	-	-	-
15	½	STD / 40	21.3	0.838	2.77	15.76	1.27	ASTM A106/API 5L	B	34.41	34.41	32.52	29.25	28.91	22.37	18.58	14.97
		XS / 80			3.73	13.84	1.62	ASTM A106/API 5L	B	48.09	48.09	45.44	40.87	40.39	31.26	25.96	20.91
		160			4.78	11.74	1.94	ASTM A106/API 5L	B	62.83	62.83	59.37	53.40	52.77	40.83	33.92	27.33
		XXS			7.47	6.36	2.56	ASTM A106/API 5L	B	98.24	98.24	92.83	83.50	82.52	63.85	53.05	42.73
20	¾	STD / 40	26,7	1.051	2.87	20.96	1.68	ASTM A106/API 5L	B	28.07	28.07	26.52	23.86	23.57	18.24	15.15	12.20
		XS / 80			3.91	18.88	2.19	ASTM A106/API 5L	B	39.41	39.41	37.24	33.50	33.10	25.61	21.28	17.14
		160			5.56	15.58	2.89	ASTM A106/API 5L	B	58.15	58.15	54.95	49.42	48.84	37.79	31.39	25.29
		XXS			7.82	11.06	3.64	ASTM A106/API 5L	B	83.10	83.10	78.53	70.64	69.80	54.02	44.88	36.15
25	1	STD / 40	33.4	1.315	3.38	26.64	2.50	ASTM A106/API 5L	B	26.25	26.25	24.80	22.31	22.04	17.06	14.17	11.41
		XS / 80			4.55	24.30	3.23	ASTM A106/API 5L	B	36.28	36.28	34.28	30.86	30.47	23.58	19.59	15.78
		160			6.35	20.70	4.23	ASTM A106/API 5L	B	52.48	52.48	49.59	44.60	44.08	34.11	28.33	22.82
		XXS			9.09	15.22	5.45	ASTM A106/API 5L	B	77.03	77.03	72.79	65.47	64.70	50.07	41.59	33.50
32	1¼	STD / 40	42.2	1.661	3.56	35.08	3.38	ASTM A106/API 5L	B	21.61	21.61	20.42	18.36	18.15	14.04	11.67	9.40
		XS / 80			4.85	32.50	4.46	ASTM A106/API 5L	B	30.17	30.17	28.51	25.65	25.34	19.61	16.29	13.12
		160			6.35	29.50	5.61	ASTM A106/API 5L	B	40.59	40.59	38.36	34.50	34.09	26.38	21.92	14.65
		XXS			9.70	22.80	7.74	ASTM A106/API 5L	B	64.60	64.60	61.04	54.90	54.26	41.98	34.88	28.09
40	1½	STD / 40	48.3	1.900	3.68	40.94	4.05	ASTM A106/API 5L	B	19.44	19.44	18.37	16.52	16.32	12.63	10.50	8.45
		XS / 80			5.08	38.14	5.40	ASTM A106/API 5L	B	27.40	27.40	25.90	23.29	23.01	17.81	14.80	11.91
		160			7.14	34.02	7.22	ASTM A106/API 5L	B	39.78	39.78	37.59	33.81	33.41	25.85	21.48	17.30
		XXS			10.16	27.98	9.55	ASTM A106/API 5L	B	58.77	58.77	55.54	49.96	49.37	38.20	31.74	25.56
50	2	STD / 40	60.3	2.375	3.91	52.48	5.43	ASTM A106/API 5L	B	16.37	16.37	15.46	13.92	13.75	10.64	8.84	7.12
		XS / 80			5.54	49.22	7.49	ASTM A106/API 5L	B	23.65	23.65	22.35	20.10	19.87	15.37	12.77	10.28
		160			8.74	42.82	11.09	ASTM A106/API 5L	B	38.86	38.86	36.73	33.03	32.65	25.26	20.98	16.90
		XXS			11.07	38.16	13.45	ASTM A106/API 5L	B	50.79	50.79	48.00	43.17	42.67	33.01	27.42	22.09
65	2½	STD / 40	73.0	2.875	5.16	62.68	8.62	ASTM A106/API 5L	B	17.91	17.91	16.92	15.22	15.04	11.64	9.67	7.79
		XS / 80			7.01	58.98	11.40	ASTM A106/API 5L	B	24.81	24.81	23.44	21.09	20.84	16.12	13.40	10.79
		160			9.52	53.96	14.90	ASTM A106/API 5L	B	34.61	34.61	32.71	29.42	29.07	22.50	18.69	15.05
		XXS			14.02	44.96	20.38	ASTM A106/API 5L	B	53.08	53.08	50.15	45.11	44.58	34.49	28.66	23.08
80	3	STD / 40	88.9	3.500	5.49	77.92	11.29	ASTM A106/API 5L	B	15.55	15.55	14.69	13.22	13.06	10.10	8.39	6.76
		XS / 80			7.62	73.66	15.25	ASTM A106/API 5L	B	21.98	21.98	20.78	18.69	18.47	14.29	11.87	9.56
		160			11.12	66.64	21.30	ASTM A106/API 5L	B	33.07	33.07	31.25	28.11	27.78	21.49	17.85	14.38
		XXS			15.24	58.42	27.66	ASTM A106/API 5L	B	46.97	46.97	44.39	39.92	39.45	30.53	25.36	20.43
90	3½	STD / 40	101.6	4.000	5.74	90.12	13.57	ASTM A106/API 5L	B	-	-	-	-	-	-	-	-
		XS/80			8.07	85.44	18.62	ASTM A106/API 5L	B	-	-	-	-	-	-	-	-
100	4	STD / 40	114.3	4.500	6.02	102.26	16.07	ASTM A106/API 5L	B	13.18	13.18	12.46	11.21	11.07	8.57	7.12	5.73
		XS / 80			8.56	97.18	22.31	ASTM A106/API 5L	B	19.05	19.05	18.01	16.19	16.01	12.38	12.09	8.28

NOMINAL BORE		SCHEDULE	OUTSIDE DIAMETER		WALL THICKNESS	INTERNAL DIAMETER	MASS APPROX	MANUFACTURING STANDARD	MATERIAL GRADE	PRESSURE / TEMPERATURE RATINGS FOR SEAMLESS CARBON STEEL PIPE TO ASTM A106 GRADE B MAXIMUM ALLOWABLE PRESSURE/TEMPERATURE RATINGS IN MPa FOR CHEMICAL PLANT AND PETROLEUM REFINERY PIPING SYSTEMS TO ANSI/ASME B31.3a -1981. PLEASE NOTE: THIS IS A GENERAL GUIDE ONLY. TO ESTABLISH EXACT WORKING PRESSURES PLEASE REFER TO ASME B31.3							
NB										TEMPERATURE °C							
										-29 to 38	205	260	350	370	400	430	450
DN	NPS									ALLOWABLE STRESS MPa							
MM	INCH	STRENGTH / No.	MM	INCH	(MM)	(MM)	KG/M			137.80	137.80	130.22	117.13	115.75	89.57	74.41	59.94
100	4	120	114.3	4.500	11.12	92.04	28.25	ASTM A106/API 5L	B	25.19	25.19	23.80	21.40	21.55	16.37	13.60	10.95
		160			13.49	87.32	33.49	ASTM A106/API 5L	B	31.01	31.01	29.31	26.36	26.05	20.16	16.75	13.20
		XXS			17.12	80.06	40.98	ASTM A106/API 5L	B	40.34	40.34	38.12	34.29	33.89	26.23	21.78	17.54
125	5	STD / 40	141.3	5.563	6.55	128.20	21.78	ASTM A106/API 5L	B	11.56	11.56	10.92	9.82	9.70	7.51	6.24	5.03
		XS / 80			9.52	122.26	30.92	ASTM A106/API 5L	B	17.06	17.06	16.12	14.50	14.33	11.09	9.21	7.42
		120			12.70	115.90	40.24	ASTM A106/API 5L	B	23.13	23.13	21.85	19.65	19.43	15.03	12.49	10.05
		160			15.88	109.54	49.05	ASTM A106/API 5L	B	29.40	29.40	27.78	24.99	24.70	19.11	15.88	12.79
		XXS			19.05	103.2	57.38	ASTM A106/API 5L	B	35.89	35.89	33.92	30.51	30.15	23.33	19.38	15.62
150	6	STD / 40	168.3	6.625	7.11	154.08	28.26	ASTM A106/API 5L	B	10.50	10.50	9.92	8.92	8.81	6.82	5.67	4.56
		XS / 80			10.97	146.36	42.56	ASTM A106/API 5L	B	16.47	16.47	15.57	14.00	13.84	10.70	8.89	7.16
		120			14.27	139.76	54.17	ASTM A106/API 5L	B	21.74	21.74	20.55	18.48	18.26	14.13	11.74	9.46
		160			18.26	131.82	67.49	ASTM A106/API 5L	B	28.32	28.32	26.76	24.07	23.78	18.41	15.29	12.31
		XXS			21.94	124.40	79.10	ASTM A106/API 5L	B	34.60	34.60	32.70	29.42	29.06	22.49	18.68	15.05
200	8	20	219.1	8.625	6.35	206.40	33.31	ASTM A106/API 5L	B	7.13	7.13	6.74	6.06	5.99	4.63	3.85	3.10
		30			7.04	205.02	36.79	ASTM A106/API 5L	B	7.92	7.92	7.48	6.73	6.65	5.14	4.27	3.44
		STD / 40			8.18	202.74	42.53	ASTM A106/API 5L	B	9.24	9.24	8.73	7.85	7.76	6.00	4.99	4.02
		60			10.31	198.48	53.10	ASTM A106/API 5L	B	11.74	11.74	11.09	9.97	9.86	7.62	6.33	5.10
		XS / 80			12.70	193.7	64.63	ASTM A106/API 5L	B	14.57	14.57	13.76	12.38	12.23	9.47	7.86	6.33
		100			15.09	188.98	75.82	ASTM A106/API 5L	B	17.45	17.45	16.48	14.83	14.65	11.34	9.42	7.59
		120			18.26	182.62	90.36	ASTM A106/API 5L	B	21.34	21.34	20.17	18.14	17.93	13.87	11.52	9.28
		140			20.62	177.86	100.86	ASTM A106/API 5L	B	24.30	24.30	22.97	20.65	20.41	15.79	13.12	10.56
		XXS			22.22	174.66	107.78	ASTM A106/API 5L	B	26.33	26.33	24.88	22.38	22.12	17.11	14.22	11.45
		160			23.01	173.08	111.16	ASTM A106/API 5L	B	27.34	27.34	25.83	23.24	22.96	17.76	14.76	11.89
250	10	20	273.0	10.750	6.35	260.30	41.77	ASTM A106/API 5L	B	5.69	5.69	5.38	4.84	4.78	3.70	3.08	2.48
		30			7.80	257.40	51.00	ASTM A106/API 5L	B	7.02	7.02	6.64	5.97	5.90	4.56	3.79	3.05
		STD / 40			9.27	254.46	60.29	ASTM A106/API 5L	B	8.38	8.38	7.92	7.13	7.04	5.45	4.52	3.65
		XS / 60			12.70	247.60	81.54	ASTM A106/API 5L	B	11.59	11.59	10.95	9.85	9.73	7.53	6.26	5.04
		80			15.08	242.88	95.90	ASTM A106/API 5L	B	13.86	13.86	13.09	11.78	11.64	9.01	7.48	6.02
		100			18.26	236.52	114.64	ASTM A106/API 5L	B	16.92	16.92	15.99	14.38	14.21	10.99	9.13	7.35
		120			21.44	230.18	132.88	ASTM A106/API 5L	B	20.03	20.03	18.93	17.03	16.82	13.02	10.81	8.71
		XXS / 140			25.40	222.20	154.96	ASTM A106/API 5L	B	23.99	23.99	16.47	20.39	20.15	15.59	12.96	10.43
		160			28.58	215.84	172.09	ASTM A106/API 5L	B	27.22	27.22	25.73	23.14	22.87	17.70	14.70	11.84
300	12	20	323.8	12.750	6.35	311.10	49.72	ASTM A106/API 5L	B	4.79	4.79	4.53	4.07	4.02	3.11	2.59	2.08
		30			8.38	307.04	65.20	ASTM A106/API 5L	B	6.36	6.36	6.00	5.40	5.54	4.13	3.43	2.76
		STD			9.52	304.76	73.82	ASTM A106/API 5L	B	7.24	7.24	6.84	6.15	6.08	4.70	3.91	3.14
		40			10.31	303.18	79.72	ASTM A106/API 5L	B	7.85	7.85	7.42	6.67	6.60	5.10	4.24	3.41
		XS			12.70	298.40	97.44	ASTM A106/API 5L	B	9.72	9.72	9.19	8.26	8.16	6.31	5.25	4.23
		60			14.27	295.26	108.86	ASTM A106/API 5L	B	10.96	10.96	10.36	9.32	9.21	7.13	5.92	4.76
		80			17.48	289.10	131.89	ASTM A106/API 5L	B	13.52	13.52	12.85	11.49	11.36	8.79	7.30	5.88
		100			21.44	280.98	159.72	ASTM A106/API 5L	B	16.73	16.73	15.81	14.22	14.06	10.87	9.04	7.28
		XXS / 120			25.40	273.00	186.75	ASTM A106/API 5L	B	20.01	20.01	18.91	17.01	16.81	13.00	10.80	8.70
		140			28.58	266.64	207.85	ASTM A106/API 5L	B	22.68	22.68	21.43	19.27	19.05	14.74	12.24	9.86
		160			33.32	257.16	238.52	ASTM A106/API 5L	B	26.74	26.74	25.27	22.73	22.46	17.38	14.44	11.63
350	14	10	355.6	14	6.35	342.90	54.68	ASTM A106/API 5L	B	4.36	4.36	4.12	3.70	3.66	2.83	2.35	1.89
		20			7.92	339.76	67.94	ASTM A106/API 5L	B	5.45	5.45	5.16	4.64	4.58	3.54	2.94	2.37

NOMINAL BORE		SCHEDULE	OUTSIDE DIAMETER		WALL THICKNESS	INTERNAL DIAMETER	MASS APPROX	MANUFACTURING STANDARD	MATERIAL GRADE	PRESSURE / TEMPERATURE RATINGS FOR SEAMLESS CARBON STEEL PIPE TO ASTM A106 GRADE B MAXIMUM ALLOWABLE PRESSURE/TEMPERATURE RATINGS IN MPa FOR CHEMICAL PLANT AND PETROLEUM REFINERY PIPING SYSTEMS TO ANSI/ASME B31.3a -1981. PLEASE NOTE: THIS IS A GENERAL GUIDE ONLY. TO ESTABLISH EXACT WORKING PRESSURES PLEASE REFER TO ASME B31.3							
										TEMPERATURE °C							
NB										-29 to 38	205	260	350	370	400	430	450
DN	NPS									ALLOWABLE STRESS MPa							
MM	INCH	STRENGTH / No.	MM	INCH	(MM)	(MM)	KG/M			137.80	137.80	130.22	117.13	115.75	89.57	74.41	59.94
350	14	STD / 30	355.6	14	9.52	336.56	81.28	ASTM A106/API 5L	B	6.58	6.58	6.22	5.59	5.53	4.27	3.55	2.86
		40			11.12	333.34	94.40	ASTM A106/API 5L	B	7.71	7.71	7.31	6.55	6.47	5.01	4.16	3.35
		XS			12.70	330.20	107.38	ASTM A106/API 5L	B	8.83	8.83	8.35	7.51	7.42	5.73	4.76	3.84
		60			15.09	325.48	126.58	ASTM A106/API 5L	B	10.54	10.54	9.96	8.96	8.86	6.85	5.69	4.58
		80			19.05	317.50	157.95	ASTM A106/API 5L	B	13.42	13.42	12.68	11.41	11.27	8.72	7.24	5.83
		100			23.82	308.00	194.82	ASTM A106/API 5L	B	16.95	16.95	16.01	14.40	14.24	11.01	9.15	7.37
		120			27.76	300.08	224.42	ASTM A106/API 5L	B	19.93	19.93	18.83	16.94	16.74	12.96	10.76	8.67
		140			31.75	292.10	253.14	ASTM A106/API 5L	B	22.96	22.96	21.70	19.51	19.29	14.93	12.40	9.99
		160			35.71	284.18	281.38	ASTM A106/API 5L	B	26.05	26.05	24.61	22.14	21.88	16.93	14.06	11.33
400	16	10	406.4	16	6.35	392.70	62.63	ASTM A106/API 5L	B	3.81	3.81	3.60	3.23	3.19	2.47	2.06	1.66
		20			7.92	390.56	77.86	ASTM A106/API 5L	B	4.76	4.76	4.50	4.05	4.00	3.10	2.57	2.07
		STD / 30			9.52	387.36	93.21	ASTM A106/API 5L	B	5.74	5.74	5.42	4.88	4.83	3.73	3.10	2.50
		XS / 40			12.70	381.00	123.29	ASTM A106/API 5L	B	7.70	7.70	7.28	6.54	6.47	5.00	4.16	3.34
		60			16.66	373.08	160.05	ASTM A106/API 5L	B	10.17	10.17	9.61	8.65	8.55	6.61	5.49	4.43
		80			21.44	363.58	203.32	ASTM A106/API 5L	B	13.20	13.20	12.47	11.22	11.09	8.58	7.13	5.74
		100			26.19	354.02	245.32	ASTM A106/API 5L	B	16.27	16.27	15.37	13.83	13.67	10.57	8.78	7.07
		120			30.96	344.52	286.44	ASTM A106/API 5L	B	19.40	19.40	18.34	16.48	16.30	12.61	10.48	8.44
		140			36.53	333.34	332.62	ASTM A106/API 5L	B	23.13	23.13	21.85	19.65	19.43	15.03	12.49	10.05
		160			40.49	325.48	364.85	ASTM A106/API 5L	B	25.82	25.82	24.40	21.95	21.69	16.78	13.94	11.23
450	18	10	457.2	18	6.35	444.50	70.59	ASTM A106/API 5L	B	3.38	3.38	3.19	2.87	2.83	2.19	1.82	1.47
		20			7.92	441.36	87.79	ASTM A106/API 5L	B	4.23	4.23	3.99	3.59	3.55	2.74	2.28	1.83
		STD			9.52	438.16	105.14	ASTM A106/API 5L	B	5.09	5.09	4.81	4.33	4.28	3.31	2.75	2.21
		30			11.12	434.94	122.36	ASTM A106/API 5L	B	5.96	5.96	5.64	5.07	5.01	3.87	3.22	2.59
		XS			12.7	431.80	139.19	ASTM A106/API 5L	B	6.83	6.83	6.45	5.80	5.73	4.43	3.68	2.96
		40			14.27	428.66	155.91	ASTM A106/API 5L	B	7.69	7.69	7.27	6.54	6.46	5.00	4.15	3.34
		60			19.05	419.10	205.62	ASTM A106/API 5L	B	10.34	10.34	9.78	8.79	8.69	6.72	5.58	4.49
		80			23.82	409.60	254.38	ASTM A106/API 5L	B	13.04	13.04	12.32	11.08	10.95	8.47	7.04	5.67
		100			29.36	398.48	309.44	ASTM A106/API 5L	B	16.21	16.21	15.32	13.78	13.62	10.54	8.75	7.05
		120			34.92	387.36	363.19	ASTM A106/API 5L	B	19.46	19.46	18.38	16.54	16.35	12.65	10.50	8.46
		140			39.67	377.86	408.01	ASTM A106/API 5L	B	22.28	22.28	21.05	18.94	18.71	14.48	12.03	9.69
		160			45.24	366.72	459.18	ASTM A106/API 5L	B	25.63	25.63	24.22	21.79	21.53	16.66	13.84	11.15
500	20	10	508.0	20	6.35	495.30	78.54	ASTM A106/API 5L	B	3.03	3.03	2.87	2.58	2.55	1.97	1.64	1.32
		STD / 20			9.52	488.96	117.07	ASTM A106/API 5L	B	4.58	4.58	4.32	3.89	3.85	2.97	2.47	1.99
		XS / 30			12.70	482.60	155.10	ASTM A106/API 5L	B	6.13	6.13	5.80	5.21	5.15	3.98	3.31	2.66
		40			15.06	477.88	183.15	ASTM A106/API 5L	B	7.31	7.31	6.91	6.21	6.14	4.75	3.94	3.18
		60			20.62	466.76	247.78	ASTM A106/API 5L	B	10.08	10.08	9.52	8.56	8.46	6.55	5.44	4.38
		80			26.19	455.62	310.82	ASTM A106/API 5L	B	12.89	12.89	12.18	10.96	10.83	8.38	6.96	5.60
		80			26.19	455.62	310.82	ASTM A106/API 5L	B	12.89	12.89	12.18	10.96	10.83	8.38	6.96	5.60
		100			32.54	442.92	381.04	ASTM A106/API 5L	B	16.17	16.17	15.28	13.74	13.58	10.51	8.73	7.03
		120			38.10	431.8	440.93	ASTM A106/API 5L	B	19.08	19.08	18.03	16.22	16.03	12.40	10.30	8.30
		140			44.45	419.10	507.54	ASTM A106/API 5L	B	22.47	22.47	21.24	19.10	18.87	14.61	12.14	9.77
		160			50.01	408.02	564.14	ASTM A106/API 5L	B	25.45	25.45	24.09	21.67	21.42	16.57	13.76	11.09
600	24	10	609.6	24	6.35	596.90	94.45	ASTM A106/API 5L	B	2.52	2.52	2.39	2.15	2.12	1.64	1.36	1.10
		STD / 20			9.52	590.56	140.88	ASTM A106/API 5L	B	3.81	3.81	3.60	3.23	3.19	2.47	2.06	1.66
		XS			12.70	584.20	186.90	ASTM A106/API 5L	B	5.09	5.09	4.81	4.33	4.28	3.31	2.75	2.21
		30			14.27	581.06	209.54	ASTM A106/API 5L	B	5.73	5.73	5.42	4.87	4.82	3.73	3.10	2.49

NOMINAL BORE		SCHEDULE	OUTSIDE DIAMETER		WALL THICKNESS	INTERNAL DIAMETER	MASS APPROX	MANUFACTURING STANDARD	MATERIAL GRADE	PRESSURE / TEMPERATURE RATINGS FOR SEAMLESS CARBON STEEL PIPE TO ASTM A106 GRADE B MAXIMUM ALLOWABLE PRESSURE/TEMPERATURE RATINGS IN MPa FOR CHEMICAL PLANT AND PETROLEUM REFINERY PIPING SYSTEMS TO ANSI/ASME B31.3a -1981. PLEASE NOTE: THIS IS A GENERAL GUIDE ONLY. TO ESTABLISH EXACT WORKING PRESSURES PLEASE REFER TO ASME B31.3							
										TEMPERATURE °C							
NB										-29 to 38	205	260	350	370	400	430	450
DN	NPS									ALLOWABLE STRESS MPa							
MM	INCH	STRENGTH / No.	MM	INCH	(MM)	(MM)	KG/M			137.80	137.80	130.22	117.13	115.75	89.57	74.41	59.94
600	24	40	609.6	24	17.48	574.90	254.93	ASTM A106/API 5L	B	7.05	7.05	6.67	5.99	5.92	4.58	3.81	3.06
		60			24.59	560.42	354.74	ASTM A106/API 5L	B	10.01	10.01	9.46	8.51	8.42	6.51	5.40	4.36
		80			30.94	547.72	441.90	ASTM A106/API 5L	B	12.69	12.69	12.00	10.78	10.65	8.25	6.85	5.51
		100			38.89	531.82	546.92	ASTM A106/API 5L	B	16.10	16.10	15.22	13.69	13.52	10.46	8.69	7.00
		120			46.02	517.56	639.18	ASTM A106/API 5L	B	19.22	19.22	18.16	16.33	16.15	12.49	10.38	8.36
		140			52.37	504.86	718.94	ASTM A106/API 5L	B	22.04	22.04	20.83	18.74	18.52	14.33	11.90	9.59
		160			59.54	490.58	806.61	ASTM A106/API 5L	B	25.27	25.27	23.88	21.48	21.23	16.43	13.64	10.99

PIPE ENDS: unless otherwise specified pipe ends are normally supplied as below:-

a) Up to and including 48.3mm O.D. Size are supplied with plain ends cut square

b) Above 48.3mm O.D. sizes (except for Double Extra-Strong pipe) are supplied with plain ends bevelled.

c) All Double Extra-Strong pipe is supplied with plain ends cut square.

PIPE FINISH:

- **all pipes up to and including 48.3 O.D are cold drawn**
- **all pipes from 60.3 O.D to 604.6 O.D are hot finished.**

CARBON AND ALLOY STEEL TUBE AND PIPE MATERIALS

MATERIAL	SPECIFICATIONS			CHEMICAL COMPOSITION %								STRESS MIN	
												TENSILE	YIELD
	MAN. STD	GRADE	FORM	CARBON	MANGAN	PHOS max	SULPH max	SILICON	CHROME	MOLYB	NICKEL	Mpa	Mpa
Carbon Steel	SANS657-3	S230	Conveyor tube	0,25max	-	0,06	0,06	-	-	-	-	230	230
Carbon Steel	EN 10219	S235	Structural tube	0,17 max	1,40 max	0,045	0,045	-	-	-	0,009 max	-	235
Carbon Steel	SANS657-1	S275	Structural tube	0,20 max	1,50 max	0,040	0,040	0,035 max	-	-	-	-	275
Carbon Steel	EN 10219	S275	Structural tube	0,20 max	1,40 max	0,040	0,045	-	-	-	0,009 max	-	275
Carbon Steel	SANS657-1	S355	Structural tube	0,14 max	1,50 max	0,035	0,030	0,15/0,25	-	-	-	450-550	355
Carbon Steel	EN 10219	S355	Structural tube	0,22 max	1,60 max	0,035	0,035	0,55	-	-	-	-	355
Carbon Steel	SANS62-1	-	Conveyance Pipe	0,22 max	1,60 max	0,025	0,020	-	-	-	-	300	200
Carbon Steel	SANS1182	-	Conveyance Pipe	0,22 max	1,60 max	0,025	0,020	0,040				300	200
Carbon Steel	EN 10255	S195	Conveyance Pipe	0,20 max	1,40 max	0,035	0,030	-	-	-	-	-	195
Carbon Steel	SANS719	A	Line pipe	0,20 max	0,90 max	0,040	0,020	0.04% max or 0.135% to 0.25%	-	-	-	331	207
Carbon Steel	SANS719	B	Line pipe	0,26 max	1,15 max	0,040	0,020		-	-	-	414	241
Carbon Steel	SANS719	C	Line pipe	0,28 max	1,25 max	0,040	0,020		-	-	-	414	290
Carbon Steel	SANS719	D	Line pipe	0,28 max	1,60 max	0,040	0,035		-	-	-	450	355
Carbon Steel	API5L	A	Line pipe	0,21 max	0,90 max	0,040	0,050	-	-	-	-	331	207
Carbon Steel	API5L	B	Line pipe	0,26 max	1,15 max	0,040	0,050	-	-	-	-	413	241
Carbon Steel	API5L	X42	Line pipe	0,28 max	1,25 max	0,040	0,050	-	-	-	-	413	289
Carbon Steel	API5L	X52	Line pipe	0,30 max	1,35 max	0,040	0,050	-	-	-	-	455	358
Carbon Steel	API5L	X60	Line pipe	0,26 max	1,35 max	0,040	0,050	-	-	-	-	517	413
Carbon Steel	A53	A	Conveyance Pipe	0,25 max	0,95 max	0,050	0,045	-	-	-	-	330	205
Carbon Steel	A53	B	Conveyance Pipe	0,30 max	1,20 max	0,050	0,045	-	-	-	-	415	240
Carbon Steel	A106	A	Pipe	0,25 max	0,27 / 0,93	0,048	0,058	0,10 min	0,40 max	0,15 max	0,40 max	330	205
Carbon Steel	A234	WPA	Fittings	0,25 max	0,27 / 0,93	0,048	0,058	0,10 min	-	-	-	330	205
Carbon Steel	A106	B	Pipe	0,30 max	0,29 / 1,06	0,048	0,058	0,10 min	0,40 max	0,15 max	0,40 max	415	240
Carbon Steel	A234	WPB	Fittings	0,30 max	0,29 / 1,06	0,050	0,058	0,10 min	-	-	-	415	240
Carbon Steel	A106	C	Pipe	0,35 max	0,29 / 1,06	0.048	0,058	0,10 min	0,40 max	0,15 max	0,40 max	485	275
Carbon Steel	A234	WPC	Fittings	0,35 max	0,29 / 1,06	0,050	0,058	0,10 min	-	-	-	485	275
Carbon Steel	A105	A/M	Flanges	0,35 max	0,60 / 1,05	0,040	0,050	0,35 max	-	-	-	485	250
Carbon Steel Class 60	A181	A/M	Flanges	0,35 max	1,10 max	0,050	0,050	0,35 max	-	-	-	415	205
Carbon Steel Class 70	A181	A/M	Flanges	0,35 max	1,10 max	0,050	0,050	0,35 max	-	-	-	485	250
Killed Carbon Steel	A350	LF1	Flanges	0,30 max	1,35 max	0,035	0,040	-	-	-	-	415	205
Killed Carbon Steel	A333	Gr1	Pipe	0,30 max	0,40 / 1,06	0,050	0,060	-	-	-	-	380	205
Killed Carbon Steel	A420	-	Fittings	0,30 max	0,40 / 1,06	0,050	0,060	-	-	-	-	380	205
3,5% Nickel	A350	LF3	Flanges	0,20 max	0,90 max	0,035	0,040	0,20 / 0,35	-	-	3,25 / 3,75	485	260
3,5% Nickel	A333	Gr6	Pipe	0,30 max	0,29 / 1,06	0,025	0,025	0,10 min	-	-	-	415	240
3,5% Nickel	A420	WPL6	Fittings	0,30 max	0,39 / 1,06	0,030	0,030	0,10 min	-	-	-	415	240
Carbon-Mo	A182	F1	Flanges	0,28 max	0,60 / 0,90	0,045	0,045	0,15 / 0,35	-	0,44 / 0,65	-	485	275
0,5% Mo	A234	WP1	Fittings	0,28 max	0,30 / 0,90	0,045	0,045	0,10 / 0,50	-	0,44 / 0,65	-	380	205
0,5% Mo	A335	P1	Pipe	0,10 / 0,20	0,30 / 0,80	0,045	0,045	0,10 / 0,50	-	0,44 / 0,65	-	380	205
1%Cr0,5% Mo	A182	F12	Flanges	0,10 / 0,20	0,30 / 0,80	0,040	0,040	0,10 / 0,60	0,80 / 1,25	0,44 /0,65	-	485	275
1%Cr0,5% Mo	A234	WP12	Fittings	0,20 max	0,30 / 0,80	0,045	0,045	0,60 max	0,80 / 1,25	0,44 / 0,65	-	485	275
1%Cr0,5% Mo	A335	P12	Pipe	0,15 max	0,30 / 0,61	0,045	0,045	0,50 max	0,80 / 1,25	0,44 / 0,65	-	415	205
1,25%Cr0,5%Mo	A182	F11	Flanges	0,10 / 0,20	0,30 / 0,80	0,040	0,040	0,50 / 1,00	1,00 / 1,50	0,44 / 0,65	-	485	275
1,25%Cr0,5%Mo	A234	WP11	Fittings	0,20 max	0,30 / 0,80	0,040	0,040	0,50 / 1,00	1,00 / 1,50	0,44 / 0,65	-	485	275
1,25%Cr0,5%Mo	A335	P11	Pipe	0,15 max	0,30 / 0,60	0,030	0,030	0,50 / 1,00	1,00 / 1,50	0,44 / 0,65	-	415	205
Cr Mo	A182	F22	Flanges	0,15 max	0,30 / 0,60	0,040	0,040	0,50 max	2,00 / 2,50	0,87 / 1,13	-	515	310
2,25% Cr1%Mo	A234	WP22	Fittings	0,15 max	0,30 / 0,60	0,040	0,040	0,50 max	1,90 / 2,60	0,87 / 1,13	-	515	310
K21590	A335	P22	Pipe	0,15 max	0,30 / 0,60	0,030	0,030	0,50 max	1,90 / 2,60	0,87 / 1,13	-	415	205
4-6% Cr	A 182	F5	Flanges	0,15 max	0,30 / 0,60	0,030	0,030	0,50 max	4,00 / 6,00	0,44 / 0,65	-	485	275
K41545	A234	WP5	Fittings	0,15 max	0,30 / 0,60	0,040	0,030	0,50 max	4,00 / 6,00	0,44 / 0,65	-	415	205
K41545	A335	P5	Pipe	0,15 max	0,30 / 0,60	0,030	0,030	0,50 max	4,00 / 6,00	0,45 / 0,65	-	415	205
K61595	A182	F7	Flanges	0,15 max	0,30 / 0,60	0,030	0,030	0,50 / 1,00	6,00 / 8,00	0,44 / 0,65	-	485	275
7%Cr0,5% Mo	A234	WP7	Fittings	0,15 max	0,30 / 0,60	0,030	0,030	0,50 / 1,00	6,00 / 8,00	0,44 / 0,65	-	415	205
7%Cr0,5% Mo	A335	P7	Pipe	0,15 max	0,30 / 0,60	0,030	0,030	0,50 / 1,00	6,00 / 8,00	0,44 / 0,65	-	415	205
9%Cr1% Mo	A182	F9	Flanges	0,15 max	0,30 / 0,60	0,030	0,030	0,50 / 1,00	8,00 / 10,00	0,90 / 1,10	-	585	380
9%Cr1% Mo	A234	WP9	Fittings	0,15 max	0,30 / 0,60	0,030	0,030	0,25 / 1,00	8,00 / 10,00	0,90 / 1,10	-	415	205
9%Cr1% Mo	A335	P9	Pipe	0,15 max	0,30 / 0,60	0,030	0,030	0,25 / 1,00	8,00 / 10,00	0,90 / 1,10	-	415	205

USEFUL INFORMATION

SIMILAR PIPE SPECIFICATION			
ASTM	**BS**	**DIN**	**WERKSTOFF**
A120	1387	1629 St 00	
A53 GrA	3601/22	1629M St35.29	
A53 GrB	3601/27	1629M St45.29	
A106 GrA	3602/23	17175M St35.8	1.0350
A106 GrB	3602/27	17175M St45.8	1.0350
A106 GrC	3602/35	17175 17 Mn4	
A333 Gr1	3603/LT50	TT St35N	
A333 Gr6	3603/410LT50	17175 SEW 680	
A335 GrP1	3604/240	17175 16 Mo5	1.5423
A335 GrP12	3604/620	17175 13 CrMo44	1.7335
A335 GrP11	3604/621	17175 22 CrMo44	1.7350
A335 GrP22	3604/622	17175 10 CrMo910	1.7380
A335 GrP5	3604/625	17175 12 CrMo195	1.7362
A335 GrP7	3604/627	17175x12 CrMo7	1.7368
A335 GrP9	3604/629	17175x12 CrMo91	1.7386

CONVERSION FACTORS - APPROXIMATE		
MULTIPLY →	**BY**	**→ TO OBTAIN**
TO OBTAIN ←	**BY**	**← DIVIDE**
Bars	1.0197	kg f/cm²
	100.0	kPa
	14.504	lbf/in² (PSI)
	0.1	MPa
kg f/cm²	14.223	lbf/in² (PSI)
	98.07	kPa
	0.09807	MPa
kg f/mm²	1422.33	lbf/in² (PSI)
	9.807	MPa
	0.635	ton f/in²
MPa	0.145	KSi
	1000	KPa
	145	lbf/in² (PSI)
lb f/in² (PSI)	6.895	kPa
	0.00689	MPa
ton f/in²	15.444	MPa

FORMULA TO CALCULATE THE MOTHER TUBE
e.g. 127 x 76.2 Rectangular tube
127 (side A) x 2 + 76.2 (side B) x 2 = (254) + (152.4) =406.4
Then 406.4 divided by π (3.142)
= 129.34 therefore closest available round tube is a 127ø

FORMULA TO CALCULATE THE LENGTH OF A DRAWN TUBE
e.g. ø 101.6 drawn down to ø95
ø101.6 (Input tube) divided by ø95 (Output tube) x 6 (tube length)
= 6.42m
The approximate drawn length will be 6.42m long

FORMULA TO CALCULATE THE MASS OF A ROUND TUBE
e.g. ø101.6 x 2
ø101.6 (O/D) - 2 (Wall thickness) x 2 (Wall thickness)
x 0.0246615 = 4.912
Mass of tube = 4.912 kgs/m

APPROXIMATE EQUIVALENTS
1 Atmosphere (atm) = 14.696 lbf/in² (PSI)
1 bar = 14.50 lbf/in² (PSI)
1 kg f/cm² = 14.22 lbf/in² (PSI)
100 Kpa (1 bar) = 14.50 lbf/in² (PSI)

CONVERT ^{O}F to ^{O}C AND VISA VERSA
DEGREES FAHRENHEIT TO CELSIUS = (^{O}C x 1.8) + 32 = ^{O}F
DEGREES CELSIUS TO FAHRENHEIT = (^{O}F - 32) x 1.8 = ^{O}C