

A collection of various steel products including pipes, flanges, elbows, tees, and structural shapes arranged on a reflective surface. The items are polished and show highlights from the lighting. The background is dark and minimalist.

wakefieldmetals

Steel Product Range

ENGINEERING STEEL & CARBON STEEL TUBE

A collection of various steel and carbon steel products, including pipes, tubes, flanges, and fittings, arranged on a reflective surface. The products are displayed in a professional, studio-like setting with soft lighting and shadows. The items include a large flange, several pipes of different diameters and lengths, some with threaded ends, and various fittings like elbows and tees. The background is a dark, reflective surface that shows the products' reflections. The overall composition is clean and modern, emphasizing the industrial nature of the products.

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Steel Product Range

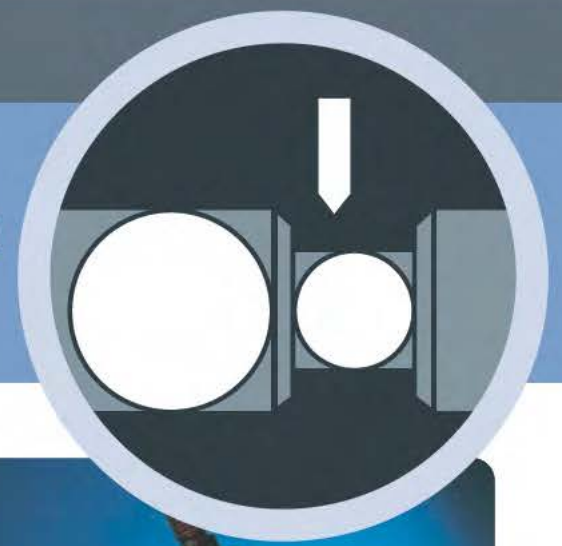
**ENGINEERING STEEL &
CARBON STEEL TUBE**

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Engineering Steel Bar





Bright mild steel bar

Bright steel bars are carbon steel which has had the surface condition improved over the hot rolled finish supplied by the steel mill. Advantages achieved include improved machinability, enhancement of physical and mechanical properties and improved dimensional tolerances and straightness.

Cold finished steels are covered by Australian Standard AS1443 or similar overseas alternatives.

Types of cold finished bars

Cold drawn bars are widely used in mass production of parts due to their excellent mechanical and dimensional properties, with machinability in excess of the hot rolled condition. Round, hexagonal and square bars can be produced by cold drawing.

Turned and polished round bars have similar mechanical properties to those of equivalent hot rolled bar, but exhibit a smooth, bright surface finish and improved dimensional accuracy. They are widely used where a surface free of decarburisation is required, for example in induction hardening and when the surface must be free from surface defects, such as for use in cold forming.

Cold drawn and precision ground or turned and precision ground round bars, where very close dimensional tolerances and finishes are required, e.g. plating.

Cold rolled sizes up to 100mm wide and 7mm thick inclusive are produced by cold rolling to produce flat and some special shape sections to suitable tolerances and surface finishes.

Carbon steel groups

10xx	Plain carbon steels.
11xx	Sulphurised free cutting carbon steels. (Free machining steels)
12xx	Phosphorised and sulphurised free cutting carbon steels. (Free machining steels)
xxLxx	Lead bearing free machining carbon steels.
13xx	Carbon – manganese steels. (Pearlitic manganese steels)

Steel making practice

Old Prefix	New Prefix	Practice	Example of Old Prefix	Example of New Prefix
R	U	Steel with unspecified deoxidation (no minimum % Si specified)	R1008	U1004
S	U		S1010	U1010
CS	M	Merchant quality. Similar to “U” with wider composition range	CS1020	M1020
K	No Prefix	As per relevant table in Standard	K1045	1045
X	X	A major deviation in chemical composition from AISI-SAE grades	XK1320	X1320

Chemical composition (specified elemental limits as per AS1443)

Grade		C	Si	Mn	P	S	Pb
M1020	Min	0.15	–	0.30	–	–	–
	Max	0.25	0.35	0.90	0.050	0.050	–
M1030	Min	0.25	–	0.30	–	–	–
	Max	0.35	0.35	0.90	0.050	0.050	–
1045	Min	0.43	0.10	0.60	–	–	–
	Max	0.50	0.35	0.90	0.040	0.040	–
1214	Min	–	–	0.80	0.04	0.25	–
	Max	0.15	0.10	1.20	0.09	0.35	–
12L14	Min	–	–	0.80	0.04	0.25	0.15
	Max	0.15	0.10	1.20	0.09	0.35	0.35

Typical minimum tensile properties (not guaranteed as these grades are not tensile tested)

Grade	Cold Drawn Condition Tensile Strength (MPa)		
	Up to 16mm incl.	Over 16mm to 38mm incl.	Over 38mm to 63.5mm incl.
M1020	480 min	460 min	430 min
M1030	560 min	540 min	520 min
1045	690 min	650 min	640 min
1214	480 min	430 min	400 min
12L14	480 min	430 min	400 min
Grade	Turned and Polished Condition Tensile Strength (MPa)		
	Up to 50mm incl.	Over 50mm to 250mm incl.	
M1020	410 min	410 min	
M1030	500 min	500 min	
1045	600 min	600 min	
1214	370 min	370 min	
12L14	370 min	370 min	

Note that alternative grades with guaranteed mechanical properties are available subject to special order.

Shape and section measurements



Round bar: measured across the diameter.



Square bar: measured across the flats (AF).



Hexagonal bar: measured across the flats (AF).



Flat bar: measured width x thickness.

Product and stock range for bright mild steel

Production method	Shape	Size (mm)		Standard nominal lengths (m)
		Min.	Max.	
Cold drawn	Round	3.17	63.5	3.5 or 6
	Hexagon	4.76	73.02	3.5
	Square	3	50.8	3.5
	Flat	9.52x3.17	152.4x76.2	3.5
Turned and polished	Round	10	260	3.5 or 6
Centreless precision ground	Round	3	160	3.5 or 6
Coil cold rolled	Flat	6.35x1.59	20x5	3.5
Bar cold rolled	Flat	25x5	100x7	3.5

Dimensional tolerances for bright mild steel

Form and condition					
Round			Square	Hexagonal	Flat
Precision ground	Cold drawn	Turned and polished			
h8	h10	h11	h11	h11	h11

Dimensional tolerances							
Diameter or cross-sectional dimension (mm)	Tolerance grade (mm)						
	h7	h8	h9	h10	h11	h12	
up to 3	+0 -0.010	+0 -0.014	+0 -0.025	+0 -0.040	+0 -0.060	+0 -0.100	
over 3 to 6	+0 -0.012	+0 -0.018	+0 -0.030	+0 -0.048	+0 -0.075	+0 -0.120	
over 6 to 10	+0 -0.015	+0 -0.022	+0 -0.036	+0 -0.058	+0 -0.090	+0 -0.150	
over 10 to 18	+0 -0.018	+0 -0.027	+0 -0.043	+0 -0.070	+0 -0.110	+0 -0.180	
over 18 to 30	+0 -0.021	+0 -0.033	+0 -0.052	+0 -0.084	+0 -0.130	+0 -0.210	
over 30 to 50	+0 -0.025	+0 -0.039	+0 -0.062	+0 -0.100	+0 -0.160	+0 -0.250	
over 50 to 80	+0 -0.030	+0 -0.046	+0 -0.074	+0 -0.120	+0 -0.190	+0 -0.300	
over 80 to 120	+0 -0.035	+0 -0.054	+0 -0.087	+0 -0.140	+0 -0.220	+0 -0.350	
over 120 to 180	+0 -0.040	+0 -0.063	+0 -0.100	+0 -0.160	+0 -0.250	+0 -0.400	
over 180 to 250	+0 -0.046	+0 -0.072	+0 -0.115	+0 -0.185	+0 -0.290	+0 -0.460	
over 250 to 315	+0 -0.052	+0 -0.081	+0 -0.130	+0 -0.210	+0 -0.320	+0 -0.520	

The above table can be used for k tolerance dimensions. k tolerance = -0, +all.

Bright mild steel cold finished round bar

Product range and theoretical weights								
Diameter		Weight (kg/m)	Diameter		Weight (kg/m)	Diameter		Weight (kg/m)
mm	inches		mm	inches		mm	inches	
3.18	0.125	0.06	25.00	0.984	3.85	76.20	3.000	35.80
4.76	0.187	0.14	25.40	1.000	3.98	80.00	3.150	39.46
6.00	0.236	0.22	26.00	1.024	4.17	82.55	3.250	42.01
6.35	0.250	0.25	27.00	1.063	4.49	88.90	3.500	48.72
7.00	0.276	0.30	28.57	1.125	5.03	90.00	3.543	49.94
7.94	0.313	0.39	30.00	1.181	5.55	95.00	3.740	55.64
8.00	0.315	0.39	31.75	1.250	6.21	95.25	3.750	56.01
9.00	0.354	0.50	32.00	1.260	6.31	100.00	3.937	61.65
9.52	0.375	0.56	33.00	1.300	6.72	101.60	4.000	63.64
10.00	0.394	0.62	34.92	1.375	7.52	110.00	4.331	74.60
11.11	0.437	0.76	35.00	1.378	7.55	114.30	4.500	80.54
12.00	0.472	0.89	36.00	1.417	7.99	120.00	4.724	88.78
12.70	0.500	0.99	38.10	1.500	8.95	127.00	5.000	99.44
13.00	0.512	1.04	39.00	1.535	9.38	130.00	5.118	104.19
14.00	0.551	1.21	40.00	1.575	9.86	139.70	5.500	120.32
14.29	0.563	1.26	41.27	1.625	10.50	152.40	6.000	143.19
14.55	0.572	1.30	42.42	1.670	11.09			
15.00	0.591	1.39	44.45	1.750	12.18			
15.87	0.625	1.55	45.00	1.772	12.48			
16.00	0.630	1.58	46.00	1.811	13.04			
17.00	0.669	1.78	47.62	1.875	13.98			
17.46	0.687	1.88	50.00	1.969	15.41			
18.00	0.709	2.00	52.07	2.050	16.71			
19.00	0.748	2.23	50.80	2.000	15.91			
19.05	0.750	2.24	53.67	2.113	17.76			
20.00	0.787	2.47	55.00	2.165	18.65			
20.64	0.812	2.63	57.15	2.250	20.14			
21.00	0.827	2.72	60.00	2.362	22.19			
22.00	0.866	2.98	63.50	2.500	24.86			
22.22	0.875	3.04	65.00	2.559	26.05			
23.81	0.937	3.49	70.00	2.756	30.21			
24.00	0.945	3.55	75.00	2.953	34.68			

Grades: M1020/M1030, 1045, 1214, 12L14

Bright mild steel cold finished hexagonal bar

Product range and theoretical weights					
Diameter		Weight (kg/m)	Diameter		Weight (kg/m)
mm	inches		mm	inches	
3.18	0.125	0.07	25.00	0.984	4.25
4.76	0.187	0.15	25.40	1.000	4.39
6.00	0.236	0.24	26.00	1.024	4.59
6.35	0.250	0.27	27.00	1.063	4.96
7.00	0.276	0.33	28.57	1.125	5.55
7.94	0.313	0.43	30.00	1.181	6.12
8.00	0.315	0.43	31.75	1.250	6.85
9.00	0.354	0.55	32.00	1.260	6.96
9.52	0.375	0.62	33.00	1.300	7.40
10.00	0.394	0.68	34.92	1.375	8.29
11.11	0.437	0.84	35.00	1.378	8.33
12.00	0.472	0.98	36.00	1.417	8.81
12.70	0.500	1.10	38.10	1.500	9.87
13.00	0.512	1.15	39.00	1.535	10.34
14.00	0.551	1.33	40.00	1.575	10.88
14.29	0.563	1.39	41.27	1.625	11.58
14.55	0.572	1.44	42.42	1.670	12.23
15.00	0.591	1.53	44.45	1.750	13.43
15.88	0.625	1.71	45.00	1.772	13.77
16.00	0.630	1.74	46.00	1.811	14.38
17.00	0.669	1.96	47.62	1.875	15.42
17.46	0.687	2.07	50.00	1.969	16.99
18.00	0.709	2.20	52.07	2.050	18.43
19.00	0.748	2.45	50.80	2.000	17.54
19.05	0.750	2.47	53.67	2.113	19.58
20.00	0.787	2.72	55.00	2.165	20.56
20.64	0.812	2.90	57.15	2.250	22.20
21.00	0.827	3.00	60.00	2.362	24.47
22.00	0.866	3.29	63.50	2.500	27.41
22.22	0.875	3.36	65.00	2.559	28.72
23.81	0.937	3.85	70.00	2.756	33.31
24.00	0.945	3.92	75.00	2.953	38.24

Grades: 1045, 1214, 12L14

Other sizes available up to 100mm mill sourced generally.

Bright steel – flat bar and square-edged flat bar**Cold rolled square edge – U1004****Cold drawn square edge – M1020**

Imperial flats														
Width (mm)	Thickness (mm)													
	3.17	4.76	6.35	7.96	9.52	12.70	15.88	19.05	22.22	25.40	31.75	38.10	44.45	50.80
9.52														
15.87														
19.05														
25.40														
31.75														
38.10														
44.45														
50.80														
63.50														
76.20														
88.90														
101.60														
127.00														
152.40														

Coloured sizes typically available.
Consult your local Wakefield Metals for
current availability ex stock or by indent.

Available in Grades 1004 or M1020.

Metric flats														
Width (mm)	Thickness (mm)													
	3	4	5	6	7	8	10	15	20	25	40	50		
10														
20														
25														
32														
40														
50														
75														
100														
150														

Bright mild steel square bar – cold drawn squares

Product range and theoretical weights		
Across Flats		Weight (kg/m)
mm	inches	
6.00	0.236	0.28
6.35	0.250	0.32
7.94	0.313	0.49
8.00	0.315	0.50
9.53	0.375	0.71
10.00	0.394	0.78
11.11	0.437	0.97
12.00	0.472	1.13
12.70	0.500	1.27
14.29	0.563	1.60
15.87	0.625	1.98
16.00	0.630	2.01
17.46	0.687	2.39
19.05	0.750	2.85
20.00	0.787	3.14
20.64	0.813	3.34
22.23	0.875	3.88
23.81	0.937	4.45

Product range and theoretical weights		
Across Flats		Weight (kg/m)
mm	inches	
25.00	0.984	4.91
25.40	1.000	5.06
28.58	1.125	6.41
30.00	1.181	7.06
31.75	1.250	7.91
34.93	1.375	9.58
38.10	1.500	11.39
40.00	1.575	12.56
41.27	1.625	13.37
44.45	1.750	15.51
47.63	1.875	17.81
50.00	1.969	19.62
50.80	2.000	20.26
63.50	2.500	31.65
75.00	2.953	44.16
100.00	3.937	78.50
150.00	5.906	176.62

Grade: 1214



Carbon steel round bar 1045

Refer to the “Wakefield Specialty Metals – Technical Handbook of Bar Products”, for more detail on specifications, dimensions and technical data.

Related Specifications

AS 1442 - 1045
JIS G4051 – S45C
BS 970: En8D / 43B
1045C Available in some Hot Rolled Bar sizes

Chemical Composition (% by weight - nominal values)

Grade	C	Mn	Si	P	S
1045	0.45	0.7	0.2	0.02	0.02

Grade 1045 is a fully killed medium carbon steel supplied in the as-rolled condition or normalised (subject to the diameter). The tensile strength is not guaranteed, but is typically in the range of 550 – 700 MPa.

Applications

The steel machines readily and is ideal for applications including:

- Axles
- Bolts
- Hydraulic rams
- Pins
- Rolls
- Shafts
- Sprockets
- Machined parts requiring better strength than mild steel

The steel is also well suited to induction and flame hardening

Dimensional Tolerances

The following tolerances apply to bar supplied to AS 1442.
Similar but not identical tolerances apply for other related specifications.

Nominal Diameter (mm)	Diameter Tolerance (mm)	Out-of-square Tolerance (mm)
Up to 25	±0.25	0.40
Over 25 to 30	±0.30	0.45
Over 30 to 40	±0.40	0.60
Over 40 to 50	±0.50	0.75
Over 50 to 60	±0.60	0.90
Over 60 to 70	±0.70	1.05
Over 70 to 80	±0.80	1.20
Over 80 to 100	±0.90	1.35
Over 100 to 125	+3.20 / -nil	3.20
Over 125 to 170	+4.80 / -nil	4.80
Over 170 to 215	+6.40 / -nil	6.40

Product range and theoretical weights					
Diameter		Weight	Diameter		Weight
mm	inches	kg/m	mm	inches	kg/m
16	0.630	1.6	200	7.874	247
20	0.787	2.5	210	8.268	272
24	0.945	3.6	220	8.661	299
27	1.063	4.5	230	9.055	326
30	1.181	5.6	240	9.449	355
33	1.299	6.7	250	9.843	385
36	1.417	8.0	260	10.236	417
39	1.535	9.4	270	10.630	449
42	1.654	9.0	280	11.024	483
45	1.772	5.0	290	11.417	518
50	1.969	15.4	300	11.811	555
55	2.165	18.7	310	12.205	592
56	2.205	19.3	320	12.598	631
60	2.362	22.2	330	12.992	671
65	2.559	26.1	340	13.386	713
70	2.756	30.2	350	13.780	755
73	2.874	32.9	360	14.173	799
75	2.953	34.7	380	14.961	890
80	3.150	39.5	400	15.748	986
85	3.346	44.5	410	16.142	1036
90	3.543	49.9	415	16.339	1062
95	3.740	55.6	420	16.535	1088
100	3.937	61.7	440	17.323	1194
105	4.134	68.0	450	17.717	1248
110	4.331	74.6	460	18.110	1305
120	4.724	88.8	480	18.898	1420
130	5.118	104	500	19.685	1541
140	5.512	121	525	20.669	1699
150	5.906	139	550	21.654	1865
160	6.299	158	590	23.228	2146
170	6.693	178	610	24.016	2294
180	7.087	200	650	25.591	2605
190	7.480	223			

Available in random 5.0m - 6.0m lengths



Alloy constructional and case hardening steel round bar

Low alloy steels

For applications requiring higher tensile strengths and toughness than the carbon steels there is a range of low alloy steels. These are categorised as high tensile or constructional steels and case hardening steels. The high tensile strength steels have sufficient alloying additions enabling through hardening (by quench and temper treatment) according to their alloying additions.

Case hardening (carburising) steels

Case hardening steels are a group of alloy steels in which a high hardness surface zone (hence the term 'case hardened') is developed during heat treatment by absorption and diffusion of carbon. The high hardness zone is supported by the unaffected underlying core zone, which is lower hardness and higher toughness.

Plain carbon steels that can be used for case hardening are restricted. Where plain carbon steels are used, the rapid quenching necessary to develop satisfactory hardness within the case can cause distortion and the strength that can be developed in the core is very limited. Alloy case hardening steels allow the flexibility of slower quenching methods to minimise distortion and high core strengths can be developed.

Nitriding steels

Nitriding steels can have higher surface hardness developed by absorption of nitrogen, when exposed to a nitriding atmosphere at temperatures in the range of 510-530°C, after hardening and tempering.

High tensile steels suitable for nitriding are: 4130, 4140, X4150, 4340, En25, En26.

Chemical composition (% by weight – nominal values)

Grade	C	Si	Mn	Cr	Mo	S	Ni
High tensile							
4140	0.40	–	0.80	0.90	0.20	–	
4340	0.40	–	0.80	0.80	0.25	–	
En25	0.30	–	0.60	0.65	0.55	–	2.00

Case hardening							
En36A	0.12	–	0.50	0.90		–	3.25
En39B	0.15	–	0.50	1.20	0.20	–	4.20
8620	0.20	–	0.80	0.50	0.20	–	0.50

Mechanical property specifications

Grade	Specification
4140	Up to 50mm AS 1444, Condition T. 50 to 100mm AS 1444, Condition T. Over 100mm ASTM A434, Class BD.
4340	Up to 100mm AS 1444, Condition U. Above 100mm ASTM A434, 4340, Class BD.
En25	AS 1444, Condition U or BS970: Part 3, 826 M31, Condition U.
En26	BS 970: Part 3, 826M40, Condition W.

Note 1: Specified hardenability grades are available on request.

Note 2: The actual specification of the product ordered will depend upon the product's origin – for deviations from the above specification refer the to the Technical Department.

Note 3: Alloy bar can be sourced in alternative conditions, i.e. annealed or other hardened and tempered conditions.

Designation of tensile strengths

AS 1444/BS 970 tensile strength designation		ASTM A434 Class BD tensile strength	
Tensile strength designator	Tensile strength (MPa)	Diameter (mm)	Tensile strength Min. (MPa)
R	700-850	38.1 and under	1070
S	770-930	over 38.1 to 63.5 inclusive	1030
T	850-1000	over 63.5 to 114 inclusive	960
U	930-1080	over 114 to 178 inclusive	930
V	1000-1150	over 178 to 241.3 inclusive	900
W	1080-1230		
X	1150-1300		
Y	1230-1380		
Z	1550 min.		

Yield (proof) stress and elongation limits also apply – refer to AS 1444, BS 970 or ASTM A434.

Typical applications

Grade	Description
High tensile	
4140	General-purpose high tensile, used for axles, shafts, high tensile studs and bolts, gears and drill rods. The steel is also suitable for flame and induction hardening.
4340	Suitable for the most severe duties where freedom from temper-brittleness is necessary. It has high strength and toughness in large sections. Used in highly stressed shafts in the larger sizes, heavy truck and tractor axles and transmission shafts. In the heat-treated condition.
En25	En25 is used extensively in most industry sectors for applications requiring higher tensile and yield strength than 4140 can provide, similar to En26 but with lower carbon content.
En26	Characterised by high strength and toughness in very large sections, similar to En25 but with a higher carbon content. En26 is used extensively in most industry sectors for applications requiring higher tensile and yield strength than 4140, 4340 or En25 can provide.
Case hardening	
8620	General-purpose case hardening steel suitable for comparatively lightly stressed components. Used for automatic components such as transmission gears, crown wheels, ring gears, hypoid gears and racers, king pins and pinions.
En36A	Used extensively for highly stressed gears in trucks, agriculture and mining machinery, pins and brushes, heavily loaded shafts and other applications requiring a hard surface with a tough shock-resisting core.
En39B	An exceptionally high hardenability steel for large or highly stressed gears where core strength and toughness is required. May be used as an alloy engineering steel. Core tensile strength 1100MPa minimum after hardening and strengthening.

Alloy and case hardening steel round bar ASTM A434M, BS 970 or AS 1444

Product range and theoretical weights											
Diameter		Weight (kg/m)	Diameter		Weight (kg/m)	Diameter		Weight (kg/m)	Diameter		Weight (kg/m)
mm	inches		mm	inches		mm	inches		mm	inches	
10.00	0.394	0.62	39.00	1.535	9.38	75.00	2.953	34.68	170.00	6.693	178.17
12.00	0.472	0.89	40.00	1.575	9.86	76.00	2.992	35.61	172.00	6.772	182.38
12.70	0.500	0.99	40.50	1.594	10.11	76.20	3.000	35.80	175.00	6.890	188.80
13.00	0.512	1.04	41.28	1.625	10.51	78.00	3.071	37.51	180.00	7.087	199.75
14.00	0.551	1.21	42.00	1.654	10.87	80.00	3.150	39.47	182.00	7.165	204.21
15.88	0.625	1.55	42.50	1.673	11.14	82.00	3.228	41.45	185.00	7.283	211.00
16.00	0.630	1.58	42.65	1.679	11.21	82.55	3.250	42.01	190.00	7.480	222.56
18.00	0.709	2.00	43.50	1.713	11.67	84.00	3.307	43.50	192.00	7.559	227.26
19.00	0.748	2.23	44.45	1.750	12.18	87.00	3.425	46.66	195.00	7.677	234.42
19.05	0.750	2.24	45.00	1.772	12.48	88.90	3.500	48.72	200.00	7.874	246.60
20.00	0.787	2.47	46.20	1.819	13.16	90.00	3.543	49.94	205.00	8.071	259.08
22.00	0.866	2.98	47.50	1.870	13.91	92.00	3.622	52.18	210.00	8.268	271.88
22.22	0.875	3.04	47.62	1.875	13.98	96.00	3.780	56.82	220.00	8.661	298.39
24.00	0.945	3.55	48.00	1.890	14.20	97.00	3.819	58.01	230.00	9.055	326.13
25.00	0.984	3.85	50.00	1.969	15.41	100.00	3.937	61.65	240.00	9.449	355.10
25.40	1.000	3.98	50.80	2.000	15.91	101.60	4.016	64.14	250.00	9.843	385.31
26.00	1.024	4.17	51.50	2.028	16.35	102.00	4.016	64.14	260.00	10.236	416.75
27.00	1.063	4.49	52.00	2.047	16.67	106.00	4.173	69.27	270.00	10.630	449.42
27.45	1.081	4.64	54.00	2.126	17.98	110.00	4.331	74.60	280.00	11.024	483.34
28.00	1.102	4.83	55.00	2.165	18.65	116.00	4.567	82.96	290.00	11.417	518.48
28.57	1.125	5.03	55.50	2.187	19.03	120.00	4.724	88.78	300.00	11.811	554.85
29.00	1.142	5.18	56.00	2.205	19.33	125.00	4.921	96.33	310.00	12.205	592.46
29.50	1.161	5.36	57.15	2.250	20.14	127.00	5.000	99.43	320.00	12.598	631.30
30.00	1.181	5.55	58.00	2.283	20.74	130.00	5.118	104.19	330.00	12.992	671.37
31.50	1.240	6.12	60.00	2.362	22.19	136.00	5.354	114.03	340.00	13.386	712.67
31.75	1.250	6.21	62.00	2.441	23.70	140.00	5.512	120.83	350.00	13.780	755.21
32.00	1.260	6.31	63.00	2.480	24.47	142.00	5.591	124.31	360.00	14.173	798.98
32.50	1.280	6.51	63.50	2.500	24.86	145.00	5.709	129.62	370.00	14.567	843.98
33.00	1.299	6.71	63.80	2.512	25.09	146.00	5.748	131.41	380.00	14.961	890.23
34.50	1.358	7.34	64.00	2.520	25.25	150.00	5.906	138.72	390.00	15.354	937.70
34.92	1.374	7.52	65.00	2.559	26.05	152.00	5.984	142.44	400.00	15.748	986.40
35.00	1.378	7.55	66.00	2.598	26.85	155.00	6.102	148.11	450.00	17.717	1248.41
36.00	1.417	7.99	68.00	2.677	28.51	158.00	6.220	153.90	500.00	19.685	1541.25
37.50	1.476	8.67	69.85	2.750	30.08	160.00	6.299	157.82			
38.00	1.496	8.90	70.00	2.756	30.21	162.00	6.378	161.79			
38.10	1.500	8.95	72.00	2.835	31.96	165.00	6.496	167.84			



Hard chrome bar

Hard chrome bar is a chromium-plated steel product used primarily as piston rod material in all standard applications in hydraulics and pneumatics. Common applications are found in cranes, dump trucks, lifters, garbage compactors, agricultural machinery and production equipment with movable sections.

Because hard chrome bar is normally used in conditions of high stress, friction and harsh climatic environment, the quality of the base metal and surface treatment are of paramount importance. Wear, impact and corrosion resistance, as well as high yield strength, surface smoothness and uniform quality are most important properties of hard chrome bar.

Hard chrome bar typical properties

The basic grades of steel used in the manufacture of hard chrome bar are 1045, 4140 hardened and tempered and 1045 induction (surface) hardened.

Grade 1045 steel bar is primarily used in hard chrome bar manufacture due to its wide range of properties consistent with end use applications. Grade 4140 is used in applications where greater yield strength is required and induction hardened grade 1045 is used in applications requiring greater surface impact resistance.

Chromium deposit: Thickness 0.025mm minimum, or 0.050mm on the diameter.

Hardness: 1000-1150HV (Vickers Micro Hardness).

Diameter tolerances:

Diameter mm	Tolerance mm
Up to 51	+0.00 -0.025
Over 51-102	+0.00 -0.050
Over 102	+0.00 -0.075

Size range: Size 19.05mm - 127mm diameter. Sizes outside this range can be quoted against enquiry.

Length: Can be supplied in lengths 3.6 metres to 7.0 metres. Normally in 4.0 metres for sizes 19.05mm to 25.4mm and 6.0 metres for sizes above 25.4mm.

Finish: 0.10 - 0.30 micrometres Ra. Chrome bar is precision ground to achieve a fine finish.

Packing: All hard chrome bars are packaged in cardboard tubes which provide cushioning against impact damage which may occur in handling and transit. All bars are then boxed.

Chemical composition (% by weight)

Grade	C	Mn	Si	P	S	Cr	Mo
1045	0.43 - 0.45	0.60 - 0.90	0.10 - 0.35	0.05 max.	0.05 max.	–	–
4140	0.38 - 0.43	0.75 - 1.00	0.15 - 0.35	0.04 max.	0.04 max.	0.8 - 1.10	0.15 - 0.25

Chrome bar: product range and theoretical weights

Diameter (mm)	Weight (kg/m)	Diameter (mm)	Weight (kg/m)
19.05	2.24	50.80	15.93
20.00	2.47	56.00	19.33
22.22	3.05	57.15	20.16
25.00	3.85	60.00	22.22
25.40	3.98	63.00	24.27
28.57	5.03	63.50	24.89
30.00	5.55	69.85	30.11
31.75	6.22	70.00	30.24
32.00	6.32	76.20	35.84
34.92	7.52	80.00	39.42
35.00	7.55	82.55	42.00
36.00	8.00	85.00	44.54
38.10	8.96	88.90	48.78
40.00	9.87	90.00	50.00
44.45	12.19	100.00	61.73
45.00	12.50	101.60	63.72
47.63	13.98	114.30	80.54
50.00	15.43	127.00	99.56

Grades: 1045, 1045 induction hardened, 4140 hardened & tempered.



Carbon steel hollow bar

Hollow bar, otherwise known as seamless mechanical tubing, is a tubular product made with characteristics and properties suitable for subsequent transformation into a great variety of hollow products and cylindrical components for general engineering purposes. Carbon and alloy steel hollow bars are normally supplied as circular sections although other shapes are available.

Selection of the most suitable raw material for production of circular hollow components, whether the component is a plain bush or a complex precision part, should take into consideration the advantages in using hollow bar as feedstock. It is important to remember when comparing hollow bar and solid bar that the raw material cost is dependent on the length of material used to produce the component. Since the purchase price of raw material is based on weight, the price per length is an important factor.

Hollow bar is preferred by many users because of significant savings on raw material cost and machining time. In many instances it is possible to choose a hollow bar with outside diameter and wall thickness very close to the finished dimensions of the component to be manufactured. The need for preliminary operations such as turning and boring is therefore substantially reduced or eliminated. Benefits are gained from reduction in setting-up time and machine cycle times, lower labour and overhead costs for each component, reduced tool costs, lower lubricant usage and machinery maintenance costs. Swarf handling problems are also simplified.

Carbon steel hollow bar

Products are sourced under internationally recognised specifications including ASTM A519M and ISO2938, as well as a variety of proprietary grades which comply with the requirements of appropriate specifications.

The typical grades of carbon steel hollow bar stocked by Wakefield Metals are:

- VM312, Grade 147M
- 20MNSV6
- TIM V6
- St52
- Ovako 280

Seamless carbon steel hollow bar is normally supplied in the as-rolled condition and is suitable for a wide range of thermal treatments such as normalising, surface hardening and hardening and tempering.

Low alloy steel hollow bar

Wakefield Metals can supply both 4140 and 4340 grades of alloy steel hollow bar, compliant with ASTM A519M or equivalent specification and supplied in various conditions, usually hardened and tempered, but also annealed or as-rolled conditions subject to the specific application.

Further enquiries should be made on any specific requirements.

A comparison – hollow bar vs solid bar

Boring from hollow bar	Drilling from solid bar
No drilling is necessary and a shorter time cycle for the manufacture of each component is made possible.	Time is required for drilling from solid bar and the boring operation may still be required.
Boring from hollow bar creates less swarf resulting in low material wastage and less-frequent machine cleaning.	Drilling from solid bar creates an excessive amount of swarf resulting in high wastage and frequent machine cleaning.
Coolant may not be needed.	Coolant most likely required.

Hollow bar: product range and theoretical weights

OD (mm)	ID (mm)	Weight (kg/m)	OD (mm)	ID (mm)	Weight (kg/m)	OD (mm)	ID (mm)	Weight (kg/m)
32	16	4.85	75	45	22.70	100	80	22.80
32	20	3.98	75	50	19.70	106	56	50.60
36	16	6.54	75	56	15.80	106	63	45.50
36	20	5.66	75	60	13.34	106	71	30.80
36	25	4.29	80	40	30.10	106	80	30.50
40	20	7.54	80	45	27.50	106	85	25.40
40	25	6.17	80	50	24.50	112	63	53.70
40	28	5.20	80	56	20.60	112	71	47.10
45	20	10.18	80	63	15.50	112	80	38.70
45	28	7.83	85	45	32.60	112	90	28.20
45	32	6.36	85	50	29.70	118	63	62.30
50	25	11.74	85	55	26.40	118	71	55.60
50	32	9.30	85	67	17.40	118	80	47.30
50	36	7.63	90	45	37.45	118	85	42.59
56	28	14.49	90	50	35.10	118	90	36.80
56	32	13.02	90	56	31.20	118	95	32.08
56	36	11.60	90	63	26.00	125	71	66.20
56	40	9.70	90	67	22.95	125	80	57.80
63	32	18.50	90	71	19.40	125	90	47.30
63	36	16.80	95	50	40.80	125	95	41.60
63	40	14.90	95	60	33.45	125	100	35.60
63	45	12.30	95	56	36.90	132	80	67.96
63	50	9.40	95	63	32.08	132	71	77.50
71	36	23.50	95	67	28.60	132	80	69.10
71	40	21.70	95	75	21.50	132	90	58.60
71	45	19.00	100	56	42.90	132	98	49.40
71	50	16.10	100	63	37.80	132	106	39.30
71	56	12.20	100	71	31.20	140	90	72.10
75	40	25.30	100	75	27.60	140	80	82.60

Hollow bar: product range and theoretical weights

OD (mm)	ID (mm)	Weight (kg/m)	OD (mm)	ID (mm)	Weight (kg/m)
140	90	72.10	212	170	101.04
140	100	60.40	224	132	211.95
140	106	52.80	224	160	155.80
140	112	44.70	224	180	115.60
150	80	100.70	236	140	228.40
150	85	100.77	236	170	169.90
150	95	84.60	236	190	127.50
150	106	70.90	250	150	261.17
150	118	54.40	250	180	190.90
150	125	43.70	250	200	142.80
160	90	109.50	273	173	275.00
160	100	97.80	273	193	230.00
160	112	82.10	273	201	210.40
160	122	67.70	273	213	180
160	132	52.00	273	223	157.00
162.1	79.7	122.80	298	198	306.41
162.1	111.3	85.60	298	218	255.00
170	100	118.40	298	238	199.00
170	118	94.20	298	248	170.00
170	130	75.90	298	258	137.00
170	140	59.20	324	224	337.80
172.3	121.3	92.20	324	244	280.00
180	100	140.10	324	274	186.00
180	112	126.03	356	236	437.00
180	125	105.04	356	256	377.00
180	140	80.90	356	276	311.00
180	150	63.00	406	286	512.00
190	109	156.20	406	306	439.00
190	132	117.50	406	334	324.00
190	150	86.20	457	327	628.00
190	160	67.10	457	357	502.00
200	112	176.85			
200	140	129.62			
200	160	92.25			
212	125	180.99			
212	150	142.3			



Cast Iron Unibar 400 - 15

Unibar 400-15 offers superior machinability combined with optimal impact, fatigue, electrical conductivity and magnetic permeability. Noise and vibration damping are good in this grade.

Specifications: GJS40015 and GGG40 (EN1563)

Size Range:

Round

30 mm - 450 mm Diameter

Ingot

450 mm - 757 mm Diameter

Square

Up to 410 mm square

Rectangle

Thickness 25 mm - 360 mm and width up to 650 mm

Chemical composition

Grade	C	Si	Mn	P	S	Pb
Min	3.40	2.30	0.10	-	-	—
Max	3.85	3.10	0.30	0.10	0.02	—

Mechanical:

UTS: 400 N/mm²

0.2%PS: 250 N/mm²

Elongation: 15% Minimum

Brinell Hardness:

Diameter	Hardness Range HB Min-Max
Up to 38 mm	190 Max
38 - 75 mm	180 Max
75 - 150 mm	180 Max
Above 150 mm	180 Max

Heat Treat Response: Unibar 400-15 is not recommended for hardening heat treatments.

Density: 7.20 g/cc

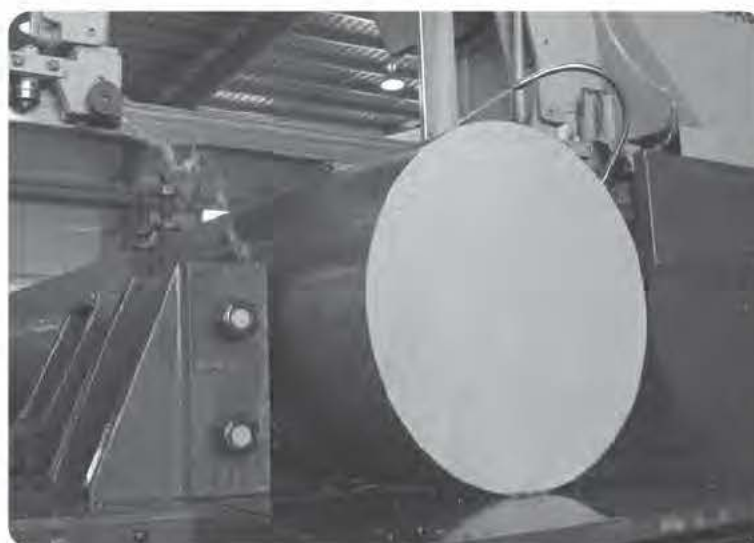
Bandsaw and hacksaw processing equipment



Within our Service Centres we operate automated bandsaw and hacksaw facilities offering a complete cutting service for your bar requirements. The local markets and regional centres are supported by the nearest capital city when required.

Maximum cutting diameter is 500mm.

For more details regarding our processing service please contact your nearest sales office.



PRECISION CARBON TUBE

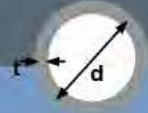


wakefieldmetals



Round Tube Mild Steel , High Strength ,Semi-Bright & 4D

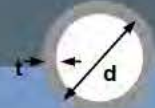
Density of steel = 7.85						6.1 Metre Length		5.5 Metre Length	
Tube Size Nominal (mm)	d -Tube Size Actual (mm)	t - Wall Thickness (mm)	Kilo's / Metre	Lengths / Mini Bundle	Lengths / Master Bundle	Kilo's / Mini Bundle	Kilo's / Master Bundle	Kilo's / Mini Bundle	Kilo's / Master Bundle
9.5	9.53	1.0	0.2104	50	150	64	192	58	174
	9.53	1.2	0.2465	50	150	75	226	68	203
	9.53	1.4	0.2807	50	150	86	257	77	232
	9.53	1.6	0.3129	50	150	95	286	86	258
11.1 *	11.11	1.0	0.2493	50	150	76	228	69	206
	11.11	1.2	0.2933	50	150	89	268	81	242
	11.11	1.4	0.3352	50	150	102	307	92	277
	11.11	1.6	0.3752	50	150	114	343	103	310
12.7	12.7	1.0	0.2885	50	100	88	176	79	159
	12.7	1.2	0.3403	50	100	104	208	94	187
	12.7	1.4	0.3901	50	100	119	238	107	215
	12.7	1.6	0.4380	50	100	134	267	120	241
	12.7	2.0	0.5278	50	100	161	322	145	290
14.3 *	14.28	1.0	0.3275	50	100	100	200	90	180
	14.28	1.2	0.3871	50	100	118	236	106	213
	14.28	1.4	0.4447	50	100	136	271	122	245
	14.28	1.6	0.5003	50	100	153	305	138	275
16	15.88	1.0	0.3670	50	100	112	224	101	202
	15.88	1.2	0.4344	50	100	133	265	119	239
	15.88	1.4	0.4999	50	100	152	305	137	275
	15.88	1.6	0.5635	50	100	172	344	155	310
	15.88	2.0	0.6846	50	100	209	418	188	377
19	19.05	1.0	0.4451	50	100	136	272	122	245
	19.05	1.2	0.5282	50	100	161	322	145	291
	19.05	1.4	0.6094	50	100	186	372	168	335
	19.05	1.6	0.6885	50	100	210	420	189	379
	19.05	2.0	0.8410	50	100	256	513	231	463
22.2	22.22	1.0	0.5233	50	100	160	319	144	288
	22.22	1.2	0.6221	50	100	190	379	171	342
	22.22	1.4	0.7188	50	100	219	438	198	395
	22.22	1.6	0.8136	50	100	248	496	224	447
	22.22	2.0	0.9973	50	100	304	608	274	549
25.4	25.4	1.0	0.6017	50	100	184	367	165	331
	25.4	1.2	0.7162	50	100	218	437	197	394
	25.4	1.4	0.8286	50	100	253	505	228	456
	25.4	1.6	0.9391	50	100	286	573	258	517
	25.4	2.0	1.1542	50	100	352	704	317	635
	25.4	2.5	1.4119	50	100	431	861	388	777
28.6	28.58	1.0	0.6802	25	50	104	207	94	187
	28.58	1.2	0.8103	25	50	124	247	111	223
	28.58	1.4	0.9384	25	50	143	286	129	258
	28.58	1.6	1.0646	25	50	162	325	146	293
	28.58	2.0	1.3110	25	50	200	400	180	361



Round Tube Mild Steel , High Strength ,Semi-Bright & 4D

Density of steel = 7.85

Tube Size Nominal (mm)	d -Tube Size Actual (mm)	t - Wall Thickness (mm)	Kilo's / Metre	Lengths / Mini Bundle	Lengths / Master Bundle	6.1 Metre Length		5.5 Metre Length	
						Kilo's / Mini Bundle	Kilo's / Master Bundle	Kilo's / Mini Bundle	Kilo's / Master Bundle
31.8									
	31.75	1.2	0.9041	25	50	138	276	124	249
	31.75	1.4	1.0479	25	50	160	320	144	288
	31.75	1.6	1.1897	25	50	181	363	164	327
	31.75	2.0	1.4674	25	50	224	448	202	404
	31.75	2.5	1.8034	25	50	275	550	248	496
35									
	34.92	1.2	0.9979	25	50	152	304	137	274
	34.92	1.4	1.1573	25	50	176	353	159	318
	34.92	1.6	1.3148	25	50	200	401	181	362
	34.92	2.0	1.6237	25	50	248	495	223	447
	34.92	2.5	1.9988	25	50	305	610	275	550
38									
	38.1	1.2	1.0920	25	50	167	333	150	300
	38.1	1.4	1.2671	25	50	193	386	174	348
	38.1	1.6	1.4402	25	50	220	439	198	396
	38.1	2.0	1.7806	25	50	272	543	245	490
	38.1	2.5	2.1949	25	50	335	669	302	604
41.3									
	41.28	1.2	1.1861	25	50	181	362	163	326
	41.28	1.4	1.3769	25	50	210	420	189	379
	41.28	1.6	1.5657	25	50	239	478	215	431
	41.28	2.0	1.9374	25	50	295	591	266	533
	41.28	2.5	2.3909	25	50	365	729	329	658
44.5									
	44.45	1.2	1.2799	25	50	195	390	176	352
	44.45	1.4	1.4863	25	50	227	453	204	409
	44.45	1.6	1.6908	25	50	258	516	232	465
	44.45	2.0	2.0938	25	50	319	639	288	576
	44.45	2.5	2.5864	25	50	394	789	356	711
47.6									
	47.62	1.2	1.3737	25	50	209	419	189	378
	47.62	1.4	1.5958	25	50	243	487	219	439
	47.62	1.6	1.8159	25	50	277	554	250	499
	47.62	2.0	2.2501	25	50	343	686	309	619
	47.62	2.5	2.7818	25	50	424	848	382	765
51									
	50.8	1.2	1.4679	20	40	179	358	161	323
	50.8	1.4	1.7056	20	40	208	416	188	375
	50.8	1.6	1.9414	20	40	237	474	214	427
	50.8	2.0	2.4070	20	40	294	587	265	530
	50.8	2.5	2.9779	20	40	363	727	328	655
54									
	53.98	1.2	1.5620	20	40	191	381	172	344
	53.98	1.4	1.8154	20	40	221	443	200	399
	53.98	1.6	2.0668	20	40	252	504	227	455
	53.98	2.0	2.5638	20	40	313	626	282	564
	53.98	2.5	3.1739	20	40	387	774	349	698



Density of steel = 7.85

Tube Size Nominal (mm)	d -Tube Size Actual (mm)	t - Wall Thickness (mm)	Kilo's / Metre	Lengths / Mini Bundle	Lengths / Master Bundle	6.1 Metre Length		5.5 Metre Length	
						Kilo's / Mini Bundle	Kilo's / Master Bundle	Kilo's / Mini Bundle	Kilo's / Master Bundle
57									
	57.15	1.2	1.6558	15	30	152	303	137	273
	57.15	1.4	1.9248	15	30	176	352	159	318
	57.15	1.6	2.1919	15	30	201	401	181	362
	57.15	2.0	2.7202	15	30	249	498	224	449
	57.15	2.5	3.3694	15	30	308	617	278	556
	57.15	3.0	4.0063	15	30	367	733	331	661
60.3									
	60.32	1.2	1.7496	15	30	160	320	144	289
	60.32	1.4	2.0343	15	30	186	372	168	336
	60.32	1.6	2.3170	15	30	212	424	191	382
	60.32	2.0	2.8765	15	30	263	526	237	475
	60.32	2.5	3.5648	15	30	326	652	294	588
	60.32	3.0	4.2408	15	30	388	776	350	700
63.5									
	63.5	1.2	1.8437	12	25	135	281	122	254
	63.5	1.4	2.1441	12	25	157	327	142	295
	63.5	1.6	2.4425	12	25	179	372	161	336
	63.5	2.0	3.0334	12	25	222	463	200	417
	63.5	2.5	3.7609	12	25	275	574	248	517
	63.5	3.0	4.4761	12	25	328	683	295	615
70									
	69.85	1.2	2.0316	12	25	149	310	134	279
	69.85	1.4	2.3633	12	25	173	360	156	325
	69.85	1.6	2.6930	12	25	197	411	178	370
	69.85	2.0	3.3466	12	25	245	510	221	460
	69.85	2.5	4.1524	12	25	304	633	274	571
	69.85	3.0	4.9459	12	25	362	754	326	680
76.2									
	76.2	1.2	2.2195	10	20	135	271	122	244
	76.2	1.6	2.9436	10	20	180	359	162	324
	76.2	2.0	3.6598	10	20	223	446	201	403
	76.2	2.5	4.5439	10	20	277	554	250	500
	76.2	3.0	5.4157	10	20	330	661	298	596
88.9									
	88.9	1.6	3.4447	5	10	105	210	95	189
	88.9	2.0	4.2862	5	10	131	261	118	236
	88.9	2.5	5.3269	5	10	162	325	146	293
101.6									
	101.6	1.6	3.9458	5	10	120	241	109	217
	101.6	2.0	4.9126	5	10	150	300	135	270

Rectangular Tube Mild Steel , High Strength , Semi-Bright & 4D.

6.1 Metre Length												5.5 Metre Length	
Tube Size Nominal (mm)	Tube Size Actual (mm)		Wall Thickness (mm)	Corner Radius R	Kilo's / Metre	Lengths / Mini Bundle	Lengths / Master Bundle	Kilo's / Mini Bundle	Kilo's / Master Bundle	Kilo's / Mini Bundle	Kilo's / Master Bundle		
	A	B	t										
25.4x12.7	25.4	x 12.7	1.2	2.05	0.649	24	50	95	198	86	179		
	25.4	x 12.7	1.4	2.5	0.742	24	50	109	226	98	204		
	25.4	x 12.7	1.6	2.95	0.830	24	50	122	253	110	228		
	25.4	x 12.7	2.0	3.85	0.994	24	50	146	303	131	273		
30x20	30	x 20	1.2	2.05	0.873	25	50	133	266	120	240		
	30	x 20	1.6	2.95	1.129	25	50	172	344	155	311		
	30	x 20	2.0	3.85	1.368	25	50	209	417	188	376		
31.8x16	31.75	x 15.88	1.2	2.05	0.829	24	50	121	253	109	228		
	31.75	x 15.88	1.4	2.5	0.951	24	50	139	290	126	262		
	31.75	x 15.88	1.6	2.95	1.070	24	50	157	326	141	294		
35x19	34.92	x 19.05	1.2	2.05	0.948	24	50	139	289	125	261		
	34.92	x 19.05	1.4	2.5	1.091	24	50	160	333	144	300		
	34.92	x 19.05	1.6	2.95	1.229	24	50	180	375	162	338		
	34.92	x 19.05	2.0	3.85	1.492	24	50	218	455	197	410		
38x25.4	38.1	x 25.4	1.2	2.05	1.128	24	50	165	344	149	310		
	38.1	x 25.4	1.4	2.5	1.300	24	50	190	397	172	358		
	38.1	x 25.4	1.6	2.95	1.468	24	50	215	448	194	404		
	38.1	x 25.4	2.0	3.85	1.791	24	50	262	546	236	493		
50x30	50	x 30	1.6	2.95	1.883	20	48	230	551	207	497		
	50	x 30	2.0	3.85	2.310	20	48	282	676	254	610		
51x25.4	50.8	x 25.4	1.2	2.05	1.367	24	50	200	417	180	376		
	50.8	x 25.4	1.4	2.5	1.579	24	50	231	482	208	434		
	50.8	x 25.4	1.6	2.95	1.787	24	50	262	545	236	492		
	50.8	x 25.4	2.0	3.85	2.190	24	50	321	668	289	602		
	50.8	x 25.4	2.5	4.975	2.669	24	50	391	814	352	734		
51x31.8	50.8	x 31.75	1.2	2.05	1.487	20	48	181	435	164	392		
	50.8	x 31.75	1.6	2.95	1.947	20	48	238	570	214	514		
	50.8	x 31.75	2.0	3.85	2.390	20	48	292	700	263	631		
51x38	50.8	x 38.1	1.2	2.05	1.606	15	30	147	294	133	265		
	50.8	x 38.1	1.6	2.95	2.106	15	30	193	385	174	348		
	50.8	x 38.1	2.0	3.85	2.589	15	30	237	474	214	427		
63.5x38	63.5	x 38.1	1.2	2.05	1.845	15	30	169	338	152	305		
	63.5	x 38.1	1.4	2.5	2.138	15	30	196	391	176	353		
	63.5	x 38.1	1.6	2.95	2.425	15	30	222	444	200	400		
	63.5	x 38.1	2.0	3.85	2.988	15	30	273	547	246	493		
	63.5	x 38.1	2.5	4.975	3.666	15	30	335	671	302	605		
68x43	63.5	x 38.1	3.0	6.1	4.317	15	30	395	790	356	712		
	68	x 43	1.6	2.95	2.662	12	25	195	406	176	366		
	68	x 43	2.0	3.85	3.283	12	25	240	501	217	451		
	68	x 43	2.5	4.975	4.035	12	25	295	615	266	555		
75x25	68	x 43	3.0	6.1	4.760	12	25	348	726	314	654		
	75	x 25	1.6	2.95	2.385	16	30	233	437	210	394		
75x50	75	x 50	1.6	2.95	3.013	12	20	221	368	199	331		
	75	x 50	2.0		3.826	12	20	280	467	253	421		
	75	x 50	2.5	4.975	4.584	12	20	336	559	303	504		
76.2x19	76.2	x 19.05	1.6	2.95	2.266	16	30	221	415	199	374		
	76.2	x 19.05	2.0	3.85	2.788	16	30	272	510	245	460		



Square Tube Bundle Size & Weight for Mild Steel , High Strength , Semi-Bright & 4D

Tube Size (mm)	Tube Size Actual (mm)	Wall Thickness (mm)	Kilo's / Metre	Lengths / Mini Bundle	Lengths / Master Bundle	6.1 Metre Length		5.5 Metre Length	
						Kilo's / Mini Bundle	Kilo's / Master Bundle	Kilo's / Mini Bundle	Kilo's / Master Bundle
9.5x9.5	9.53 x 9.53	1.0	0.2530	49	100	76	154	68	139
	9.53 x 9.53	1.2	0.2904	49	100	87	177	78	160
	9.53 x 9.53	1.4	0.3234	49	100	97	197	87	178
	9.53 x 9.53	1.6	0.3520	49	100	105	215	95	194
12.7x12.7	12.7 x 12.7	1.0	0.3526	49	100	105	215	95	194
	12.7 x 12.7	1.2	0.4099	49	100	123	250	110	225
	12.7 x 12.7	1.4	0.4628	49	100	138	282	125	255
	12.7 x 12.7	1.6	0.5113	49	100	153	312	138	281
16x16	15.88 x 15.88	1.0	0.4524	49	100	135	276	122	249
	15.88 x 15.88	1.2	0.5297	49	100	158	323	143	291
	15.88 x 15.88	1.4	0.6026	49	100	180	368	162	331
	15.88 x 15.88	1.6	0.6711	49	100	201	409	181	369
19x19	19.05 x 19.05	1.0	0.5519	49	100	165	337	149	304
	19.05 x 19.05	1.2	0.6491	49	100	194	396	175	357
	19.05 x 19.05	1.4	0.7419	49	100	222	453	200	408
	19.05 x 19.05	1.6	0.8303	49	100	248	506	224	457
22.2x22.2	22.22 x 22.22	1.0	0.6515	49	100	195	397	176	358
	22.22 x 22.22	1.2	0.7686	49	100	230	469	207	423
	22.22 x 22.22	1.4	0.8813	49	100	263	538	238	485
	22.22 x 22.22	1.6	0.9896	49	100	296	604	267	544
	22.22 x 22.22	2.0	1.1930	49	100	357	728	322	656
25.4x25.4	25.4 x 25.4	1.2	0.8884	25	49	135	266	122	239
	25.4 x 25.4	1.4	1.0211	25	49	156	305	140	275
	25.4 x 25.4	1.6	1.1494	25	49	175	344	158	310
	25.4 x 25.4	2.0	1.3927	25	49	212	416	191	375
	25.4 x 25.4	2.5	1.6721	25	49	255	500	230	451
31.8x31.8	31.75 x 31.75	1.2	1.1277	25	49	172	337	155	304
	31.75 x 31.75	1.4	1.3002	25	49	198	389	179	350
	31.75 x 31.75	1.6	1.4684	25	49	224	439	202	396
	31.75 x 31.75	2.0	1.7915	25	49	273	535	246	483
	31.75 x 31.75	2.5	2.1706	25	49	331	649	298	585
35x35	34.92 x 34.92	1.2	1.2471	25	49	190	373	171	336
	34.92 x 34.92	1.4	1.4396	25	49	220	430	198	388
	34.92 x 34.92	1.6	1.6276	25	49	248	487	224	439
	34.92 x 34.92	2.0	1.9906	25	49	304	595	274	536
	34.92 x 34.92	2.5	2.4195	25	49	369	723	333	652
38x38	38.1 x 38.1	1.2	1.3669	16	30	133	250	120	226
	38.1 x 38.1	1.4	1.5794	16	30	154	289	139	261
	38.1 x 38.1	1.6	1.7874	16	30	174	327	157	295
	38.1 x 38.1	2.0	2.1903	16	30	214	401	193	361
	38.1 x 38.1	2.5	2.6691	16	30	261	488	235	440
44.5x44.5	44.45 x 44.45	1.2	1.6062	16	25	157	245	141	221
	44.45 x 44.45	1.6	2.1064	16	25	206	321	185	290
	44.45 x 44.45	2.0	2.5890	16	25	253	395	228	356
	44.45 x 44.45	2.5	3.1676	16	25	309	483	279	436
51x51	50.8 x 50.8	1.2	1.8455	16	25	180	281	162	254
	50.8 x 50.8	1.6	2.4254	16	25	237	370	213	333
	50.8 x 50.8	2.0	2.9878	16	25	292	456	263	411
	50.8 x 50.8	2.5	3.6660	16	25	358	559	323	504
65x65	65 x 65	1.6	3.1389	9	20	172	383	155	345
	65 x 65	2.0	3.8796	9	20	213	473	192	427
	65 x 65	2.5	4.7807	9	20	262	583	237	526

Flat Sided Oval Tube Mild Steel , High Strength, Semi-Bright & 4D

						6.1 Metre Length		5.5 Metre Length		
Tube Size Nominal (mm)	Tube Size Actual (mm)		Wall Thickness (mm)	Kilo's / Metre	Lengths / Mini Bundle	Lengths / Master Bundle	Kilo's / Mini Bundle	Kilo's / Master Bundle	Kilo's / Mini Bundle	Kilo's / Master Bundle
	A	B								
25.4x16	25.4	x 15.88	1.2	0.6138	50	100	187	374	169	338
	25.4	x 15.88	1.4	0.7092	50	100	216	433	195	390
	25.4	x 15.88	1.6	0.8026	50	100	245	490	221	441
31.8x15.88	31.8	x 15.88	1.2	0.7344	50	100	224	448	202	404
	31.8	x 15.88	1.4	0.8499	50	100	259	518	234	467
	31.8	x 15.88	1.6	0.9634	50	100	294	588	265	530
35x16	34.92	x 15.88	1.2	0.7932	50	100	242	484	218	436
	34.92	x 15.88	1.4	0.9184	50	100	280	560	253	505
	34.92	x 15.88	1.6	1.0418	50	100	318	635	286	573
35x20	34.92	x 20	1.2	0.8375	25	50	128	255	115	230
	34.92	x 20	1.4	0.9701	25	50	148	296	133	267
	34.92	x 20	1.6	1.1008	25	50	168	336	151	303
	34.92	x 20	2.0	1.3563	25	50	207	414	186	373
40 x 20	40	x 20	1.4	1.0818	25	50	165	330	149	297
	40	x 20	1.6	1.2284	25	50	187	375	169	338
44.5 x 12.7	44.45	x 12.7	1.2	0.9385	25	50	143	286	129	258
	44.45	x 12.7	1.4	1.0880	25	50	166	332	150	299
	44.45	x 12.7	1.6	1.2355	25	50	188	377	170	340
51 x 16	50.8	x 15.88	1.2	1.0923	25	50	167	333	150	300
	50.8	x 15.88	1.4	1.2675	25	50	193	387	174	349
	50.8	x 15.88	1.6	1.4407	25	50	220	439	198	396
54 x 19	53.98	x 19.05	1.2	1.1863	25	50	181	362	163	326
	53.98	x 19.05	1.4	1.3771	25	50	210	420	189	379
	53.98	x 19.05	1.6	1.5660	25	50	239	478	215	431
60 x 30	60	x 30	1.6	1.8742	25	50	286	572	258	515
	60	x 30	2.0	2.3230	25	50	354	709	319	639
67 x 48	67	x 48	1.6	2.3081	25	50	352	704	317	635
	50.8	x 15.88	2.0	1.7811	25	50	272	543	245	490
97 x 42	97	x 42	1.6	2.9757	25	50	454	908	409	818
	97	x 42	2.0	3.6999	25	50	564	1128	509	1017
	97	x 42	3.0	5.4759	25	50	835	1670	753	1506
115 x 42	115	x 42	1.6	3.4279	25	50	523	1046	471	943
	115	x 42	2.0	4.2651	25	50	650	1301	586	1173

G250/Z275 Galvanised Round Tube Bundle Size & Weight

Note:- 1 Length = 6 Metre

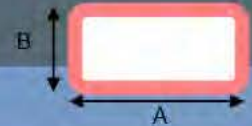
Tube Size Nominal (mm)	Tube Size Actual D (mm)	Base Metal Wall Thickness t (mm)	Kilo's / Metre	Lengths / Mini Bundle	Lengths / Master Bundle	Kilo's / Mini Bundle	Kilo's / Master Bundle	Kilo's / Mini Bundle	Kilo's / Master Bundle
12.7	12.7	0.95	0.2854	50	100	87	174	78	157
	12.7	1.15	0.3375	50	100	103	206	93	186
	12.7	1.55	0.4358	50	100	133	266	120	240
16	15.88	0.95	0.3627	50	100	111	221	100	199
	15.88	1.15	0.4305	50	100	131	263	118	237
	15.88	1.55	0.5601	50	100	171	342	154	308
19	19.05	0.95	0.4397	50	100	134	268	121	242
	19.05	1.15	0.5231	50	100	160	319	144	288
	19.05	1.55	0.6841	50	100	209	417	188	376
22.2	22.22	0.95	0.5167	50	100	158	315	142	284
	22.22	1.15	0.6158	50	100	188	376	169	339
	22.22	1.55	0.8080	50	100	246	493	222	444
25.4	25.4	0.95	0.5939	50	100	181	362	163	327
	25.4	1.15	0.7087	50	100	216	432	195	390
	25.4	1.55	0.9323	50	100	284	569	256	513
28.6	28.58	1.15	0.8016	25	50	122	244	110	220
	28.58	1.55	1.0566	25	50	161	322	145	291
31.8	31.75	1.15	0.8943	25	50	136	273	123	246
	31.75	1.55	1.1805	25	50	180	360	162	325
	31.75	1.85	1.3900	25	50	212	424	191	382
33.6	33.6	1.55	1.2528	25	50	191	382	172	345
	33.6	1.85	1.4760	25	50	225	450	203	406
35	34.92	1.15	0.9869	25	50	151	301	136	271
	34.92	1.55	1.3044	25	50	199	398	179	359
	34.92	1.85	1.5373	25	50	234	469	211	423
38	38.1	1.15	1.0799	25	50	165	329	148	297
	38.1	1.55	1.4287	25	50	218	436	196	393
	38.1	1.85	1.6852	25	50	257	514	232	463
41.3	41.28	1.15	1.1728	25	50	179	358	161	323
	41.28	1.55	1.5530	25	50	237	474	214	427
	41.28	1.85	1.8330	25	50	280	559	252	504
44.5	44.45	1.15	1.2654	25	50	193	386	174	348
	44.45	1.55	1.6769	25	50	256	511	231	461
	44.45	1.85	1.9804	25	50	302	604	272	545
47.6	47.62	1.15	1.3581	25	50	207	414	187	373
	47.62	1.55	1.8008	25	50	275	549	248	495
	47.62	1.85	2.1277	25	50	324	649	293	585
51	50.8	1.15	1.4510	20	40	177	354	160	319
	50.8	1.55	1.9251	20	40	235	470	212	424
	50.8	1.85	2.2756	20	40	278	555	250	501
57	57.15	1.15	1.6366	15	30	150	299	135	270
	57.15	1.55	2.1734	15	30	199	398	179	359
	57.15	1.85	2.5708	15	30	235	470	212	424

G250/Z275 Galvanised Round Tube Bundle Size & Weight



Note:- 1 Length = 6 Metre

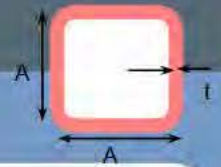
Tube Size Nominal (mm)	Tube Size Actual D (mm)	Base Metal Wall Thickness t (mm)	Kilo's / Metre	Lengths / Mini Bundle	Lengths / Master Bundle	Kilo's / Mini Bundle	Kilo's / Master Bundle	Kilo's / Mini Bundle	Kilo's / Master Bundle
60.3									
	60.32	1.15	1.7292	15	30	158	316	143	285
	60.32	1.55	2.2973	15	30	210	420	190	379
	60.32	1.85	2.7181	15	30	249	497	224	448
63.5									
	63.5	1.15	1.8222	12	25	133	278	120	251
	63.5	1.55	2.4216	12	25	177	369	160	333
	63.5	1.85	2.8660	12	25	210	437	189	394
70									
	69.85	1.55	2.6698	12	25	195	407	176	367
	69.85	1.85	3.1612	12	25	231	482	209	435
76.2									
	76.2	1.55	2.9180	10	20	178	356	160	321
	76.2	1.85	3.4564	10	20	211	422	190	380
88.9									
	88.9	1.55	3.4144	5	10	104	208	94	188
	88.9	1.85	4.0468	5	10	123	247	111	223
101.6									
	101.6	1.55	3.9109	5	10	119	239	108	215
	101.6	1.85	4.6371	5	10	141	283	128	255



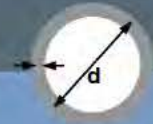
G250/Z275 Galvanised Rectangular Tube Bundle Size & Weight

Tube Size Nominal (mm)	Tube Size Actual (mm)		Base Metal Wall Thickness (mm)	Corner Radius R	Kilo's / Metre	Lengths / Mini Bundle	Lengths / Master Bundle	Kilo's / Mini Bundle	Kilo's / Master Bundle	Kilo's / Mini Bundle	Kilo's / Master Bundle
	A	B	t								
25.4x12.7	25.4	x 12.7	0.95	1.5	0.5376	24	50	79	164	71	148
	25.4	x 12.7	1.15	1.9	0.6360	24	50	93	194	84	175
	25.4	x 12.7	1.55	2.8	0.8196	24	50	120	250	108	225
	25.4	x 12.7	1.85	3.5	0.9457	24	50	138	288	125	260
30x20	30	x 20	1.55	2.8	1.1124	25	50	170	339	153	306
	30	x 20	1.85	3.5	1.2946	25	50	197	395	178	356
31.8x16	31.75	x 15.88	0.95	1.5	0.6823	24	50	100	208	90	188
	31.75	x 15.88	1.15	1.9	0.8106	24	50	119	247	107	223
	31.75	x 15.88	1.55	2.8	1.0541	24	50	154	321	139	290
35x19	34.92	x 19.05	0.95	1.5	0.7786	24	50	114	237	103	214
	34.92	x 19.05	1.15	1.9	0.9268	24	50	136	283	122	255
	34.92	x 19.05	1.55	2.8	1.2101	24	50	177	369	160	333
	34.92	x 19.05	1.85	3.5	1.4110	24	50	207	430	186	388
38x25.4	38.1	x 25.4	0.95	1.5	0.9234	24	50	135	282	122	254
	38.1	x 25.4	1.15	1.9	1.1015	24	50	161	336	145	303
	38.1	x 25.4	1.55	2.8	1.4447	24	50	211	441	191	397
	38.1	x 25.4	1.85	3.5	1.6904	24	50	247	516	223	465
50x30	50	x 30	1.55	2.8	1.8507	20	48	226	542	204	489
	50	x 30	1.85	3.5	2.1742	20	48	265	637	239	574
51x25.4	50.8	x 25.4	0.95	1.5	1.1163	24	50	163	340	147	307
	50.8	x 25.4	1.15	1.9	1.3343	24	50	195	407	176	367
	50.8	x 25.4	1.55	2.8	1.7572	24	50	257	536	232	483
	50.8	x 25.4	1.85	3.5	2.0628	24	50	302	629	272	567
51x31.8	50.8	x 31.75	1.55	2.8	1.9135	20	48	233	560	210	505
	50.8	x 31.75	1.85	3.5	2.2490	20	48	274	659	247	594
51x38	50.8	x 38.1	1.55	2.8	2.0697	15	30	189	379	171	342
	50.8	x 38.1	1.85	3.5	2.4352	15	30	223	446	201	402
63.5x38	63.5	x 38.1	1.15	1.9	1.7999	15	30	165	329	148	297
	63.5	x 38.1	1.55	2.8	2.3823	15	30	218	436	197	393
	63.5	x 38.1	1.85	3.5	2.8075	15	30	257	514	232	463
	63.5	x 38.1	2.25	4.4	3.3591	15	30	307	615	277	554
68x43	68	x 43	1.55	2.8	2.6136	12	25	191	399	172	359
	68	x 43	1.85	3.5	3.0831	12	25	226	470	203	424
	68	x 43	2.25	4.4	3.6938	12	25	270	563	244	508
75x25	75	x 25	1.55	2.8	2.3429	16	30	229	429	206	387
75x50	75	x 50	1.55	2.8	2.9582	12	20	217	361	195	325
	75	x 50	1.85	3.5	3.4936	12	20	256	426	231	384
76.2x19	76.2	x 19.05	1.55	2.8	2.2260	16	30	217	407	196	367
	76.2	x 19.05	1.85	3.5	2.6214	16	30	256	480	231	433

G250/Z275 Galvanised Square Tube Bundle Size & Weight



Tube Size Nominal (mm)	Tube Size Actual (mm)	Wall Thickness (mm)	Kilo's / Metre	Lengths / Mini Bundle	Lengths / Master Bundle	Kilo's / Mini Bundle	Kilo's / Master Bundle	Kilo's / Mini Bundle	Kilo's / Master Bundle
12.7x12.7	12.7 x 12.7	0.95	0.3446	50	100	105	210	95	190
	12.7 x 12.7	1.15	0.4032	50	100	123	246	111	222
	12.7 x 12.7	1.55	0.5070	50	100	155	309	139	279
16x16	15.88 x 15.88	0.95	0.4412	49	100	132	269	119	243
	15.88 x 15.88	1.15	0.5197	49	100	155	317	140	286
	15.88 x 15.88	1.55	0.6635	49	100	198	405	179	365
19x19	19.05 x 19.05	0.95	0.5376	49	100	161	328	145	296
	19.05 x 19.05	1.15	0.6360	49	100	190	388	171	350
	19.05 x 19.05	1.55	0.8196	49	100	245	500	221	451
	19.05 x 19.05	1.85	0.9457	49	100	283	577	255	520
22.2x22.2	22.22 x 22.22	0.95	0.6339	49	100	189	387	171	349
	22.22 x 22.22	1.15	0.7522	49	100	225	459	203	414
	22.22 x 22.22	1.55	0.9756	49	100	292	595	263	537
	22.22 x 22.22	1.85	1.1316	49	100	338	690	305	622
25.4x25.4	25.4 x 25.4	0.95	0.7305	25	49	111	218	100	197
	25.4 x 25.4	1.15	0.8687	25	49	132	260	119	234
	25.4 x 25.4	1.55	1.1321	25	49	173	338	156	305
	25.4 x 25.4	1.85	1.3181	25	49	201	394	181	355
31.8x31.8	31.75 x 31.75	1.15	1.1015	25	49	168	329	151	297
	31.75 x 31.75	1.55	1.4447	25	49	220	432	199	389
	31.75 x 31.75	1.85	1.6904	25	49	258	505	232	456
35x35	34.92 x 34.92	1.15	1.2177	25	49	186	364	167	328
	34.92 x 34.92	1.55	1.6007	25	49	244	478	220	431
	34.92 x 34.92	1.85	1.8763	25	49	286	561	258	506
38x38	38.1 x 38.1	1.15	1.3631	16	30	133	249	120	225
	38.1 x 38.1	1.55	1.8147	16	30	177	332	160	299
	38.1 x 38.1	1.85	2.0628	16	30	201	377	182	340
44.5x44.5	44.45 x 44.45	1.15	1.5959	16	25	156	243	140	219
	44.45 x 44.45	1.55	2.1272	16	25	208	324	187	292
	44.45 x 44.45	1.85	2.5205	16	25	246	384	222	347
51x51	50.8 x 50.8	1.15	1.8287	16	25	178	279	161	251
	50.8 x 50.8	1.55	2.4398	16	25	238	372	215	335
	50.8 x 50.8	1.85	2.8929	16	25	282	441	255	398
65x65	65 x 65	1.55	3.1387	9	20	172	383	155	345
	65 x 65	1.85	3.6402	9	20	200	444	180	400



Aluminium coated Steel (Aliclad) Round Tube

6.1 Metre Length5.5 Metre Length									
Tube Size Nominal (mm)	D -Tube Size Actual (mm)	t - Wall Thickness (mm)	Kilo's / Metre	Lengths / Mini Bundle	Lengths / Master Bundle	Kilo's / Mini Bundle	Kilo's / Master Bundle	Kilo's / Mini Bundle	Kilo's / Master Bundle
31.8									
	31.75	1.2	0.9029	25	50	305	275	275	248
	31.75	1.6	1.1882	25	50	305	362	275	327
35.0									
	34.92	1.2	0.9966	25	50	305	304	275	274
	34.92	1.6	1.3131	25	50	305	400	275	361
38.0									
	38.1	1.2	1.0906	25	50	305	333	275	300
	38.1	1.6	1.4384	25	50	305	439	275	396
41.3									
	41.28	1.2	1.1846	25	50	305	361	275	326
	41.28	1.6	1.5637	25	50	305	477	275	430
44.5									
	44.45	1.2	1.2783	25	50	305	390	275	352
	44.45	1.6	1.6886	25	50	305	515	275	464
47.6									
	47.62	1.2	1.3720	25	50	305	418	275	377
	47.62	1.6	1.8136	25	50	305	553	275	499
51.0									
	50.8	1.2	1.4660	20	40	244	358	220	323
	50.8	1.6	1.9389	20	40	244	473	220	427
54.0									
	53.98	1.2	1.5600	20	40	244	381	220	343
	53.98	1.6	2.0642	20	40	244	504	220	454
57.0									
	57.15	1.2	1.6537	15	30	183	303	165	273
	57.15	1.6	2.1891	15	30	183	401	165	361
60.3									
	60.32	1.2	1.7474	15	30	183	320	165	288
	60.32	1.6	2.3140	15	30	183	423	165	382
63.5									
	63.5	1.2	1.8413	13	25	152.5	281	137.5	253
	63.5	1.6	2.4394	13	25	152.5	372	137.5	335
70.0									
	69.85	1.2	2.0290	13	25	152.5	309	137.5	279
	69.85	1.6	2.6896	13	25	152.5	410	137.5	370
76.2									
	76.2	1.6	2.9398	10	20	122	359	110	323
	76.2	2.0	3.6551	10	20	122	446	110	402
88.9									
	88.9	1.6	3.4403	5	10	61	210	55	189
	88.9	2.0	4.2807	5	10	61	261	55	235
101.6									
	101.6	1.6	3.9408	5	10	61	240	55	217
	101.6	2.0	4.9063	5	10	61	299	55	270

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