



European Standard BS EN 10025-2:2004

Technical delivery conditions for non-alloy structural steels

Grade	S235JR	S235JO	S235J2	S275JR	S275JO			S275J2	S355JR	S355JO	S355J2	S355K2	S450JO
	Mechanicals Properties, Ladle analysis for flat and long products of steel grades and qualities with values for the impact strength							Mechanicals Properties, Ladle analysis for flat and long products of steel grades and qualities with values for the impact strength					
	Minimum Yield Strength (N/mm ²)							Minimum Yield Strength (N/mm ²)					
≤ 16	235	235	235	275	275			275	355	355	355	355	450
> 16 ≤ 40	225	225	225	265	265			265	345	345	345	345	430
> 40 ≤ 63	215	215	215	255	255			255	355	355	355	355	410
> 63 ≤ 80	215	215	215	245	245			245	325	325	325	325	390
> 80 ≤ 100	215	215	215	235	235			235	315	315	315	315	380
> 100 ≤ 150	195	195	195	225	225			225	295	295	295	295	380
> 150 ≤ 200	185	185	185	215	215			215	285	285	285	285	-
> 200 ≤ 250	175	175	175	205	205			205	275	275	275	275	-
> 250 ≤ 400	-	-	165	-	-			195	-	265	265	-	-
	Tensile Strength (N/mm ²)							Tensile Strength (N/mm ²)					
< 3	360 - 510	360 - 510	360 - 510	430 - 580	430 - 580			430 - 580	510 - 680	510 - 680	510 - 680	510 - 680	-
≥ 3 t ≤ 100	360 - 510	360 - 510	360 - 510	410 - 560	410 - 560			410 - 560	470 - 630	470 - 630	470 - 630	470 - 630	550 - 720
> 100 t ≤ 150	350 - 500	350 - 500	350 - 500	400 - 540	400 - 540			400 - 540	450 - 600	450 - 600	450 - 600	450 - 600	530 - 700
> 150 ≤ 250	340 - 490	340 - 490	340 - 490	350 - 540	350 - 540			350 - 540	450 - 600	450 - 600	450 - 600	450 - 600	-
> 250 ≤ 400	-	-	330 - 480	-	-			380 - 540	-	450 - 600	450 - 600	-	-
	Elongation Min (%) L _o = 80 mm							Elongation Min (%) L _o = 80 mm					
≤ 1 (l/t)	17 / 25	17 / 25	17 / 25	15 / 13	15 / 13			15 / 13	14 / 12	14 / 12	14 / 12	14 / 12	-
> 1 ≤ 1.5 (l/t)	18 / 16	18 / 16	18 / 16	16 / 14	16 / 14			16 / 14	15 / 13	15 / 13	15 / 13	15 / 13	-
> 1.5 ≤ 2 (l/t)	19 / 17	19 / 17	19 / 17	17 / 15	17 / 15			17 / 15	16 / 14	16 / 14	16 / 14	16 / 14	-
> 2 ≤ 2.5 (l/t)	20 / 18	20 / 18	20 / 18	18 / 16	18 / 16			18 / 16	17 / 15	17 / 15	17 / 15	17 / 15	-
> 2.5 < 3 (l/t)	21 / 19	21 / 19	21 / 19	19 / 17	19 / 17			19 / 17	18 / 16	18 / 16	18 / 16	18 / 16	-
	Elongation Min (%) L _o = 5.65 vS _o							Elongation Min (%) L _o = 5.65 vS _o					
≥ 3 ≤ 40 (l/t)	26 / 24	26 / 24	26 / 24	23 / 21	23 / 21			23 / 21	22 / 20	22 / 20	22 / 20	22 / 20	17
> 40 ≤ 63 (l/t)	25 / 23	25 / 23	25 / 23	22 / 20	22 / 20			22 / 20	21 / 19	21 / 19	21 / 19	21 / 19	17
> 63 ≤ 100 (l/t)	24 / 22	24 / 22	24 / 22	21 / 19	21 / 19			21 / 19	20 / 18	20 / 18	20 / 18	20 / 18	17
> 100 ≤ 15 (l/t)	22 / 22	22 / 22	22 / 22	19 / 19	19 / 19			19 / 19	18 / 18	18 / 18	18 / 18	18 / 18	17
> 150 ≤ 250 (l/t)	21 / 21	21 / 21	21 / 21	18 / 18	18 / 18			18 / 18	17 / 17	17 / 17	17 / 17	17 / 17	-
> 250 ≤ 400 (l/t)	-	-	21 / 21	-	-			18 / 18	-	-	17 / 17	17 / 17	-

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Grade	S235JR	S235J0	S235J2	S275JR	S275J0			S275J2	S355JR	S355J0	S355J2	S355K2	S450J0
Method of Deoxidation	FN	FN	FF	FN	FN			FF	FN	FN	FF	FF	FF
	Chemical Composition, Ladle Analysis						Chemical Composition, Ladle Analysis						
C [% Max]													
≤ 16	0.17	0.17	0.17	0.21	0.18		0.18	0.24	0.20	0.20	0.20	0.20	0.20
> 16 ≤ 40	0.17	0.17	0.17	0.21	0.18		0.18	0.24	0.20	0.20	0.20	0.20	0.20
> 40	0.20	0.17	0.17	0.22	0.18		0.18	0.24	0.22	0.22	0.22	0.22	0.22
Si [% Max]	-	-	-	-	-		-	0.55	0.55	0.55	0.55	0.55	0.55
Mn [% Max]	1.40	1.40	1.40	1.50	1.50		1.50	1.60	1.60	1.60	1.60	1.60	1.70
P [% Max]	0.035	0.030	0.025	0.035	0.030		0.025	0.035	0.030	0.025	0.025	0.025	0.030
S [% Max]	0.035	0.030	0.025	0.035	0.030		0.025	0.035	0.030	0.025	0.025	0.025	0.030
Cu [% Max]	0.55	0.55	0.55	0.55	0.55		0.55	0.55	0.55	0.55	0.55	0.55	0.55
N [% Max]	0.012	0.012	-	0.012	0.012		-	0.012	0.012	-	-	-	0.025
CEV													
≤ 30	0.35	0.35	0.35	0.40	0.40		0.40	0.45	0.45	0.45	0.45	0.45	0.47
> 30 t ≤ 40	0.35	0.35	0.35	0.40	0.40		0.40	0.47	0.47	0.47	0.47	0.47	0.49
> 40 ≤ 150	0.38	0.38	0.38	0.42	0.42		0.42	0.47	0.47	0.47	0.47	0.47	0.49
> 150 t ≤ 250	0.40	0.40	0.40	0.44	0.44		0.44	0.49	0.49	0.49	0.49	0.49	-
> 250 t ≤ 400	-	-	0.40	-	-		0.44	-	-	0.49	0.49	0.49	-
	Impact Value						Impact Value						
Temperature [°C]	20 °C	0 °C	-20 °C	20 °C	0 °C		-20 °C	20 °C	0 °C	-20 °C	-20 °C	-20 °C	0 °C
Nominal Thickness (mm)	Minimum Energy (J)						Minimum Energy (J)						
≤ 150	27	27	27	27	27		27	27	27	27	40	40	27
> 150 t ≤ 250	27	27	27	27	27		27	27	27	27	33	33	-
> 250 t ≤ 400	-	-	27	-	-		27	-	-	27	33	33	0

FN : Rimming steels not permitted
FF : Fully killed steel

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Technical delivery conditions for thermomechanical rolled weldable
fine grain structural steels

Grade	S275M	S275ML	S355M			S355ML	S420M	S420ML	S460M	S460ML
	Mechanicals Properties, Ladle analysis for thermomechanical rolled steel					Mechanicals Properties, Ladle analysis for thermomechanical rolled steel				
	Minimum Yield Strength (N/mm ²)					Minimum Yield Strength (N/mm ²)				
≤ 16	275	275	355			355	420	420	460	460
> 16 ≤ 40	265	265	345			345	400	400	440	440
> 40 ≤ 63	255	255	335			335	390	390	430	430
> 63 ≤ 80	245	245	325			325	380	380	410	410
> 80 ≤ 100	245	245	325			325	370	370	400	400
> 100 ≤ 120	240	240	320			320	365	365	385	385
	Tensile Strength (N/mm ²)					Tensile Strength (N/mm ²)				
< 40	370 - 530	370 - 530	470 - 630			470 - 630	520 - 680	520 - 680	540 - 720	540 - 720
> 40 ≤ 63	360 - 520	360 - 520	450 - 610			450 - 610	500 - 660	500 - 660	530 - 710	530 - 710
> 63 ≤ 80	350 - 510	350 - 510	440 - 600			440 - 600	480 - 640	480 - 640	510 - 690	510 - 690
> 80 ≤ 100	350 - 510	350 - 510	440 - 600			440 - 600	470 - 630	470 - 630	500 - 680	500 - 680
> 100 ≤ 120	350 - 510	350 - 510	430 - 590			430 - 590	460 - 620	460 - 620	490 - 660	490 - 660
	Minimum Elongation L ₀ = 5.65 VS ₀					Minimum Elongation L ₀ = 5.65 VS ₀				
	24	24	22			22	19	19	17	17

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Technical delivery conditions for thermomechanical rolled weldable
fine grain structural steels

Grade	S275M	S275ML	S355M			S355ML	S420M	S420ML	S460M	S460ML
	Chemical Composition, Ladle Analysis					Chemical Composition, Ladle Analysis				
C % (Max)	0,13	0,13	0,14			0,14	0,16	0,16	0,16	0,16
Si % (Max)	0.5	0.5	0.5			0.5	0.5	0.5	0.6	0.6
Mn % (Max)	1.50	1.50	1.60			1.60	1.70	1.70	1.70	1.70
P % (Max)	0.030	0.025	0.030			0.025	0.030	0.025	0.030	0.025
S % (Max)	0.025	0.020	0.025			0.020	0.025	0.020	0.025	0.020
Nb % (Max)	0.05	0.05	0.05			0.05	0.05	0.05	0.05	0.05
V % (Max)	0.08	0.08	0.10			0.10	0.12	0.12	0.12	0.12
Al % (Min)	0.02	0.02	0.02			0.02	0.02	0.02	0.02	0.02
Ti % (Max)	0.05	0.05	0.05			0.05	0.05	0.05	0.05	0.05
Cu % (Max)	0.55	0.55	0.55			0.55	0.55	0.55	0.55	0.55
Cr % (Max)	0.30	0.30	0.30			0.30	0.30	0.30	0.30	0.30
Ni % (Max)	0.30	0.30	0.50			0.50	0.80	0.80	0.80	0.80
Mo % (Max)	0.10	0.10	0.10			0.10	0.20	0.20	0.20	0.20
N % (Max)	0.015	0.015	0.015			0.015	0.025	0.025	0.025	0.025
CEV										
≤ 16	0.34	0.34	0.39			0.39	0.43	0.43	0.45	0.45
> 16 ≤ 40	0.34	0.34	0.39			0.39	0.45	0.45	0.46	0.46
> 40 ≤ 63	0.35	0.35	0.40			0.40	0.46	0.46	0.47	0.47
> 63 ≤ 120	0.38	0.38	0.45			0.45	0.47	0.47	0.48	0.48
> 120 ≤ 150	0.38	0.38	0.45			0.45	0.47	0.47	0.48	0.48
	Impact Value					Impact Value				
Temperature [°C]	Minimum Energy (J)					Minimum Energy (J)				
20°C	55	63	55			63	55	63	55	63
0°C	47	55	47			55	47	55	47	55
-10°C	43	51	43			51	43	51	43	51
-20°C	40	47	40			47	40	47	40	47
-30°C	-	40	-			40	-	40	-	40
-40°C	-	31	-			31	-	31	-	31
-50°C	-	27	-			27	-	27	-	27

European Standard
BS EN 10025-5:2004

Technical delivery conditions for structural steels with
improved atmospheric corrosion resistance

Grade	S235J0W	S235J2W			S355J0WP	S355J2WP	S355J0W	S355J2W	S355K2W
Mechanicals Properties, Ladle analysis				Mechanicals Properties, Ladle analysis					
Minimum Yield Strength (N/mm ²)				Minimum Yield Strength (N/mm ²)					
≤ 16	235	235			355	355	355	355	355
> 16 ≤ 40	225	225			345	345	345	345	345
> 40 ≤ 63	215	215			-	-	335	335	335
> 63 ≤ 80	215	215			-	-	325	325	325
> 80 ≤ 100	215	215			-	-	315	315	315
> 100 ≤ 150	195	195			-	-	295	295	295
Tensile Strength (N/mm ²)				Tensile Strength (N/mm ²)					
< 3	360 - 510	360 - 510			510 - 680	510 - 680	510 - 680	510 - 680	510 - 680
≥ 3 ≤ 100	360 - 510	360 - 510			470 - 630	470 - 630	470 - 630	470 - 630	470 - 630
≥ 100 ≤ 150	350 - 500	350 - 500			-	-	450 - 600	450 - 600	450 - 600
Position of test pieces	l	t			l	t	l	t	
Minimum Elongation Lo = 80 mm Nominal thickness mm				Minimum Elongation Lo = 80 mm Nominal thickness mm					
> 1.5 ≤ 2	19	17			16	14	16		14
> 2 ≤ 2.5	20	18			17	15	17		15
> 2.5 < 3	21	19			18	16	18		16
Minimum Elongation Lo = 80 mm Nominal thickness mm				Minimum Elongation Lo = 80 mm Nominal thickness mm					
≥ 3 ≤ 40	26	24			22	20	22		20
> 40 ≤ 63	25	23			-	-	21		19
> 63 ≤ 100	24	22			-	-	20		18
> 100 ≤ 150	22	22			-	-	18		18

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Technical delivery conditions for structural steels with improved atmospheric corrosion resistance

Grade	S235J0W	S235J2W			S355J0WP	S355J2WP	S355J0W	S355J2W	S355K2W
Method of Deoxidation	FN	FF			FN	FF	FN	FF	FF
	Chemical Composition, Ladle Analysis				Chemical Composition, Ladle Analysis				
C % (Max)	0.13	0.13			0.12	0.12	0.16	0.16	0.16
Si % (Max)	0.40	0.40			0.75	0.75	0.50	0.50	0.50
Mn %	0.20 - 0.60	0.20 - 0.60			max. 1.0	max. 1.0	0.50 - 1.50	0.50 - 1.50	0.50 - 1.50
P %	max. 0.035	max. 0.035			0.06 - 0.15	0.06 - 0.15	max. 0.035	max. 0.030	max. 0.030
S % (Max)	0.035	0.030			0.035	0.030	0.035	0.030	0.030
Cu %	0.25 - 0.55	0.25 - 0.55			0.25 - 0.55	0.25 - 0.55	0.25 - 0.55	0.25 - 0.55	0.25 - 0.55
Cr %	0.40 - 0.80	0.40 - 0.80			0.30 - 1.25	0.30 - 1.25	0.40 - 0.80	0.40 - 0.80	0.40 - 0.80
N % (Max)	0.009	-			0.009	-	0.009	-	
Addition of nitrogen binding elements	-	yes			-	yes	-	yes	yes
	Impact Values				Impact Values				
Temperature (°C)	0°C	-20°C			0°C	-20°C	0°C	-20°C	-20°C
Minimum Energy (J)	27	27			27	27	27	27	40

FN : Rimming steels not permitted
FF : Fully killed steel containing nitrogen binding elements in amounts sufficient to bind available nitrogen

European Standard
BS EN 10210-1:2006

Hot finished structural hollow sections of non-alloy and fine grain steels

Grade	S235JRH	S275J0H			S275J2H	S355J0H	S355J2H	S355K2H
	Mechanicals Properties				Mechanicals Properties			
	Minimum Yield Strength (N/mm ²)				Minimum Yield Strength (N/mm ²)			
≤ 16	235	275			275	355	355	355
> 16 ≤ 40	225	265			265	345	345	345
> 40 ≤ 63	215	255			255	335	335	335
> 63 ≤ 80	215	245			245	325	325	325
> 80 ≤ 100	215	235			235	315	315	315
> 100 ≤ 120	195	225			225	295	295	295
	Tensile Strength (N/mm ²)				Tensile Strength (N/mm ²)			
< 3	360 - 510	430 - 580			430 - 580	510 - 680	510 - 680	510 - 680
≥ 3 ≤ 100	360 - 510	410 - 560			410 - 560	470 - 630	470 - 630	470 - 630
≥ 100 ≤ 120	350 - 500	400 - 540			400 - 540	450 - 600	450 - 600	450 - 600
	Minimum Elongation (%)				Minimum Elongation (%)			
≤ 40	26	23			23	22	22	22
> 40 ≤ 63	25	22			22	21	21	21
> 63 ≤ 100	24	21			21	20	20	20
> 100 ≤ 120	22	19			19	18	18	18

European Standard BS EN 10210-1:2006

Hot finished structural hollow sections of non-alloy and fine grain steels

Grade	S235JRH	S275J0H			S275J2H	S355J0H	S355J2H	S355K2H
Method of Deoxidation	FN	FN			FF	FN	FF	FF
	Chemical Composition, Ladle Analysis for product thickness ≤ 120mm				Chemical Composition, Ladle Analysis for product thickness ≤ 120mm			
C % (Max)								
≤ 40	0.17	0.20			0.20	0.22	0.22	0.22
> 40 ≤ 120	0.20	0.22			0.22	0.22	0.22	0.22
Si % (Max)	-	-			-	0.55	0.55	0.55
Mn % (Max)	1.40	1.50			1.50	1.60	1.60	1.60
P % (Max)	0.040	0.035			0.030	0.035	0.030	0.030
S % (Max)	0.04	0.04			0.30	0.04	0.03	0.03
N % (Max)	0.009	0.009			-	0.009	-	-
CEV % (Max)								
≤ 16	0.37	0.41			0.41	0.45	0.45	0.45
> 16 ≤ 65	0.39	0.43			0.43	0.47	0.47	0.47
> 40 ≤ 65	0.41	0.45			0.45	0.50	0.50	0.50
> 65 ≤ 120	0.44	0.48			0.48	0.53	0.53	0.53
	Impact Values				Impact Values			
Temperature [°C]	Minimum Energy (J)				Minimum Energy (J)			
-20°C	-	-			27	-	27	40
0°C	-	27			-	27	-	-
20°C	-	-			-	-	-	-

FN : Rimming steels not permitted
FF : Fully killed steel containing nitrogen binding elements in amounts sufficient to bind available nitrogen

European Standard BS EN 10219-1:2006

Cold formed welded structural hollow sections of non-alloy and fine grain steels

Grade	S235JRH	S275J0H			S275J2H	S355J0H	S355J2H	S355K2H
Mechanicals Properties thickness ≤ 40 mm				Mechanicals Properties thickness ≤ 40 mm				
Minimum Yield Strength (N/mm²)				Minimum Yield Strength (N/mm²)				
≤ 16 mm	235	275		275	355	355	355	355
> 16mm ≤ 40mm	225	265		265	345	345	345	345
Tensile Strength (N/mm²)				Tensile Strength (N/mm²)				
< 3 mm	360 to 510	430-580		430 - 580	510 to 680	510 to 680	510 to 680	510 to 680
≥ 3mm ≤ 40mm	360 to 510	430 - 560		430 - 560	470 to 630	470 to 630	470 to 630	470 to 630
Minimum Elongation (%)				Minimum Elongation (%)				
≤ 40 mm	24	20		20	20	20	20	20
Method of Deoxidation	FF	FF			FF	FF	FF	FF
Chemical Composition, Ladle Analysis for product thickness ≤ 40mm				Chemical Composition, Ladle Analysis for product thickness ≤ 40mm				
C % (Max)	0.17	0.20		0.20	0.22	0.22	0.22	0.22
Si % (Max)	-	-		-	0.55	0.55	0.55	0.55
Mn % (Max)	1.40	1.50		1.50	1.60	1.60	1.60	1.60
P % (Max)	0.040	0.035		0.030	0.035	0.030	0.035	0.035
S % (Max)	0.040	0.035		0.030	0.035	0.030	0.035	0.035
N % (Max)	0.009	0.009		-	0.009	-	-	-
CEV % (Max)								
≤ 40mm	0.35	0.40		0.40	0.45	0.45	0.45	0.45
Impact Values thickness ≤ 40mm				Impact Values thickness ≤ 40mm				
Temperature [°C]	Minimum Energy [J]			Minimum Energy [J]				
-20°C	-	-		27	-	27	40	
0°C	-	27		-	27	-	-	
20°C	27	-		-	-	-	-	

FF : Fully killed steel containing nitrogen binding elements in amounts sufficient to bind available nitrogen

European Standard
BS EN 10225:2009

Weldable structural steels for fixed offshore structures

Grade	S355G2+N	S355G3+N			S355G5+M	S355G6+M
	Mechanicals Properties thickness ≤ 40 mm				Mechanicals Properties thickness ≤ 40 mm	
	Minimum Yield Strength(N/mm²)				Minimum Yield Strength(N/mm²)	
≤ 16 mm	355	355			355	355
16 < t ≤ 25	345	345			345	345
25 < t ≤ 40	-	345			-	345
40 < t ≤ 63	-	-			-	-
60 < t ≤ 100	-	-			-	-
100 < t ≤ 150	-	-			-	-
	Tensile Strength (N/mm²)				Tensile Strength (N/mm²)	
≤ 100	470 - 630	470 - 630			470 - 610	471 - 610
> 100						
	Minimum Elongation (%)				Minimum Elongation (%)	
	22	22			22	22
	Chemical Composition, Ladle Analysis for product thickness ≤ 40mm				Chemical Composition, Ladle Analysis for product thickness ≤ 40mm	
C % (Max)	0.20	0.18			0.14	0.14
Si %	0.5 max	0.5 max			0.5 max	0.5 max
Mn %	0.90 - 1.65	0.90 - 1.65			1.6 max	1.6 max
P % (Max)	0.035	0.030			0.035	0.030
S % (Max)	0.030	0.025			0.030	0.025
Nb % (Max)	0.060	0.060			0.050	0.050
V % (Max)	0.120	0.120			0.100	0.100
Al Total %	0.02 min	0.02 min			0.02 min	0.02 min
Ti % (Max)	0.030	0.030			0.050	0.050
Cu % (Max)	0.35	0.35			-	-
Cr % (Max)	0.30	0.30			-	-
Ni % (Max)	0.50	0.50			0.30	0.30
Mo % (Max)	0.10	0.10			0.20	0.20
N % (Max)	0.015	0.015			0.015	0.015
CEV % (Max)	0.43	0.43			0.43	0.43
	Impact Values				Impact Values	
Temperature (°C)	-20 °C	-40 °C			-20 °C	-40 °C
Minimum Energy (J)	50	50			50	50

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Weldable structural steels for fixed offshore structures

Grade	S355G7+N	S355G7+M	S355G8+N			S355G8+M	S355G9+N	S355G9+M	S355G10+N	S355G10+M
Mechanicals Properties thickness ≤ 40 mm					Mechanicals Properties thickness ≤ 40 mm					
Minimum Yield Strength (N/mm²)					Minimum Yield Strength (N/mm²)					
≤ 16 mm	355	355	355		355	355	355	355	355	355
16 < t ≤ 25	345	345	345		345	345	345	345	345	345
25 < t ≤ 40	345	345	345		345	345	345	345	345	345
40 < t ≤ 63	335	335	335		335	335	335	335	335	335
60 < t ≤ 100	325	325	325		325	325	325	325	325	325
100 < t ≤ 150	320	-	320		-	320	-	320	-	-
Tensile Strength (N/mm²)					Tensile Strength (N/mm²)					
≤ 100	470 - 630	470 - 630	470 - 630		470 - 630	470 - 630	470 - 630	470 - 630	470 - 630	470 - 630
> 100	460 - 620	-	460 - 620		-	460 - 620	-	460 - 620	-	-
Minimum Elongation (%)					Minimum Elongation (%)					
	22	22	22		22	22	22	22	22	22
Chemical Composition, Ladle and Product Analysis for product thickness ≤ 40mm					Chemical Composition, Ladle and Product Analysis for product thickness ≤ 40mm					
C % (Max)	0.14	0.14	0.14		0.14	0.12	0.12	0.12	0.12	0.12
Si %	0.15 - 0.55	0.15 - 0.55	0.15 - 0.55		0.15 - 0.55	0.15 - 0.55	0.15 - 0.55	0.15 - 0.55	0.15 - 0.55	0.15 - 0.55
Mn %	1.00 - 1.65	1.00 - 1.65	1.00 - 1.65		1.00 - 1.65	1.65 max	1.65 max	1.65 max	1.65 max	1.65 max
P % (Max)	0.020	0.020	0.020		0.020	0.020	0.020	0.015	0.015	0.015
S % (Max)	0.010	0.010	0.007		0.007	0.010	0.010	0.005	0.005	0.005
Nb % (Max)	0.040	0.040	0.040		0.040	0.040	0.040	0.040	0.040	0.040
V % (Max)	0.060	0.060	0.060		0.060	0.060	0.060	0.060	0.060	0.060
Al Total %	0.015 - 0.055	0.015 - 0.055	0.015 - 0.055		0.015 - 0.055	0.015 - 0.055	0.015 - 0.055	0.015 - 0.055	0.015 - 0.055	0.015 - 0.055
Ti % (Max)	0.025	0.025	0.025		0.025	0.025	0.025	0.025	0.025	0.025
Cu % (Max)	0.30	0.30	0.30		0.30	0.30	0.30	0.30	0.30	0.30
Cr % (Max)	0.25	0.25	0.25		0.25	0.20	0.20	0.20	0.20	0.20
Ni % (Max)	0.50	0.50	0.50		0.50	0.70	0.70	0.70	0.70	0.70
Mo % (Max)	0.08	0.08	0.08		0.08	0.08	0.08	0.08	0.08	0.08
N % (Max)	0.010	0.010	0.010		0.010	0.010	0.010	0.010	0.010	0.010
CEV % (Max)	0.43	0.43	0.43		0.43	0.43	0.41 / 0.42	0.43	0.41 / 0.42	0.41 / 0.42
Impact Values					Impact Values					
Temperature (°C)	-40 °C	-40 °C	-40 °C		-40 °C	-40 °C	-40 °C	-40 °C	-40 °C	-40 °C
Minimum Energy (J)	50	50	50		50	50	50	50	50	50

European Standard
BS EN 10225:2009

Weldable structural steels for fixed offshore structures

Grade	S420G1+QT	S420G1+M			S420G2+QT	S420G2+M
	Mechanicals Properties, Ladle and product analysis				Mechanicals Properties, Ladle and product analysis	
	Minimum Yield Strength (N/mm ²)				Minimum Yield Strength (N/mm ²)	
≤ 16 mm	420	420			420	420
16 < t ≤ 40	400	400			400	400
40 < t ≤ 63	390	390			390	390
63 < t ≤ 80	380	380			380	380
80 < t ≤ 100	380	380			380	380
	Tensile Strength (N/mm ²)				Tensile Strength (N/mm ²)	
≤ 40	500 - 660	500 - 660			500 - 660	500 - 660
40 < t ≤ 100	480 - 640	480 - 640			480 - 640	480 - 640
	Minimum Elongation (%)				Minimum Elongation (%)	
	19	19			19	19
	Chemical Composition, Ladle and product analysis				Chemical Composition Ladle and product analysis	
C % (Max)	0.14	0.14			0.14	0.14
Si %	0.15 - 0.55	0.15 - 0.55			0.15 - 0.55	0.15 - 0.55
Mn %	1.65 max	1.65 max			1.65 max	1.65 max
P % (Max)	0.020	0.020			0.020	0.020
S % (Max)	0.007	0.007			0.010	0.010
Nb % (Max)	0.040	0.040			0.040	0.040
V % (Max)	0.080	0.080			0.080	0.080
Al Total %	0.015 - 0.055	0.015 - 0.055			0.015 - 0.055	0.015 - 0.055
Ti % (Max)	0.025	0.025			0.025	0.025
Cu % (Max)	0.30	0.30			0.30	0.30
Cr % (Max)	0.25	0.25			0.25	0.25
Ni % (Max)	0.70	0.70			0.70	0.70
Mo % (Max)	0.25	0.25			0.25	0.25
N % (Max)	0.010	0.010			0.010	0.010
CEV % (Max)	0.42	0.42			0.42	0.42
	Impact Values				Impact Values	
Temperature (°C)	-40 °C	-40 °C			-40 °C	-40 °C
Minimum Energy (J)	60	60			60	60

European Standard
BS EN 10225:2009

Weldable structural steels for fixed offshore structures

Grade	S420G1+QT	S420G1+M			S420G2+QT	S420G2+M
	Mechanicals Properties, Ladle and product analysis				Mechanicals Properties, Ladle and product analysis	
	Minimum Yield Strength (N/mm ²)				Minimum Yield Strength (N/mm ²)	
≤ 16	460	460			460	460
16 < t ≤ 25	440	440			440	440
25 < t ≤ 40	420	420			420	420
40 < t ≤ 63	415	415			415	415
63 < t ≤ 80	405	405			405	405
80 < t ≤ 100	400	400			400	400
	Tensile Strength (N/mm ²)				Tensile Strength (N/mm ²)	
≤ 16	540 - 700	541 - 700			542 - 700	543 - 700
16 < t ≤ 25	530 - 690	531 - 690			532 - 690	533 - 690
25 < t ≤ 40	520 - 680	521 - 680			522 - 680	523 - 680
40 < t ≤ 63	515 - 675	516 - 675			517 - 675	518 - 675
63 < t ≤ 80	505 - 665	506 - 665			507 - 665	508 - 665
80 < t ≤ 100	500 - 660	501 - 660			502 - 660	503 - 660
	Minimum Elongation (%)				Minimum Elongation (%)	
	17	17			17	17

European Standard
BS EN 10225:2009

Weldable structural steels for fixed offshore structures

Grade	S420G1+QT	S420G1+M			S420G2+QT	S420G2+M
	Chemical Composition, Ladle and product analysis				Chemical Composition Ladle and product analysis	
C % (Max)	0.14	0.14			0.14	0.14
Si %	0.15 - 0.55	0.15 - 0.55			0.15 - 0.55	0.15 - 0.55
Mn %	1.65 max	1.65 max			1.65 max	1.65 max
P % (Max)	0.020	0.020			0.020	0.020
S % (Max)	0.010	0.010			0.007	0.007
Nb % (Max)	0.040	0.040			0.040	0.040
V % (Max)	0.080	0.080			0.080	0.080
Al Total %	0.015 - 0.055	0.015 - 0.055			0.015 - 0.055	0.015 - 0.055
Ti % (Max)	0.025	0.025			0.025	0.025
Cu % (Max)	0.30	0.30			0.30	0.30
Cr % (Max)	0.25	0.25			0.25	0.25
Ni % (Max)	0.70	0.70			0.70	0.70
Mo % (Max)	0.25	0.25			0.25	0.25
N % (Max)	0.010	0.010			0.010	0.010
CEV % (Max)	0.43	0.43			0.43	0.43
	Impact Values				Impact Values	
Temperature (°C)	-40 °C	-40 °C			-40 °C	-40 °C
Minimum Energy (J)	60	60			60	60

European Standard BS EN 10225:2009

Weldable structural steels for fixed offshore structures

Grade	S355G1 S355G1+N	S355G4 S355G4+M	S355G11 S355G11+N			S355G12 S355G12+N S355G12+M	S420G3 S420G3+M	S420G4 S420G4+M	S460G3 S460G3+M	S460G4 S460G4+M
Mechanicals Properties					Mechanicals Properties					
Minimum Yield Strength (N/mm²)					Minimum Yield Strength (N/mm²)					
≤ 16	275	275	355		355	420	420	460	460	
> 16 ≤ 40	265	265	345		345	400	400	440	440	
> 40 ≤ 63	255	255	335		335	390	390	430	430	
Tensile Strength (N/mm²)					Tensile Strength (N/mm²)					
< 40	370 - 530	370 - 530	470 - 630		470 - 630	520 - 680	520 - 680	540 - 720	540 - 720	
Minimum Elongation (%)					Minimum Elongation (%)					
	24	24	22		22	19	19	17	17	
Chemical Composition					Chemical Composition					
Ladle Analysis					Ladle and Product Analysis					
C % (Max)	0.20	0.16	0.14		0.14	0.14	0.14	0.14	0.14	
Si % (Max)	0.50	0.50	0.55		0.55	0.55	0.55	0.55	0.55	
Mn %	0.90 - 1.65	1.60 max	1.65 max		1.65 max	1.65 max	1.65 max	1.70 max	1.70 max	
P % (Max)	0.035	0.035	0.025		0.020	0.025	0.020	0.025	0.020	
S % (Max)	0.030	0.030	0.015		0.007	0.150	0.007	0.150	0.007	
Nb % (Max)	0.050	0.050	0.040		0.040	0.050	0.050	0.050	0.050	
V % (Max)	0.120	0.100	0.060		0.060	0.080	0.080	0.080	0.080	
Al Total % (Max)	0.020 min	0.020 min	0.015 - 0.055		0.015 - 0.055	0.015 - 0.055	0.015 - 0.055	0.015 - 0.055	0.015 - 0.055	
Ti % (Max)	0.030	0.050	0.025		0.025	0.025	0.025	0.025	0.025	
Cu % (Max)	0.35	0.35	0.30		0.30	0.30	0.30	0.30	0.30	
Cr % (Max)	0.30	-	0.25		0.25	0.25	0.25	0.25	0.25	
Ni % (Max)	0.50	0.30	0.50		0.50	0.70	0.70	0.70	0.70	
Mo % (Max)	0.10	0.20	0.08		0.08	0.08	0.08	0.08	0.08	
N % (Max)	0.015	0.015	0.012		0.012	0.012	0.012	0.012	0.012	
Impact Values					Impact Values					
Temperature [°C]	-20°C	-20°C	-40 °C		-40 °C	-40 °C	-40 °C	-40 °C	-40 °C	
Minimum Energy [J]	50	50	50		50	60	60	60	60	

European Standard
BS EN 10255:2004

Weldable structural steels for fixed offshore structures

Grade	S195T
Mechanicals Properties	
Minimum Yield Strength (Upper) N/mm ²	
	195
Tensile Strength (N/mm ²)	
	320 to 520
Minimum Elongation %	
	20
Chemical Composition	
C % (Max)	0.20
Mn % (Max)	1.40
P % (Max)	0.035
S % (Max)	0.030

European Standard
BS EN 1387:1985 Superseded

Screwed and socketed steel tubes and tubulars and for plain end steel tubes

	Mechanicals Properties
	Minimum Yield Strength (Upper) N/mm ²
	195
	Tensile Strength (N/mm ²)
	320 to 460
	Minimum Elongation Lo = 5,65 √So (A)
	20
	Chemical Composition
C % (Max)	0.20
Mn % (Max)	1.20
P % (Max)	0.045
S % (Max)	0.045

American Standard ASTM A500-99

Cold-formed welded and seamless carbon steel structural tubing in rounds

Grade	Grade A	Grade B	Grade C	Grade D
	Mechanicals Properties			
	Minimum Yield Strength (N/mm ²)			
	228	290	317	250
	Tensile Strength (N/mm ²)			
	310	400	427	400
	Minimum Elongation (%) 50.8 mm			
	25	23	21	23
	Chemical Composition			
C % (Max)	0.26	0.26	0.23	0.26
Cu % (Min)	0.20	0.20	0.20	0.20
Mn % (Max)	-	-	1.35	-
P % (Max)	0.035	0.035	0.035	0.035
S % (Max)	0.035	0.035	0.035	0.035

American Standard ASTM A500-99

Cold-formed welded and seamless carbon steel structural tubing in shapes

Grade	Grade A	Grade B	Grade C	Grade D
	Mechanicals Properties			
	Minimum Yield Strength (N/mm ²)			
	269	317	345	250
	Tensile Strength (N/mm ²)			
	310	400	427	400
	Minimum Elongation (%) 50.8 mm			
	25	23	21	23
	Chemical Composition			
C %	0.26	0.26	0.23	0.26
Si %	0.20	0.20	0.20	0.20
Mn %	-	-	1.35	-
P %	0.035	0.035	0.035	0.035
S %	0.035	0.035	0.035	0.035

American Standard
ASTM A36/A36M-08

Standard Specification for Carbon Structural Steel

Thickness (mm)	All	20	20 - 40	40 - 65			65 - 100	≥ 100	20	20 - 40	100	≥ 10
	Shapes	Plates				Plates			Bars			
	Mechanicals Properties					Mechanicals Properties						
	Minimum Yield Strength N/mm²					Minimum Yield Strength N/mm²						
	250	250	250	250		250	250	250	250	250	250	250
	Tensile Strength N/mm²					Tensile Strength N/mm²						
	400-550	400-550	400-550	400-550		400-550	400-550	400-550	400-550	400-550	400-550	400-550
	Minimum Elongation (%)					Minimum Elongation (%)						
8 inch (200mm)	20	20	20	20		20	20	20	20	20	20	20
	Minimum Elongation (%)					Minimum Elongation (%)						
2 inch (50mm)	21	23	23	23		23	23	23	23	23	23	23
	Chemical Composition					Chemical Composition						
C %(Max)	0.26	0.25	0.25	0.26		0.27	0.29	0.26	0.27	0.28	0.29	
Si %	0.40 Max	0.40 Max	0.40 Max	0.15 - 1.40		0.15 - 1.40	0.15 - 1.40	0.40 Max	0.40 Max	0.40 Max	0.40 Max	
Mn %	-	-	0.80 - 1.20	0.80 - 1.20		0.85 - 1.20	0.85 - 1.20	-	0.60 - 0.90	0.60 - 0.90	0.60 - 0.90	
P %(Max)	0.040	0.040	0.040	0.040		0.040	0.040	0.040	0.040	0.040	0.040	
S %(Max)	0.05	0.05	0.05	0.05		0.05	0.05	0.05	0.05	0.05	0.05	
Cu %(Min)	0.20	0.20	0.20	0.20		0.20	0.20	0.20	0.20	0.20	0.20	

American Standard ASTM A283/A283M-03

Standard Specification for Low and Intermediate Tensile Strength
Carbon Steel Plates

Grade	Grade A	Grade B			Grade C	Grade D
	Mechanicals Properties				Mechanicals Properties	
	Minimum Yield Strength (N/mm ²)				Minimum Yield Strength (N/mm ²)	
	165	185			205	230
	Tensile Strength (N/mm ²)				Tensile Strength (N/mm ²)	
	310 - 415	345 - 450			380 - 515	415 - 550
	Minimum Elongation %				Minimum Elongation %	
2 inch (50mm)	30	28			25	23
8 inch (200mm)	27	25			22	20
	Chemical Composition				Chemical Composition	
C %(Max)	0.14	0.17			0.24	0.27
Si %(Max)						
% (Max) ≤ 40mm	0.40	0.40			0.40	0.40
% ≥ 40mm	0.15 -0.40	0.15 -0.40			0.15 -0.40	0.15 -0.40
Mn %(Max)	0.90	0.90			0.90	0.90
P %(Max)	0.035	0.035			0.035	0.035
S %(Max)	0.04	0.04			0.04	0.04
Cu %(Max)	0.20	0.20			0.20	0.20

American Standard ASTM A572/A572M-07

Standard Specification for High-Strength Low-Alloy
Columbium-Vanadium Structural Steel

Grade	Grade 42 (290)	Grade 50 (345)			Grade 55 (380)	Grade 60 (415)	Grade 65 (450)
	Mechanicals Properties				Mechanicals Properties		
	Minimum Yield Strength (N/mm ²)				Minimum Yield Strength (N/mm ²)		
	290	345			380	415	450
	Tensile Strength (N/mm ²)				Tensile Strength (N/mm ²)		
	415	450			485	520	550
	Minimum Elongation %				Minimum Elongation %		
2 inch (50mm)	24	21			20	18	17
8 inch (200mm)	20	18			17	16	15
	Diameter, Thickness, or Distance Between Parallel Faces, in mm Plates and Bars				Diameter, Thickness, or Distance Between Parallel Faces, in mm Plates and Bars		
	150	100			50	32	13 - 32 / ≤ 13
	Structural Shape Flange or Leg Thickness in mm				Structural Shape Flange or Leg Thickness in mm		
	all	all			all	50	25 - 50 / ≤ 1
	Chemical Composition				Chemical Composition		
C % (Max)	0.21	0.23			0.25	0.26	0.23 / 0.26
Si % (Max)	Plates to 40mm, shapes with flange or leg to 75mm				Plates to 40mm, shapes with flange or leg to 75mm		
	0.40	0.40			0.40	0.40	0.40
Si %	Plates > 40mm, Shapes with flange > 75mm				Plates > 40mm, Shapes with flange > 75mm		
	0.15 - 0.40	0.15 - 0.40			0.15 - 0.40	-	-
Mn % (Max)	1.35	1.35			1.35	1.35	1.65 / 1.35
P % (Max)	0.04	0.04			0.04	0.04	0.04
S % (Max)	0.05	0.05			0.05	0.05	0.05

American Standard ASTM A516/A516M-04

Standard Specification for Pressure Vessel Plates, Carbon Steel,
for Moderate and Lower-Temperature Service

Grade	Grade 55 (380)	Grade 60 (415)	Grade 65 (450)	Grade 70 (485)
	Mechanicals Properties			
	Minimum Yield Strength (N/mm ²)			
	205	220	240	260
	Tensile Strength (N/mm ²)			
	380 - 515	415 - 550	450 - 585	485 - 620
	Minimum Elongation %			
2 inch (50mm)	27	25	23	21
8 inch (200mm)	23	21	19	17
	Chemical Composition			
C % (Max)				
t < 12.5	0.18	0.21	0.24	0.27
12.5 ≤ t ≤ 50	0.20	0.23	0.26	0.28
50 ≤ t ≤ 100	0.22	0.25	0.28	0.30
100 ≤ t ≤ 200	0.24	0.27	0.29	0.31
t > 200	0.26	0.27	0.29	0.31
Si % (Max)	0.15 - 0.4	0.15 - 0.4	0.15 - 0.4	0.15 - 0.4
Mn %				
t < 12.5mm	0.6 - 0.9	0.6 - 0.9	0.85 - 1.2	0.85 - 1.2
t > 12.5	0.60 - 1.20	0.85 - 1.2	0.85 - 1.2	0.85 - 1.2
P % (Max)	0.035	0.035	0.035	0.035
S % (Max)	0.035	0.035	0.035	0.035

American Standard ASTM A992/A992M-06a

Standard Specification for Structural Steel Shapes

Grade	Grade 50	Grade 65
	Mechanicals Properties	
	Minimum Yield Strength (N/mm ²)	
	345	450
	Tensile Strength (N/mm ²)	
	450	450
	Minimum Elongation %	
2 inch (50mm)	21	
8 inch (200mm)	18	
	Chemical Composition	
C % (Max)	0.23	
Si % (Max)	0.40	
Mn %	0.50 - 0.160	
P % (Max)	0.035	
S % (Max)	0.045	
Nb % (Max)	0.05	
V % (Max)	0.15	
Cr % (Max)	0.35	
Mo % (Max)	0.15	
Ni % (Max)	0.45	
Cu % (Max)	0.60	

American Standard
ASTM A131/A131M-2008
 Standard Specification for Structural Steel for Ships

Grade	AH32	AH36	DH32	DH36	EH32	EH36			FH32	FH36	AH40	DH40	EH40	FH40
	Mechanicals Properties								Mechanicals Properties					
	Minimum Yield Strength (N/mm ²)								Minimum Yield Strength (N/mm ²)					
	315	355	315	355	315	355			315	355	390	390	390	390
	Tensile Strength (N/mm ²)								Tensile Strength (N/mm ²)					
	440 - 590	490 - 620	440 - 590	490 - 620	440 - 590	490 - 620			440 - 590	490 - 620	510 - 650	510 - 650	510 - 650	510 - 650
	Minimum Elongation %								Minimum Elongation %					
50mm	22	22	22	22	22	22			22	22	22	22	22	22
200mm	19	19	19	19	19	19			19	19	19	19	19	19
	Method of Deoxidation (Killed, Fine Grain Practice)								Method of Deoxidation (Killed, Fine Grain Practice)					
	Chemical Composition, Ladle and product analysis								Chemical Composition, Ladle and product analysis					
C % (Max)	0.18	0.18	0.18	0.18	0.18	0.18			0.16	0.16	0.18	0.18	0.18	0.16
Si % (Max)	0.10 - 0.50	0.10 - 0.50	0.10 - 0.50	0.10 - 0.50	0.10 - 0.50	0.10 - 0.50			0.10 - 0.50	0.10 - 0.50	0.10 - 0.50	0.10 - 0.50	0.10 - 0.50	0.10 - 0.50
Mn % (Max)	0.90 - 1.60	0.90 - 1.60	0.90 - 1.60	0.90 - 1.60	0.90 - 1.60	0.90 - 1.60			0.90 - 1.60	0.90 - 1.60	0.90 - 1.60	0.90 - 1.60	0.90 - 1.60	0.90 - 1.60
P % (Max)	0.035	0.035	0.035	0.035	0.035	0.035			0.025	0.025	0.035	0.035	0.035	0.025
S % (Max)	0.035	0.035	0.035	0.035	0.035	0.035			0.025	0.025	0.035	0.035	0.035	0.025
Al % (Min)	0.015	0.015	0.015	0.015	0.015	0.015			0.015	0.015	0.015	0.015	0.015	0.015
Cb % (Max)	0.02 - 0.05	0.02 - 0.05	0.02 - 0.05	0.02 - 0.05	0.02 - 0.05	0.02 - 0.05			0.02 - 0.05	0.02 - 0.05	0.02 - 0.05	0.02 - 0.05	0.02 - 0.05	0.02 - 0.05
V % (Max)	0.05 - 0.10	0.05 - 0.10	0.05 - 0.10	0.05 - 0.10	0.05 - 0.10	0.05 - 0.10			0.05 - 0.10	0.05 - 0.10	0.05 - 0.10	0.05 - 0.10	0.05 - 0.10	0.05 - 0.10
Ti % (Max)	0.02	0.02	0.02	0.02	0.02	0.02			0.02	0.02	0.02	0.02	0.02	0.02
Cu % (Max)	0.35	0.35	0.35	0.35	0.35	0.35			0.35	0.35	0.35	0.35	0.35	0.35
Cr % (Max)	0.20	0.20	0.20	0.20	0.20	0.20			0.2	0.2	0.20	0.20	0.20	0.20
Ni % (Max)	0.40	0.40	0.40	0.40	0.40	0.40			0.4	0.4	0.40	0.40	0.40	0.40
Mo % (Max)	0.08	0.08	0.08	0.08	0.08	0.08			0.08	0.08	0.08	0.08	0.08	0.08
N % (Max)	-	-	-	-	-	-			0.009	0.009	-	-	-	0.009
CEV % (Max)														
t ≤ 50mm	0.36	0.38	0.36	0.38	0.36	0.38			0.36	0.38	0.40	0.40	0.40	0.40
50 < t ≤ 100	0.38	0.4	0.38	0.4	0.38	0.4			0.38	0.4	0.42	0.42	0.42	0.42

American Standard
ASTM A131/A131M-2008
 Standard Specification for Structural Steel for Ships

Grade	AH32	AH36	DH32	DH36	EH32	EH36			FH32	FH36	AH40	DH40	EH40	FH40
	Impact Values								Impact Values					
	Test Temperature (°C)								Test Temperature (°C)					
	0 °C	0 °C	-20 °C	-20 °C	-40 °C	-40 °C			-60 °C	-60 °C	0	-20 °C	-40 °C	-60 °C
	Minimum Energy (J) t ≤ 50								Minimum Energy (J) t ≤ 50					
Longitudinal	31	34	31	34	31	34			31	34	39	39	39	39
Transverse	22	24	22	24	22	24			22	24	26	26	26	26
	Minimum Energy (J) 50 < t ≤ 70								Minimum Energy (J) 70 < t ≤ 100					
Longitudinal	38	41	38	41	38	41			38	41	46	46	46	46
Transverse	26	27	26	27	26	27			26	27	31	31	31	31
	Minimum Energy (J) 70 < t ≤ 100								Minimum Energy (J) 70 < t ≤ 100					
Longitudinal	46	50	46	50	46	50			46	50	55	55	55	55
Transverse	31	34	31	34	31	34			31	34	37	37	37	37

American Standard
ASTM A131/A131M-2008
 Standard Specification for Structural Steel for Ships

Grade	Grade A	Grade B			Grade D	Grade E
	Mechanicals Properties				Mechanicals Properties	
	Minimum Yield Strength (N/mm ²)				Minimum Yield Strength (N/mm ²)	
	235	235			235	235
	Tensile Strength (N/mm ²)				Tensile Strength (N/mm ²)	
	400 - 520	400 - 520			400 - 520	400 - 520
	Minimum Elongation %				Minimum Elongation %	
50mm	24	24			24	24
200mm	21	21			21	21
Method of Deoxidation	Killed and Semi - Killed				Killed, Fine Grain Practice	
	Chemical Composition, Ladle and product analysis				Chemical Composition, Ladle and product analysis	
C % (Max)	0.21	0.21			0.21	0.21
Si % (Max)	0.50	0.35			0.10 - 0.35	0.10 - 0.35
Mn % (Min)	2.5 x C	0.60			0.60	0.70
P % (Max)	0.035	0.035			0.035	0.035
S % (Max)	0.035	0.035			0.035	0.035
Cu % (Max)	Please refer to official standard				Please refer to official standard	
Cr % (Max)						
Ni % (Max)						
Mo % (Max)						
C + Mn/6 % (Max)	0.40	0.40			0.40	0.40

American Standard
ASTM A131/A131M-2008
 Standard Specification for Structural Steel for Ships

Grade	Grade A	Grade B			Grade D	Grade E
	Impact Values				Impact Values	
Temperature [°C]	20 °C	0 °C			-20 °C	-40 °C
	Minimum Energy (J) $t \leq 50$				Minimum Energy (J) $t \leq 50$	
Longitudinal	-	27			27	27
Transverse	-	20			20	20
	Minimum Energy (J) $50 < t \leq 70$				Minimum Energy (J) $50 < t \leq 70$	
Longitudinal	34	34			34	34
Transverse	24	24			24	24
	Minimum Energy (J) $70 < t \leq 100$				Minimum Energy (J) $70 < t \leq 100$	
Longitudinal	41	41			41	41
Transverse	27	27			27	27

American Standard

API 2H-06

Specification for Carbon Manganese Steel Plate for Offshore Structures

Grade	Grade 42	Grade 50
	Mechanicals Properties	
	Minimum Yield Strength (N/mm ²)	
t ≤ 2.5 in.	289	345
t > 2.5 in.	289	324
	Tensile Strength (N/mm ²)	
t > 2.5 in	427 - 565	483 - 620
	Minimum Elongation %	
2 inch (50mm)	24	23
8 inch (200mm)	20	18
	Chemical Composition, Ladle Analysis	
C % (Max)	0.18	0.18
Si %	0.05 - 0.40	0.05 - 0.40
Mn %	0.90 - 1.35	1.15 - 1.60
P % (Max)	0.030	0.030
S % (Max)	0.010	0.010
Nb %	0.04	0.01 - 0.04
V / Zr	Shall not added without approval	
Al (Total) %	0.02 - 0.06	0.02 - 0.06
Ti %	0.020	0.020
Ni % (Max)	0.012	0.012
Ce % (Max)	0.0100	0.0100

Grade	Grade 42	Grade 50
	Impact Values	
	Temperature [°C]	
Option A	-40 °C	-40 °C
Option B	-40 °C	-40 °C
Option C	-40 °C	-40 °C
Option D	-46 °C	-46 °C
Option E	-62 °C	-62 °C
	Specimen Size (mm)	
Option A	10 x 10	10 x 10
Option B	7.5 x 10	7.5 x 10
Option C	5.0 x 10	5.0 x 10
Option D	7.5 x 10	7.5 x 10
Option E	5.0 x 10	5.0 x 10
	Minimum Average Energy (J)	
Option A	34	41
Option B	34	41
Option C	34	41
Option D	26	31
Option E	18	20
	Minimum Single Value (J)	
Option A	27	34
Option B	27	34
Option C	27	34
Option D	20	26
Option E	14	18

American Standard

API 2W-07

Specification for Steel Plates for Offshore Structures,
Produced by Thermo-Mechanical Control Processing (TMCP)

Grade	Grade 50	Grade 60
	Mechanicals Properties	
	Minimum Yield Strength (N/mm ²)	
t ≤ 25 mm	345 - 517	414 - 621
t > 25 mm	345 - 483	414 - 586
	Tensile Strength (N/mm ²)	
	448	517
	Minimum Elongation %	
2 inch (50mm)	23	22
8 inch (200mm)	18	16
	Chemical Composition	
C % (Max)	0.16	0.16
Si %	0.05 - 0.50	0.05 - 0.50
Mn %		
≤ 40	1.15 - 1.60	1.15 - 1.60
≥ 40	1.15 - 1.60	1.15 - 1.60
P % (Max)	0.03	0.03
S % (Max)	0.010	0.010
Nb % (Max)	0.03	0.03
Al %		
Acid Soluble	0.015 - 0.055	0.015 - 0.055
Total	0.02 - 0.06	0.02 - 0.06
Ti %		
N ≤ 0.005	0.003 - 0.02	0.003 - 0.02
N > 0.005	0.007 - 0.02	0.007 - 0.02
Ni % (Max)	0.75	1.0
N % (Max)	0.012	0.012
Cr % (Max)	0.25	0.25
Mo % (Max)	0.08	0.15
Cu % (Max)	0.35	0.35
B % (Max)	0.0005	0.0005

Grade	Grade 50	Grade 60
	Impact Values	
	Temperature [°C]	
Option A	-10 °C	40 °C
Option B	-40 °C	-40 °C
Option C	40 °C	-40 °C
Option D	-50 °C	50
Option E	-80 °C	-80 °C
	Specimen Size (mm)	
Option A	10 x 10	10 x 10
Option B	7.5 x 10	7.5 x 10
Option C	5.0 x 10	5.0 x 10
Option D	7.5 x 10	7.5 x 10
Option E	5.0 x 10	5.0 x 10
	Minimum Average Energy [J]	
Option A	41	48
Option B	41	48
Option C	41	48
Option D	31	35
Option E	20	24
	Minimum Single Value [J]	
Option A	34	41
Option B	34	41
Option C	34	41
Option D	26	31
Option E	18	20

American Standard

API 5L-07

PSL 1 Pipe with $t \leq 25.0$ mm for seamless and welded pipe

Grade	L 175 / A 25	L 175P / A 25P	L210 / A	L245 / B	L290 / X42			L320 / X46	L360 / X52	L390 / X56	L415 / X60	L450 / X65	L485 / X70
	Mechanicals Properties						Mechanicals Properties						
	Minimum Yield Strength (N/mm²)						Minimum Yield Strength (N/mm²)						
	175	175	210	245 (L245R/BR)	290 (L290R/X42R)		320	360	390	415	450	485	
	Minimum Tensile Strength (N/mm²) Pipe Body of seamless and welded pipes						Minimum Tensile Strength (N/mm²) Pipe Body of seamless and welded pipes						
	310	310	335	415 (L245R/BR)	415 (L290R/X42R)		435	460	490	520	535	270	
	Minimum Elongation %						Minimum Elongation %						
	Please refer to official standard						Please refer to official standard						
	Chemical Composition, Ladle and product analysis						Chemical Composition, Ladle and product analysis						
C % (Max)													
Seamless Pipe	0.21	0.21	0.22	0.28	0.28		0.28	0.28	0.28	0.28	0.28	0.28	
Welded Pipe	0.21	0.21	0.22	0.26	0.26		0.26	0.26	0.26	0.26	0.26	0.26	
Mn % (Max)							0.90 - 1.60						
Seamless Pipe	0.60	0.60	0.90	1.20	1.30		1.40	1.40	1.40	1.40	1.40	1.40	
Welded Pipe	0.60	0.60	0.90	1.20	1.30		1.40	1.40	1.40	1.40	1.45	1.65	
P % (Min)	-	0.05	-	-	-		-	-	-	-	-	-	
P % (Max)	0.030	0.080	0.030	0.030	0.030		0.030	0.030	0.030	0.030	0.030	0.030	
S % (Max)	0.030	0.030	0.030	0.030	0.030		0.030	0.030	0.030	0.030	0.030	0.030	
Nb % (Max)	- - -			Please refer to official standard	Sum of Nb, V, and Ti shall be ≤0.15%			Sum of Nb, V, and Ti shall be ≤0.15%		Unless agreed, the sum of Nb, V, and Ti shall be ≤0.15%			
V % (Max)													
Ti % (Max)													

American Standard

API 5L:2007

PSL 2 pipe with $t \leq 25.0\text{mm}$ for seamless and welded pipe

Grade	L245R / BR	L290R / X42R	L245N / BN	L290N / X42N	L320N / X46N			L360N / X52N	L390N / X56N	L415N / X60N	L245Q / BQ	L290Q / X42Q
	Mechanicals Properties							Mechanicals Properties				
	Minimum Yield Strength (N/mm ²)							Minimum Yield Strength (N/mm ²)				
Min.	245	290	245	290	320			360	390	415	245	290
Max.	450	495	450	495	525			530	545	565	450	495
	Tensile Strength (N/mm ²)							Minimum Yield Strength (N/mm ²)				
	415 - 760	415 - 760	415 - 760	415 - 760	435 - 760			460 - 760	490 - 760	520 - 760	415 - 760	415 - 760
	Minimum Elongation %							Minimum Elongation %				
	Please refer to official standard							Please refer to official standard				
	Chemical Composition, Ladle and product analysis							Chemical Composition, Ladle and product analysis				
C % (Max)	0.24	0.24	0.24	0.24	0.24			0.24	0.24	0.24	0.18	0.18
Mn % (Max)	1.20	1.20	1.20	1.20	1.40			1.40	1.40	1.40	1.40	1.40
Si % (Max)	0.40	0.40	0.40	0.40	0.40			0.45	0.45	0.45	0.45	0.45
P % (Max)	0.20	0.20	0.20	0.025	0.025			0.025	0.025	0.025	0.025	0.025
S % (Max)	0.015	0.015	0.015	0.015	0.015			0.015	0.015	0.015	0.015	0.015
Nb % (Max)	Unless agreed, the sum of Nb, V, and Ti shall be $\leq 0.06\%$	0.05	Unless agreed, the sum of Nb, V, and Ti shall be $\leq 0.06\%$	0.05	0.05			0.05	0.05	0.05	0.05	0.05
V % (Max)	Unless agreed, the sum of Nb, V, and Ti shall be $\leq 0.06\%$	0.06	Unless agreed, the sum of Nb, V, and Ti shall be $\leq 0.06\%$	0.06	0.07			0.10	0.10	0.10	0.05	0.05
Ti % (Max)	0.04	0.04	0.04	0.04	0.04			0.04	0.04	0.04	0.04	0.04
Other	Please refer to official standard							Please refer to official standard				
CEV % (Max)												
CE _{IW}	0.43	0.43	0.43	0.43	0.43			0.43	0.43	as agreed	0.43	0.43
CE _{Pcm}	0.25	0.25	0.25	0.25	0.25			0.25	0.25	as agreed	0.25	0.25

American Standard

API 5L:2007

PSL 2 pipe with $t \leq 25.0\text{mm}$ for seamless and welded pipe

Grade	L320Q / X46Q	L360Q / X52Q	L390Q / X56Q	L415Q / X60Q	L450Q / X65Q			L485Q / X70Q	L555Q / X80Q	L245M / BM	L290M / X42M	L320M / X46M
	Mechanicals Properties						Mechanicals Properties					
	Minimum Yield Strength (N/mm²)						Minimum Yield Strength (N/mm²)					
Min.	320	360	390	415	450		485	555	245	290	320	
Max.	525	530	545	565	600		635	705	450	495	525	
	Tensile Strength (N/mm²)						Minimum Yield Strength (N/mm²)					
	435 - 760	460 - 760	490 - 760	520 - 760	535 - 760		570 - 760	625 - 825	415 - 760	415 - 760	435 - 760	
	Minimum Elongation %						Minimum Elongation %					
	Please refer to official standard						Please refer to official standard					
	Chemical Composition, Ladle and product analysis						Chemical Composition, Ladle and product analysis					
C % (Max)	0.18	0.18	0.18	0.18	0.18		0.18	0.18	0.22	0.22	0.22	
Mn % (Max)	1.40	1.50	1.50	1.70	1.70		1.80	1.80	1.20	1.30	1.30	
Si % (Max)	0.45	0.45	0.45	0.45	0.45		0.45	0.45	0.45	0.45	0.45	
P % (Max)	0.025	0.025	0.025	0.025	0.025		0.025	0.025	0.025	0.025	0.025	
S % (Max)	0.015	0.015	0.015	0.015	0.015		0.015	0.015	0.015	0.015	0.015	
Nb % (Max)	0.05	0.05	0.05	Unless agreed, the sum of Nb, V, and Ti shall be ≤ 0.15%			Unless agreed, the sum of Nb, V, and Ti shall be ≤ 0.15%		0.05	0.05	0.05	
V % (Max)	0.05	0.05	0.07			0.05			0.05	0.05		
Ti % (Max)	0.04	0.04	0.04			0.04			0.04	0.04		
Other	Please refer to official standard						Please refer to official standard					
CEV % (Max)												
CE _{IW}	0.43	0.43	0.43	0.43	0.43		0.43	as agreed	0.43	0.43	0.43	
CE _{Pcm}	0.25	0.25	0.25	0.25	0.25		0.25	as agreed	0.25	0.25	0.25	

American Standard

API 5L:2007

PSL 2 pipe with $t \leq 25.0\text{mm}$ for seamless and welded pipe

Grade	L360M / X52M	L390 / X56M	L415M / X60M	L450M / X65M			L485M / X70M	L555M / X80M	L625M / X90M	L690M / X100M	L830M / X120M
	Mechanicals Properties						Mechanicals Properties				
	Minimum Yield Strength (N/mm²)						Minimum Yield Strength (N/mm²)				
Min.	360	360	415	450			485	555	625	690	830
Max.	530	545	565	600			635	705	775	840	1050
	Tensile Strength (N/mm²)						Minimum Yield Strength (N/mm²)				
	460 - 760	490 - 760	520 - 760	535 - 760			570 - 760	625 - 825	695 - 915	760 - 990	915 - 1145
	Minimum Elongation %						Minimum Elongation %				
	Please refer to official standard						Please refer to official standard				
	Chemical Composition, Ladle and product analysis						Chemical Composition, Ladle and product analysis				
C % (Max)	0.22	0.22	0.12	0.12			0.12	0.12	0.10	0.10	0.10
Mn % (Max)	1.40	1.40	1.60	1.60			1.70	1.85	2.10	2.10	2.10
Si % (Max)	0.45	0.45	0.45	0.45			0.45	0.45	0.55	0.55	0.55
P % (Max)	0.025	0.025	0.025	0.025			0.025	0.025	0.025	0.025	0.025
S % (Max)	0.015	0.015	0.015	0.015			0.015	0.015	0.010	0.010	0.010
Nb % (Max)	The sum of Nb, V, and Ti shall be ≤ 0.15%		Unless agreed, the sum of Nb, V, and Ti shall be ≤ 0.15%				Unless agreed, the sum of Nb, V, and Ti shall be ≤ 0.15%				
V % (Max)											
Ti % (Max)											
Other	Please refer to official standard						Please refer to official standard				
CEV % (Max)											
CE _{IW}	0.43	0.43	0.43	0.43			0.43	0.43	-	-	-
CE _{Pcm}	0.25	0.25	0.25	0.25			0.25	0.25	0.25	0.25	0.25

Japanese Standard JIS G 3466

Carbon steel square and rectangular tubes for general structure

Grade	STKR 400	STKR 490
	Mechanicals Properties	
	Minimum Yield Strength (N/mm ²)	
	245	325
	Minimum Tensile Strength (N/mm ²)	
	400	490
	Chemical Composition	
C % (Max)	0.25	0.18
Si % (Max)	-	0.55
Mn % (Max)	-	0.15
P % (Max)	0.04	0.04
S % (Max)	0.04	0.04

Japanese Standard JIS G 3444

Carbon steel tubes for general structure

Grade	STK 290	STK 400	STK 490	STK 500	STK 540
	Mechanicals Properties				
	Minimum Yield Strength (N/mm ²)				
	-	235	315	355	390
	Minimum Tensile Strength (N/mm ²)				
	290	400	490	500	540
	Chemical Composition				
C % (Max)	-	0.25	0.18	0.300 - 1.00	0.23
Si % (Max)	-	-	0.55	0.35	0.55
Mn % (Max)	-	-	1.65	0.30 - 1.30	1.5
P % (Max)	0.050	0.040	0.035	0.040	0.040
S % (Max)	0.050	0.040	0.035	0.040	0.040

Japanese Standard
JIS G 3350
Lipped Channels & Plain Channels

Grade	STK 290
	Mechanicals Properties
	Minimum Yield Strength (N/mm²)
	245
	Minimum Tensile Strength (N/mm²)
	400 - 540
	Minimum Elongation %
≤ 5	21
> 5	17
	Chemical Composition
C % (Max)	0.25
P % (Max)	0.05
S % (Max)	0.05

Japanese Standard
JIS G 3101:2004
Rolled steels for general structure

Grade	SS330	SS400	SS490	SS540
	Mechanicals Properties			
	Minimum Yield Strength (N/mm²)			
t ≤ 16	205	245	285	400
>16 t ≤ 40	195	235	275	390
>40 t ≤ 100	175	215	255	-
t >100	165	205	245	-
	Tensile Strength N/mm²			
	330 - 430	400 - 510	490 - 610	540
	Minimum Elongation			
	Steel plates and sheet, steel strip in coil, flats and sections			
t ≤ 5	26	21	19	16
>5 t ≤ 16	21	17	15	13
>16 t ≤ 50	26	21	19	17
	Steel plates and sheet			
≤ 40	28	23	21	-
	Steel Bar			
t ≤ 25	25	20	18	13
t ≥ 25	28	22	20	16
	Chemical Composition			
C % (Max)	-	-	-	0.30
Mn % (Max)	-	-	-	1.60
P % (Max)	0.050	0.050	0.050	0.040
S % (Max)	0.050	0.050	0.050	0.040

Japanese Standard
JIS G 3106:2008
Rolled steels for welded structure

Grade	SM400A		SM400B		SM400C			SM490A		SM490B		SM490C
Thickness	50 ≥	≥ 50 t ≤ 200	50 ≥	≥ 50 t ≤ 200	max 100			50 ≥	≥ 50 t ≤ 200	50 ≥	≥ 50 t ≤ 200	100 ≥
	Mechanicals Properties							Mechanicals Properties				
	Minimum Yield Strength (N/mm ²)							Minimum Yield Strength (N/mm ²)				
16 ≥	245		245		245			325		325		325
16 ≤ t ≤ 40	235		235		235			315		315		315
> 40 t ≤ 75	215		215		215			295		295		295
> 75 t ≤ 100	215		215		215			295		295		295
> 100 t ≤ 100	205		205		-			285		285		-
> 160 t ≤ 200	195		195		-			275		275		-
	Tensile Strength (N/mm ²)							Tensile Strength (N/mm ²)				
t ≤ 100	400 - 510		400 - 510		400 - 510			490 - 610		490 - 610		490 - 610
> 100 t ≤ 200	400 - 510		400 - 510		400 - 510			490 - 610		490 - 610		490 - 610
	Minimum Elongation %							Minimum Elongation %				
5 or under	23							22				
> 5 t ≤ 16	18							17				
> 16 t ≤ 50	22							21				
Over 40	24							23				
	Chemical Composition - Ladle Analysis							Chemical Composition - Ladle Analysis				
C % (Max)	0.23	0.25	0.20	0.22	0.18			0.20	0.22	0.18	0.20	0.18
Si %	-	-	0.35	0.35	0.55			0.55	0.55	0.55	0.55	0.55
Mn %	2.5 Min	0.60 - 1.50	0.60 - 1.50	1.65	1.65			1.65	1.65	1.65	1.65	1.65
P % (Max)	0.035	0.035	0.035	0.035	0.035			0.035	0.035	0.035	0.035	0.035
S % (Max)	0.035	0.035	0.035	0.035	0.035			0.035	0.035	0.035	0.035	0.035
	Impact Values							Impact Values				
Temperature [°C]	-		0		0			-		0		0
Minimum Energy [J]	-		27		47			-		27		47

Japanese Standard
JIS G 3106:2008

Rolled steels for welded structure

Grade	SM490YA	SM490YB			SM520B	SM520C	SM570
Thickness	100 ≥	100 ≥			100 ≥	100 ≥	100 ≥
	Mechanicals Properties				Mechanicals Properties		
	Minimum Yield Strength (N/mm ²)				Minimum Yield Strength (N/mm ²)		
16 ≥	365	365			365	365	460
16 ≤ t ≤ 40	355	355			355	355	450
> 40 t ≤ 75	335	335			335	335	430
> 75 t ≤ 100	325	325			325	325	420
> 100 t ≤ 100	-	-			-	-	-
> 160 t ≤ 200	-	-			-	-	-
	Tensile Strength (N/mm ²)				Tensile Strength (N/mm ²)		
t ≤ 100	490 - 610	490 - 610			520 - 640	520 - 640	570 - 720
> 100 t ≤ 200	-	-			-	-	-
	Minimum Elongation %				Minimum Elongation %		
5 or under	19				19		-
> 5 t ≤ 16	15				15		-
> 16 t ≤ 50	19				19		-
Over 40	21				21		-
16 ≥ under	-				-		19
> 16	-				-		26
> 20	-				-		20
	Chemical Composition - Ladle Analysis				Chemical Composition - Ladle Analysis		
C % (Max)	0.20	0.20			0.20	0.20	0.18
Si %	0.55	0.55			0.55	0.55	0.55
Mn %	1.65	1.65			1.65	1.65	1.70
P % (Max)	0.035	0.035			0.035	0.035	0.035
S % (Max)	0.035	0.035			0.035	0.035	0.035
	Impact Values				Impact Values		
Temperature [°C]	0	0			0	0	-5
Minimum Energy [J]	-	27			27	47	47

Japanese Standard
JIS A 5523:2006

Weldable hot rolled steel sheet piles

Grade	SYW295	SYW390
	Mechanicals Properties	
	Minimum Yield Strength (N/mm ²)	
	295	390
	Minimum Tensile Strength (N/mm ²)	
	490	540
	Minimum Elongation %	
	17	15
	Chemical Composition	
C % (Max)	0.18	0.18
Si % (Max)	0.55	0.55
Mn % (Max)	1.50	1.50
P % (Max)	0.040	0.040
S % (Max)	0.040	0.040
N % (Max)	0.0060	0.0060
CEV % (Max)	0.44	0.46
	Impact Values	
	Minimum Energy (J) Height x Width (mm)	
10 x 10	43	43
10 x 7.5	32	32
10 x 5	22	22

Japanese Standard
JIS A 5528:2006

Hot rolled steel sheet piles

Grade	SY295	SY390
	Mechanicals Properties	
	Minimum Yield Strength (N/mm ²)	
	295	390
	Minimum Tensile Strength (N/mm ²)	
	490	540
	Minimum Elongation %	
	17	15
	Chemical Composition	
P % (Max)	0.040	0.040
S % (Max)	0.040	0.040

Australian Standard
AS 1163:1991
 Structural steel hollow sections

Grade	C 250	C 250 L0			C 350	C 350 L0	C 450	C 450 L0
Mechanicals Properties				Mechanicals Properties				
Minimum Yield Strength (N/mm ²)				Minimum Yield Strength (N/mm ²)				
	250	250			350	350	450	450
Minimum Tensile Strength (N/mm ²)				Minimum Tensile Strength (N/mm ²)				
	320	320			430	430	500	500
Minimum Elongation (%)				Minimum Elongation (%)				
CHS	22	22			20	20	16	16
RHS / SHS	18	18			16	16	14	14
Chemical Composition				Chemical Composition				
C % (Max)	0.12	0.12			0.20	0.20	0.20	0.20
Si % (Max)	0.05	0.05			0.25	0.25	0.45	0.45
Mn % (Max)	0.50	0.50			1.60	1.60	1.60	1.60
P % (Max)	0.040	0.040			0.040	0.040	0.040	0.040
S % (Max)	0.030	0.030			0.030	0.030	0.030	0.030
Al % (Max)	0.10	0.10			0.10	0.10	0.10	0.10
Ti % (Max)	0.04	0.04			-	-	-	-
Mo % (Max)	0.10	0.10			0.10	0.10	0.35	0.35
CEV % (Max)	0.25	0.25			0.39	0.39	0.39	0.39
Impact Values				Impact Values				
Temperature (°C)	-	0			-	0	-	0
Size of Test Piece				Size of Test Piece				
10 x 7.5 mm								
Average of 3 Tests	-	22			-	22	-	22
Individual Test	-	16			-	16	-	16
10 x 5 mm								
Average of 3 Tests	-	18			-	18	-	18
Individual Test	-	13			-	13	-	13
10 x 2.5 mm								
Average of 3 Tests	-	9			-	9	-	9
Individual Test	-	7			-	7	-	7

CHS : Circular Hollow Sections
 RHS : Rectangular Hollow Sections

Australian Standard
AS 3679:1 1996

Hot rolled bars and sections. For flats and sections

Grade	250	250LD			250L15	300	300LD	300L15
Mechanicals Properties				Mechanicals Properties				
Minimum Yield Strength (N/mm ²)				Minimum Yield Strength (N/mm ²)				
< 11	260	260			260	320	320	320
≥ 11 to 17≤	250	250			250	300	300	300
> 17 to < 40	250	250			250	280	280	280
≥ 40	230	230			230	280	280	280
Minimum Tensile Strength (N/mm ²)				Minimum Tensile Strength (N/mm ²)				
	410	410			410	440	440	440
Minimum Elongation (%)				Minimum Elongation (%)				
	22	22			22	22	22	22
Chemical Composition				Chemical Composition				
C % (Max)	0.25	0.20			0.20	0.25	0.25	0.25
Si % (Max)	0.40	0.40			0.40	0.50	0.50	0.50
Mn % (Max)	-	1.50			1.50	1.60	1.60	1.60
P % (Max)	0.040	0.040			0.040	0.040	0.040	0.040
S % (Max)	0.040	0.040			0.040	0.040	0.040	0.040
CEV % (Max)	0.43	0.42			0.42	0.44	0.44	0.44
Impact Values				Impact Values				
Temperature (°C)	-	0			-15	-	0	-15
Size of Test Piece				Size of Test Piece				
10 x 10 mm								
Average of 3 Tests	-	27			27	-	27	27
Individual Test	-	20			20	-	20	20
10 x 7.5 mm								
Average of 3 Tests	-	22			22	-	22	22
Individual Test	-	16			16	-	16	16
10 x 5 mm								
Average of 3 Tests	-	18			18	-	18	18
Individual Test	-	13			13	-	13	13

Australian Standard
AS 3679:1 1996

Hot rolled bars and sections. For flats and sections

Grade	350	350L0			350L15	400	400L0	400L15
Mechanicals Properties				Mechanicals Properties				
Minimum Yield Strength (N/mm ²)				Minimum Yield Strength (N/mm ²)				
< 11	360	360			360	400	400	400
≥ 11 to 17≤	340	340			340	400	400	400
> 17 to < 40	340	340			340	380	380	380
≥ 40	330	330			330	380	380	380
Minimum Tensile Strength (N/mm ²)				Minimum Tensile Strength (N/mm ²)				
	480	480			480	520	520	520
Minimum Elongation (%)				Minimum Elongation (%)				
	20	20			20	20	20	20
Chemical Composition				Chemical Composition				
C % (Max)	0.22	0.22			0.22	0.22	0.22	0.22
Si % (Max)	0.50	0.50			0.50	0.50	0.50	0.50
Mn % (Max)	1.60	1.60			1.60	1.70	1.70	1.70
P % (Max)	0.040	0.040			0.040	0.040	0.040	0.040
S % (Max)	0.040	0.040			0.040	0.040	0.040	0.040
CEV % (Max)	0.45	0.45			0.45	0.48	0.48	0.48
Impact Values				Impact Values				
Temperature (°C)	-	0			-15	-	0	-15
Size of Test Piece				Size of Test Piece				
10 x 10 mm								
Average of 3 Tests	-	27			27	-	27	27
Individual Test	-	20			20	-	20	20
10 x 7.5 mm								
Average of 3 Tests	-	22			22	-	22	22
Individual Test	-	16			16	-	16	16
10 x 5 mm								
Average of 3 Tests	-	18			18	-	18	18
Individual Test	-	13			13	-	13	13

Australian Standard AS3679: 1 1996

Hot rolled bars and sections. For rounds and squares.

Grade	250	250LD		250L15	300	300LD	300L15
Mechanicals Properties				Mechanicals Properties			
Minimum Yield Strength (N/mm ²)				Minimum Yield Strength (N/mm ²)			
< 50	250	250		250	300	300	300
> 50 to < 100	230	230		230	290	290	290
≥ 100	230	230		230	280	280	280
Minimum Tensile Strength (N/mm ²)				Minimum Tensile Strength (N/mm ²)			
	410	410		410	440	440	440
Minimum Elongation (%)				Minimum Elongation (%)			
	22	22		22	22	22	22
Chemical Composition				Chemical Composition			
C % (Max)	0.25	0.20		0.20	0.25	0.25	0.25
Si % (Max)	0.40	0.40		0.40	0.50	0.50	0.50
Mn % (Max)	-	1.50		1.50	1.60	1.60	1.60
P % (Max)	0.040	0.040		0.040	0.040	0.040	0.040
S % (Max)	0.040	0.040		0.040	0.040	0.040	0.040
CEV % (Max)	0.43	0.42		0.42	0.44	0.44	0.44
Impact Values				Impact Values			
Temperature (°C)	-	0		-15	-	0	-15
Size of Test Piece				Size of Test Piece			
10 x 10 mm							
Average of 3 Tests	-	27		27	-	27	27
Individual Test	-	20		20	-	20	20
10 x 7.5 mm							
Average of 3 Tests	-	22		22	-	22	22
Individual Test	-	16		16	-	16	16
10 x 5 mm							
Average of 3 Tests	-	18		18	-	18	18
Individual Test	-	13		13	-	13	13

Australian Standard AS3679: 1 1996

Hot rolled bars and sections. For rounds and squares.

Grade	350	350L0			350L15	400	400L0	400L15
Mechanicals Properties				Mechanicals Properties				
Minimum Yield Strength (N/mm ²)				Minimum Yield Strength (N/mm ²)				
< 50	340	340			340	400	400	400
> 50 to < 100	330	330			330	380	380	380
≥ 100	320	320			320	360	360	360
Minimum Tensile Strength (N/mm ²)				Minimum Tensile Strength (N/mm ²)				
	480	480			480	520	520	520
Minimum Elongation (%)				Minimum Elongation (%)				
	20	20			20	20	20	20
Chemical Composition				Chemical Composition				
C % (Max)	0.22	0.22			0.22	0.22	0.22	0.22
Si % (Max)	0.50	0.50			0.50	0.50	0.50	0.50
Mn % (Max)	1.60	1.60			1.60	1.70	1.70	1.70
P % (Max)	0.040	0.040			0.040	0.040	0.040	0.040
S % (Max)	0.040	0.040			0.040	0.040	0.040	0.040
CEV % (Max)	0.45	0.45			0.45	0.48	0.48	0.48
Impact Values				Impact Values				
Temperature (°C)	-	0			-15	-	0	-15
Size of Test Piece				Size of Test Piece				
10 x 10 mm								
Average of 3 Tests	-	27			27	-	27	27
Individual Test	-	20			20	-	20	20
10 x 7.5 mm								
Average of 3 Tests	-	22			22	-	22	22
Individual Test	-	16			16	-	16	16
10 x 5 mm								
Average of 3 Tests	-	18			18	-	18	18
Individual Test	-	13			13	-	13	13

Australian Standard AS 1397:2001

Continuous hot-dip metallic coated steel sheet and strip-coatings
of zinc and zinc alloyed with aluminium and magnesium

Grade	G250	G300	G350	G450			G500	G550	G1	G2	G3
	Mechanicals Properties						Mechanicals Properties				
	Minimum Yield Strength (N/mm ²)						Minimum Yield Strength (N/mm ²)				
	250	300	350	450			500	550	-	-	-
	Minimum Tensile Strength (N/mm ²)						Minimum Tensile Strength (N/mm ²)				
	320	340	420	480			520	550	-	-	-
	Minimum Elongation (%)						Minimum Elongation (%)				
50 mm	25	20	15	10			8	2	-	30	35
80 mm	22	18	14	9			7	2	-	27	32
	Chemical Composition						Chemical Composition				
C % (Max)	0.12	0.30	0.30	0.20			0.20	0.20	0.12	0.10	0.08
Mn % (Max)	0.50	1.60	1.60	1.20			1.20	1.20	0.50	0.45	0.40
P % (Max)	0.040	0.100	0.100	0.040			0.040	0.040	0.040	0.030	0.020
S % (Max)	0.035	0.035	0.035	0.030			0.030	0.030	0.035	0.030	0.025

China Standard
GB 700-88
Carbon structural steels

Designation	Q195	Q195		Q235			Q235			Q255		Q275
Grade	-	A	B	A			B	C	D	A	B	-
	Mechanicals Properties						Mechanicals Properties					
	Minimum Yield Strength (N/mm²)						Minimum Yield Strength (N/mm²)					
≤ 16	[195]	215	235	235			235	235	235	255	255	275
> 16 - 40	[185]	205	225	225			225	225	225	245	245	265
> 40 - 60	-	195	215	215			215	215	215	235	235	255
> 60 - 100	-	185	205	205			205	205	205	225	225	245
> 100 - 150	-	175	195	195			195	195	195	215	215	235
>150	-	165	185	185			185	185	185	205	205	225
	Tensile Strength (N/mm²)						Tensile Strength (N/mm²)					
t ≤ 100	315 - 430	335 - 450	335 - 450	375 - 500			375 - 500	375 - 500	375 - 500	410 - 550	410 - 550	490 - 630
	Minimum Elongation						Minimum Elongation					
≤ 16	33	31	31	26			26	26	26	24	24	20
> 16 - 40	32	30	30	25			25	25	25	23	23	19
> 40 - 60	-	29	29	24			24	24	24	22	22	18
> 60 - 100	-	28	28	23			23	23	23	21	21	17
> 100 - 150	-	27	27	22			22	22	22	20	20	16
>150	-	26	26	21			21	21	21	19	19	15
Method of Deoxidation	F, b, Z	F, b, Z	F, b, Z	F, b, Z			F, b, Z	Z	TZ	F, b, Z	F, b, Z	b, z
	Chemical Composition						Chemical Composition					
C %	0.06 - 0.12	0.09 - 0.15		0.14 - 0.22			0.12 - 0.20	≤ 0.18	≤ 0.17	0.18 - 0.28		0.28 - 0.38
Si % (max)	0.30	0.30	0.30	0.30			0.30	0.30	0.30	0.30	0.30	0.35
Mn %	0.25 - 0.50	0.25 - 0.55	0.25 - 0.55	0.30 - 0.65			0.30 - 0.70	0.35 - 0.80	0.35 - 0.80	0.40 - 0.70	0.40 - 0.70	0.50 - 0.80
P % (Max)	0.045	0.045	0.045	0.045			0.045	0.04	0.035	0.045	0.045	
S % (Max)	0.035	0.035	0.035	0.030			0.030	0.030	0.035	0.030	0.025	
	Impact Values						Impact Values					
Temperature (°C)	-	-	20	-			20	0	-20	-	20	-
Minimum Energy (J)	-	-	27	-			27	27	27	-	27	-

F : Rimming steel
b : Semi - killed steel
Z : Killed steel

China Standard GB/T 1591-2008

High strength low alloy structural steels

Designation	Q345				
Grade	A	B	C	D	E
Mechanicals Properties					
Yield Strength (N/mm ²)					
≤ 16	≥ 345	≥ 345	≥ 345	≥ 345	≥ 345
> 16 - 40	≥ 355	≥ 355	≥ 355	≥ 355	≥ 355
> 40 - 63	≥ 325	≥ 325	≥ 325	≥ 325	≥ 325
> 63 - 80	≥ 315	≥ 315	≥ 315	≥ 315	≥ 315
> 80 - 100	≥ 305	≥ 305	≥ 305	≥ 305	≥ 305
> 100 - 150	≥ 285	≥ 285	≥ 285	≥ 285	≥ 285
> 150 - 200	≥ 275	≥ 275	≥ 275	≥ 275	≥ 275
> 200 - 250	≥ 265	≥ 265	≥ 265	≥ 265	≥ 265
> 250 - 400	-	-	-	≥ 265	≥ 265
Tensile Strength (N/mm ²)					
≤ 40	470 - 630	470 - 630	470 - 630	470 - 630	470 - 630
> 40 - 63	470 - 630	470 - 630	470 - 630	470 - 630	470 - 630
> 63 - 80	470 - 630	470 - 630	470 - 630	470 - 630	470 - 630
> 80 - 100	470 - 630	470 - 630	470 - 630	470 - 630	470 - 630
> 100 - 150	450 - 600	450 - 600	450 - 600	450 - 600	450 - 600
> 150 - 250	450 - 600	450 - 600	450 - 600	450 - 600	450 - 600
> 250 - 400	-	-	-	450 - 600	450 - 600
Minimum Elongation					
≤ 40	≥ 20		≥ 21		
> 40 - 63	≥ 19		≥ 20		
> 63 - 100	≥ 19		≥ 20		
> 100 - 150	≥ 18		≥ 19		
> 150 - 250	≥ 17		≥ 18		
> 250 - 400	-			≥ 17	

Designation	Q345				
Grade	A	B	C	D	E
	Chemical Composition				
C %	≤ 0.20			≤ 0.18	
Si %	≤ 0.50				
Mn %	≤ 1.70	≤ 1.70	≤ 1.70	≤ 1.70	≤ 1.70
P (% Max)	0.035	0.035	0.030	0.030	0.025
S (% Max)	0.035	0.035	0.030	0.025	0.020
Nb (% Max)	0.07	1.07	2.07	3.07	4.07
V (% Max)	0.15	1.15	2.15	3.15	4.15
Al (% Max)	-	-	0.015	1.015	2.015
Ti (% Max)	0.20	0.20	0.20	0.20	0.20
Ni (% Max)	0.50	0.50	0.50	0.50	0.50
N (% Max)	0.012	0.012	0.012	0.012	0.012
Cr (% Max)	0.30	0.30	0.30	0.30	0.30
Mo (% Max)	0.10	0.10	0.10	0.10	0.10
Cu (% Max)	0.30	0.30	0.30	0.30	0.30
B (% Max)	-	-	-	-	-
	Impact Values				
Temperature (°C)	-	20			
Nominal Thickness (mm)	Minimum Energy (J)				
12 - 150 mm	-	≥ 34			
> 150 - 250	-	≥ 27			
> 250 - 400	-			27	-

Specification above are reproduced from original standard.
For more details information please refer to the original standard.

China Standard GB/T 1591-2008

High strength low alloy structural steels

Designation	Q390				
Grade	A	B	C	D	E
Mechanicals Properties					
Yield Strength (N/mm ²)					
≤ 16	≥ 390	≥ 390	≥ 390	≥ 390	≥ 390
> 16 - 40	≥ 370	≥ 370	≥ 370	≥ 370	≥ 370
> 40 - 63	≥ 350	≥ 350	≥ 350	≥ 350	≥ 350
> 63 - 80	≥ 330	≥ 330	≥ 330	≥ 330	≥ 330
> 80 - 100	≥ 330	≥ 330	≥ 330	≥ 330	≥ 330
> 100 - 150	≥ 310	≥ 310	≥ 310	≥ 310	≥ 310
> 150 - 200	-	-	-	-	-
> 200 - 250	-	-	-	-	-
> 250 - 400	-	-	-	-	-
Tensile Strength (N/mm ²)					
≤ 40	490 - 650	490 - 650	490 - 650	490 - 650	490 - 650
> 40 - 63	490 - 650	490 - 650	490 - 650	490 - 650	490 - 650
> 63 - 80	490 - 650	490 - 650	490 - 650	490 - 650	490 - 650
> 80 - 100	490 - 650	490 - 650	490 - 650	490 - 650	490 - 650
> 100 - 150	470 - 620	470 - 620	470 - 620	470 - 620	470 - 620
> 150 - 250	-	-	-	-	-
> 250 - 400	-	-	-	-	-
Minimum Elongation					
≤ 40	-	≥ 20	-	-	-
> 40 - 63	≥ 21				
> 63 - 100	≥ 20				
> 100 - 150	≥ 19				
> 150 - 250	≥ 18				
> 250 - 400	-				

Designation	Q390				
Grade	A	B	C	D	E
	Chemical Composition				
C %	≤ 0.20				
Si %	≤ 0.50				
Mn %	≤ 1.70	≤ 1.70	≤ 1.70	≤ 1.70	≤ 1.70
P (% Max)	0.035	0.035	0.030	0.030	0.025
S (% Max)	0.035	0.035	0.030	0.025	0.020
Nb (% Max)	5.07	6.07	7.07	8.07	9.07
V (% Max)	0.20	1.20	2.20	3.20	4.20
Al (% Max)	-	-	0.015	1.015	2.015
Ti (% Max)	0.20	0.20	0.20	0.20	0.20
Ni (% Max)	0.50	0.50	0.50	0.50	0.50
N (% Max)	0.015	0.015	0.015	0.015	0.015
Cr (% Max)	0.30	0.30	0.30	0.30	0.30
Mo (% Max)	0.10	0.10	0.10	0.10	0.10
Cu (% Max)	0.30	0.30	0.30	0.30	0.30
B (% Max)	-	-	-	-	-
	Impact Values				
Temperature (°C)	-	20	0	-20	-40
Nominal Thickness (mm)	Minimum Energy (J)				
12 - 150 mm	-	≥ 34			
> 150 - 250	-				
> 250 - 400	-				

Specification above are reproduced from original standard.
For more details information please refer to the original standard.

China Standard GB/T 1591-2008

High strength low alloy structural steels

Designation	Q420				
Grade	A	B	C	D	E
Mechanicals Properties					
Yield Strength (N/mm ²)					
≤ 16	≥ 420	≥ 420	≥ 420	≥ 420	≥ 420
> 16 - 40	≥ 400	≥ 400	≥ 400	≥ 400	≥ 400
> 40 - 63	≥ 380	≥ 380	≥ 380	≥ 380	≥ 380
> 63 - 80	≥ 360	≥ 360	≥ 360	≥ 360	≥ 360
> 80 - 100	≥ 360	≥ 360	≥ 360	≥ 360	≥ 360
> 100 - 150	≥ 340	≥ 340	≥ 340	≥ 340	≥ 340
> 150 - 200	-	-	-	-	-
> 200 - 250	-	-	-	-	-
> 250 - 400	-	-	-	-	-
Tensile Strength (N/mm ²)					
≤ 40	520 - 680	520 - 680	520 - 680	520 - 680	520 - 680
> 40 - 63	520 - 680	520 - 680	520 - 680	520 - 680	520 - 680
> 63 - 80	520 - 680	520 - 680	520 - 680	520 - 680	520 - 680
> 80 - 100	520 - 680	520 - 680	520 - 680	520 - 680	520 - 680
> 100 - 150	500 - 650	500 - 650	500 - 650	500 - 650	500 - 650
> 150 - 250	-	-	-	-	-
> 250 - 400	-	-	-	-	-
Minimum Elongation					
≤ 40	≥ 19				
> 40 - 63	≥ 18				
> 63 - 100	≥ 18				
> 100 - 150	≥ 18				
> 150 - 250	-				
> 250 - 400	-				

Designation	Q420				
Grade	A	B	C	D	E
	Chemical Composition				
C %	≤ 0.20				
Si %	≤ 0.50				
Mn %	≤ 1.70	≤ 1.70	≤ 1.70	≤ 1.70	≤ 1.70
P (% Max)	0.035	0.035	0.030	0.030	0.025
S (% Max)	0.035	0.035	0.030	0.025	0.020
Nb (% Max)	10.07	11.07	12.07	13.07	14.07
V (% Max)	5.20	6.20	7.20	8.20	9.20
Al (% Max)	-	-	0.015	1.015	2.015
Ti (% Max)	0.20	0.20	0.20	0.20	0.20
Ni (% Max)	0.80	0.80	0.80	0.80	0.80
N (% Max)	0.015	0.015	0.015	0.015	0.015
Cr (% Max)	0.30	0.30	0.30	0.30	0.30
Mo (% Max)	0.20	0.20	0.20	0.20	0.20
Cu (% Max)	0.30	0.30	0.30	0.30	0.55
B (% Max)	-	-	-	-	0.004
	Impact Values				
Temperature (°C)	-	20	0	-20	-40
Nominal Thickness (mm)	Minimum Energy (J)				
12 - 150 mm	-	≥ 34			
> 150 - 250	-				
> 250 - 400	-				

Specification above are reproduced from original standard.
For more details information please refer to the original standard.

China Standard GB/T 1591-2008

High strength low alloy structural steels

Designation	Q460		
Grade	C	D	E
Mechanicals Properties			
Yield Strength (N/mm ²)			
≤ 16	≥ 460	≥ 460	≥ 460
> 16 - 40	≥ 440	≥ 440	≥ 440
> 40 - 63	≥ 420	≥ 420	≥ 420
> 63 - 80	≥ 400	≥ 400	≥ 400
> 80 - 100	≥ 400	≥ 400	≥ 400
> 100 - 150	≥ 380	≥ 380	≥ 380
> 150 - 200	-	-	-
> 200 - 250	-	-	-
> 250 - 400	-	-	-
Tensile Strength (N/mm ²)			
≤ 40	550 - 720	550 - 720	550 - 720
> 40 - 63	550 - 720	550 - 720	550 - 720
> 63 - 80	550 - 720	550 - 720	550 - 720
> 80 - 100	550 - 720	550 - 720	550 - 720
> 100 - 150	530 - 700	530 - 700	530 - 700
> 150 - 250	-	-	-
> 250 - 400	-	-	-
Minimum Elongation			
≤ 40	≥ 17		
> 40 - 63	≥ 16		
> 63 - 100	≥ 16		
> 100 - 150	≥ 16		
> 150 - 250	-		
> 250 - 400	-		

Designation	Q460		
Grade	C	D	E
Chemical Composition			
C %	≤ 0.20		
Si %	≤ 0.60		
Mn %	≤ 1.80	≤ 1.80	≤ 1.80
P (% Max)	0.030	0.030	0.025
S (% Max)	0.030	0.025	0.020
Nb (% Max)	0.11	1.11	2.11
V (% Max)	10.20	11.20	12.20
Al (% Max)	3.015	4.015	5.015
Ti (% Max)	0.20	0.20	0.20
Ni (% Max)	0.80	0.80	0.80
N (% Max)	0.015	0.015	0.015
Cr (% Max)	0.30	0.30	0.30
Mo (% Max)	0.20	0.20	0.20
Cu (% Max)	0.55	0.55	0.55
B (% Max)	0.004	0.004	0.004
Impact Values			
Temperature (°C)	0	-20	-40
Nominal Thickness (mm)	Minimum Energy (J)		
12 - 150 mm	≥ 34		
> 150 - 250	-		
> 250 - 400	-		

Specification above are reproduced from original standard.
For more details information please refer to the original standard.

China Standard GB/T 1591-2008

High strength low alloy structural steels

Designation	Q500		
Grade	C	D	E
Mechanicals Properties			
Yield Strength (N/mm ²)			
≤ 16	≥ 500	≥ 500	≥ 500
> 16 - 40	≥ 480	≥ 480	≥ 480
> 40 - 63	≥ 470	≥ 470	≥ 470
> 63 - 80	≥ 450	≥ 450	≥ 450
> 80 - 100	≥ 440	≥ 440	≥ 440
> 100 - 150	-	-	-
> 150 - 200	-	-	-
> 200 - 250	-	-	-
> 250 - 400	-	-	-
Tensile Strength (N/mm ²)			
≤ 40	610 - 770	610 - 770	610 - 770
> 40 - 63	600 - 760	600 - 760	600 - 760
> 63 - 80	590 - 750	590 - 750	590 - 750
> 80 - 100	540 - 730	540 - 730	540 - 730
> 100 - 150	-	-	-
> 150 - 250	-	-	-
> 250 - 400	-	-	-
Minimum Elongation			
≤ 40	≥ 17		
> 40 - 63	≥ 17		
> 63 - 100	≥ 17		
> 100 - 150	-		
> 150 - 250	-		
> 250 - 400	-		

Designation	Q500		
Grade	C	D	E
Chemical Composition			
C %	≤ 0.18		
Si %	≤ 0.60		
Mn %	≤ 1.80	≤ 1.80	≤ 1.80
P (% Max)	0.030	0.030	0.025
S (% Max)	0.030	0.025	0.020
Nb (% Max)	3.11	4.11	5.11
V (% Max)	0.12	1.12	2.12
Al (% Max)	6.015	7.015	8.015
Ti (% Max)	0.20	0.20	0.20
Ni (% Max)	0.80	0.80	0.80
N (% Max)	0.015	0.015	0.015
Cr (% Max)	0.30	0.30	0.30
Mo (% Max)	0.20	0.20	0.20
Cu (% Max)	0.55	0.55	0.55
B (% Max)	0.004	0.004	0.004
Impact Values			
Temperature (°C)	0	-20	-40
Nominal Thickness (mm)	Minimum Energy (J)		
12 - 150 mm	≥ 55	≥ 47	≥ 31
> 150 - 250	-		
> 250 - 400	-		

Specification above are reproduced from original standard.
For more details information please refer to the original standard.

China Standard GB/T 1591-2008

High strength low alloy structural steels

Designation	Q550		
Grade	C	D	E
Mechanicals Properties			
Yield Strength (N/mm ²)			
≤ 16	≥ 550	≥ 550	≥ 550
> 16 - 40	≥ 530	≥ 530	≥ 530
> 40 - 63	≥ 520	≥ 520	≥ 520
> 63 - 80	≥ 500	≥ 500	≥ 500
> 80 - 100	≥ 490	≥ 490	≥ 490
> 100 - 150	-	-	-
> 150 - 200	-	-	-
> 200 - 250	-	-	-
> 250 - 400	-	-	-
Tensile Strength (N/mm ²)			
≤ 40	670 - 830	670 - 830	670 - 830
> 40 - 63	620 - 810	620 - 810	620 - 810
> 63 - 80	600 - 790	600 - 790	600 - 790
> 80 - 100	590 - 780	590 - 780	590 - 780
> 100 - 150	-	-	-
> 150 - 250	-	-	-
> 250 - 400	-	-	-
Minimum Elongation			
≤ 40	≥ 16		
> 40 - 63	≥ 16		
> 63 - 100	≥ 16		
> 100 - 150	-		
> 150 - 250	-		
> 250 - 400	-		

Designation	Q550		
Grade	C	D	E
Chemical Composition			
C %	≤ 0.18		
Si %	≤ 0.60		
Mn %	≤ 2.00	≤ 2.00	≤ 2.00
P (% Max)	0.030	0.030	0.025
S (% Max)	0.030	0.025	0.020
Nb (% Max)	6.11	7.11	8.11
V (% Max)	3.12	4.12	5.12
Al (% Max)	9.015	10.015	11.015
Ti (% Max)	0.20	0.20	0.20
Ni (% Max)	0.80	0.80	0.80
N (% Max)	0.015	0.015	0.015
Cr (% Max)	0.30	0.30	0.30
Mo (% Max)	0.20	0.20	0.20
Cu (% Max)	0.55	0.55	0.55
B (% Max)	0.004	0.004	0.004
Impact Values			
Temperature (°C)	0	-20	-40
Nominal Thickness (mm)	Minimum Energy (J)		
12 - 150 mm	≥ 55	≥ 47	≥ 31
> 150 - 250	-		
> 250 - 400	-		

Specification above are reproduced from original standard.
For more details information please refer to the original standard.

China Standard GB/T 1591-2008

High strength low alloy structural steels

Designation	Q620		
Grade	C	D	E
	Mechanicals Properties		
	Yield Strength (N/mm ²)		
≤ 16	≥ 620	≥ 620	≥ 620
> 16 - 40	≥ 600	≥ 600	≥ 600
> 40 - 63	≥ 590	≥ 590	≥ 590
> 63 - 80	≥ 570	≥ 570	≥ 570
> 80 - 100	-	-	-
> 100 - 150	-	-	-
> 150 - 200	-	-	-
> 200 - 250	-	-	-
> 250 - 400	-	-	-
	Tensile Strength (N/mm ²)		
≤ 40	710 - 880	710 - 880	710 - 880
> 40 - 63	690 - 880	690 - 880	690 - 880
> 63 - 80	670 - 860	670 - 860	670 - 860
> 80 - 100	-	-	-
> 100 - 150	-	-	-
> 150 - 250	-	-	-
> 250 - 400	-	-	-
	Minimum Elongation		
≤ 40	≥ 15		
> 40 - 63	≥ 15		
> 63 - 100	≥ 15		
> 100 - 150	-		
> 150 - 250	-		
> 250 - 400	-		

Designation	Q620		
Grade	C	D	E
	Chemical Composition		
C %	≤ 0.18		
Si %	≤ 0.60		
Mn %	≤ 2.00	≤ 2.00	≤ 2.00
P (% Max)	0.030	0.030	0.025
S (% Max)	0.030	0.025	0.020
Nb (% Max)	9.11	10.11	11.11
V (% Max)	6.12	7.12	8.12
Al (% Max)	12.015	13.015	14.015
Ti (% Max)	0.20	0.20	0.20
Ni (% Max)	0.80	0.80	0.80
N (% Max)	0.015	0.015	0.015
Cr (% Max)	0.30	0.30	0.30
Mo (% Max)	0.20	0.20	0.20
Cu (% Max)	0.55	0.55	0.55
B (% Max)	0.004	0.004	0.004
	Impact Values		
Temperature (°C)	0	-20	-40
Nominal Thickness (mm)	Minimum Energy (J)		
12 - 150 mm	≥ 55	≥ 47	≥ 31
> 150 - 250	-		
> 250 - 400	-		

Specification above are reproduced from original standard.
For more details information please refer to the original standard.

China Standard GB/T 1591-2008

High strength low alloy structural steels

Designation	Q690		
Grade	C	D	E
Mechanicals Properties			
Yield Strength (N/mm ²)			
≤ 16	≥ 690	≥ 690	≥ 690
> 16 - 40	≥ 670	≥ 670	≥ 670
> 40 - 63	≥ 660	≥ 660	≥ 660
> 63 - 80	≥ 640	≥ 640	≥ 640
> 80 - 100	-	-	-
> 100 - 150	-	-	-
> 150 - 200	-	-	-
> 200 - 250	-	-	-
> 250 - 400	-	-	-
Tensile Strength (N/mm ²)			
≤ 40	770 - 940	770 - 940	770 - 940
> 40 - 63	750 - 920	750 - 920	750 - 920
> 63 - 80	730 - 900	730 - 900	730 - 900
> 80 - 100	-	-	-
> 100 - 150	-	-	-
> 150 - 250	-	-	-
> 250 - 400	-	-	-
Minimum Elongation			
≤ 40	≥ 14		
> 40 - 63	≥ 14		
> 63 - 100	≥ 14		
> 100 - 150	-		
> 150 - 250	-		
> 250 - 400	-		

Designation	Q690		
Grade	C	D	E
Chemical Composition			
C %	≤ 0.18		
Si %	≤ 0.60		
Mn %	≤ 2.00	≤ 2.00	≤ 2.00
P (% Max)	0.030	0.030	0.025
S (% Max)	0.030	0.025	0.020
Nb (% Max)	12.11	13.11	14.11
V (% Max)	9.12	10.12	11.12
Al (% Max)	15.015	16.015	17.015
Ti (% Max)	0.20	0.20	0.20
Ni (% Max)	0.80	0.80	0.80
N (% Max)	0.015	0.015	0.015
Cr (% Max)	0.30	0.30	0.30
Mo (% Max)	0.20	0.20	0.20
Cu (% Max)	0.55	0.55	0.55
B (% Max)	0.004	0.004	0.004
Impact Values			
Temperature (°C)	0	-20	-40
Nominal Thickness (mm)	Minimum Energy (J)		
12 - 150 mm	≥ 55	≥ 47	≥ 31
> 150 - 250	-		
> 250 - 400	-		

Specification above are reproduced from original standard.
For more details information please refer to the original standard.

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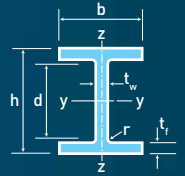
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Beam / Column

Dimension : BS 4-1:2005 & ASTM A6/A6M-09
Tolerance : EN 10034:1993 & ASTM A6/A6M-09



Designation Mass/ Depth Width Thickness Radius

W : Wide Flange Beams/Column (inch,lb/ft)
UB/UC : Universal Beam/Column (mm,kg/m)
UBP : Universal Bearing Pile (mm,kg/m)

UBP : Universal Bearing Pile (mm,kg/m)							h	b	t _w	t _f	r	
							kg/m	mm	mm	mm	mm	mm
102 x 102	W	4	x	4	x	13	19.3	106.0	103.0	7.1	8.8	6.0
127 x 76	UB	127	x	76	x	13 c	13.0	127.0	76.0	4.0	7.6	7.6
127 x 127	W	5	x	5	x	16	23.8	127.0	127.0	6.1	9.1	8.0
127 x 127	W	5	x	5	x	19	28.1	131.0	128.0	6.9	10.9	8.0
152 x 89	UB	152	x	89	x	16 c	16.0	152.4	88.7	4.5	7.7	7.6
152 x 102	W	6	x	4	x	8.5 c	13.0	148.0	100.0	4.3	4.9	6.0
152 x 102	W	6	x	4	x	9 c	13.5	150.0	100.0	4.3	5.5	6.0
152 x 102	W	6	x	4	x	12	18.0	153.0	102.0	5.8	7.1	6.0
152 x 102	W	6	x	4	x	16	24.0	160.0	102.0	6.6	10.3	6.0
152 x 152	W	6	x	6	x	15	22.5	152.0	152.0	5.8	6.6	6.0
152 x 152	UC	152	x	152	x	23	23.0	152.4	152.2	5.8	6.8	7.6
152 x 152	W	6	x	6	x	20	29.8	157.0	153.0	6.6	9.3	6.0
152 x 152	UC	152	x	152	x	30	30.0	157.6	152.9	6.5	9.4	7.6
152 x 152	UC	152	x	152	x	37	37.0	161.8	154.4	8.0	11.5	7.6
152 x 152	W	6	x	6	x	25	37.1	162.0	154.0	8.1	11.6	6.0
152 x 152	UC	152	x	152	x	44 c*	44.0	166.0	155.9	9.5	13.6	7.6
152 x 152	UC	152	x	152	x	51 c*	51.2	170.2	157.4	11.0	15.7	7.6
178 x 102	UB	178	x	102	x	19 c	19.0	177.8	101.2	4.8	7.9	7.6
203 x 102	W	8	x	4	x	10 c	15.0	200.0	100.0	4.3	5.2	8.0
203 x 102	W	8	x	4	x	13	19.3	203.0	102.0	5.8	6.5	8.0
203 x 102	W	8	x	4	x	15	22.5	206.0	102.0	6.2	8.0	8.0
203 x 102	UB	203	x	102	x	23	23.1	203.2	101.8	5.4	9.3	7.6
203 x 133	W	8	x	5.25	x	14 c*	21.4	203.0	134.0	5.0	6.4	8.0
203 x 133	UB	203	x	133	x	25	25.1	203.2	133.2	5.7	7.8	7.6
203 x 133	W	8	x	5.25	x	18	26.6	207.0	133.0	5.8	8.4	8.0
203 x 133	UB	203	x	133	x	30	30.0	206.8	133.9	6.4	9.6	7.6
203 x 133	W	8	x	5.25	x	21	31.3	210.0	134.0	6.4	10.2	8.0
203 x 165	W	8	x	6.5	x	24 c	35.9	201.0	165.0	6.2	10.2	10.0

Designation Mass/ Depth Width Thickness Radius

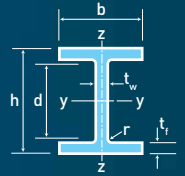
W : Wide Flange Beams/Column (inch,lb/ft)
UB/UC : Universal Beam/Column (mm,kg/m)
UBP : Universal Bearing Pile (mm,kg/m)

UBP : Universal Bearing Pile (mm,kg/m)							h	b	t _w	t _i	r		
							kg/m	mm	mm	mm	mm	mm	
203 x 165	W	8	x	6.5	x	28	c	41.7	205.0	166.0	7.2	11.8	10.0
203 x 203	UBP	203	x	203	x	45	c	44.9	200.2	205.9	9.5	9.5	10.2
203 x 203	UC	203	x	203	x	46		46.1	203.2	203.6	7.2	11.0	10.2
203 x 203	W	8	x	8	x	31		46.1	203.0	203.0	7.2	11.0	10.0
203 x 203	UC	203	x	203	x	52		52.0	206.2	204.3	7.9	12.5	10.2
203 x 203	UBP	203	x	203	x	54	c	53.9	204.0	207.7	11.3	11.4	10.2
203 x 203	W	8	x	8	x	35		52.0	206.0	204.0	7.9	12.6	10.0
203 x 203	W	8	x	8	x	40		59.0	210.0	205.0	9.1	14.2	10.0
203 x 203	UC	203	x	203	x	60		60.0	209.6	205.8	9.4	14.2	10.2
203 x 203	UC	203	x	203	x	71		71.0	215.8	206.4	10.0	17.3	10.2
203 x 203	W	8	x	8	x	48		71.0	216.0	206.0	10.2	17.4	10.0
203 x 203	W	8	x	8	x	58	c	86.0	222.0	209.0	13.0	20.6	10.0
203 x 203	UC	203	x	203	x	86	c	86.1	222.2	209.1	12.7	20.5	10.2
203 x 203	UC	203	x	203	x	100	c*	99.6	228.6	210.3	14.5	23.7	10.2
203 x 203	W	8	x	8	x	67	c	100.0	229.0	210.0	14.5	23.7	10.0
203 x 203	UC	203	x	203	x	113	c*	113.5	235.0	212.1	16.3	26.9	10.2
203 x 203	UC	203	x	203	x	127	c*	127.5	241.4	213.9	18.1	30.1	10.2
254 x 102	W	10	x	4	x	12	c	17.9	251.0	101.0	4.8	5.3	8.0
254 x 102	UB	254	x	102	x	22	c	22.0	254.0	101.6	5.7	6.8	7.6
254 x 102	W	10	x	4	x	15	c	22.3	254.0	102.0	5.8	6.9	8.0
254 x 102	UB	254	x	102	x	25		25.2	257.2	101.9	6.0	8.4	7.6
254 x 102	W	10	x	4	x	17		25.3	257.0	102.0	6.1	8.4	8.0
254 x 102	UB	254	x	102	x	28		28.3	260.4	102.2	6.3	10.0	7.6
254 x 102	W	10	x	4	x	19		28.4	260.0	102.0	6.4	10.0	8.0
254 x 146	W	10	x	5.75	x	16	c	24.0	253.0	145.0	5.0	6.4	7.6
254 x 146	UB	254	x	146	x	31		31.1	251.4	146.1	6.0	8.6	7.6
254 x 146	W	10	x	5.75	x	22		32.7	258.0	146.0	6.1	9.1	8.0
254 x 146	UB	254	x	146	x	37		37.0	256.0	146.4	6.3	10.9	7.6

^c Special conditions may apply, please contact our sales consultants
^{*} Based on other specification

Beam / Column

Dimension : BS 4-1:2005 & ASTM A6/A6M-09
Tolerance : EN 10034:1993 & ASTM A6/A6M-09



Beam / Column



Designation					Mass/ Unit Length	Depth	Width	Thickness	Radius	
W : Wide Flange Beams/Column (inch,lb/ft)										
UB/UC : Universal Beam/Column (mm,kg/m)										
UBP : Universal Bearing Pile (mm,kg/m)										
					kg/m	h	b	t _w	t _f	r
					mm	mm	mm	mm	mm	mm
254 x 146	W	10	x	5.75 x 26	38.5	262.0	147.0	6.6	11.2	8.0
254 x 146	UB	254	x	146 x 43	43.0	259.6	147.3	7.2	12.7	7.6
254 x 146	W	10	x	5.75 x 30	44.8	266.0	148.0	7.6	13.0	8.0
254 x 203	W	10	x	8 x 33 c	49.1	247.0	202.0	7.4	11.0	13.0
254 x 203	W	10	x	8 x 39 c	58.0	252.0	203.0	8.0	13.5	13.0
254 x 203	W	10	x	8 x 45 c	67.0	257.0	204.0	8.9	15.7	13.0
254 x 254	W	10	x	10 x 49	73.0	253.0	254.0	8.6	14.2	13.0
254 x 254	UC	254	x	254 x 73	73.1	254.1	254.6	8.6	14.2	12.7
254 x 254	W	10	x	10 x 54	80.0	256.0	255.0	9.4	15.6	13.0
254 x 254	UBP	10	x	10 x 63	63.0	247.1	256.6	10.6	10.7	12.7
254 x 254	UBP	10	x	10 x 71	71.0	249.7	258.0	12.0	12.0	12.7
254 x 254	UBP	10	x	10 x 85	85.1	254.3	260.4	14.4	14.3	12.7
254 x 254	UC	254	x	254 x 89	88.9	260.3	256.3	10.3	17.3	12.7
254 x 254	W	10	x	10 x 60	89.0	260.0	256.0	10.7	17.3	13.0
254 x 254	W	10	x	10 x 68	101.0	264.0	257.0	11.9	19.6	13.0
254 x 254	UC	254	x	254 x 107	107.1	266.7	258.8	12.8	20.5	12.7
254 x 254	W	10	x	10 x 77	115.0	269.0	259.0	13.5	22.1	13.0
254 x 254	W	10	x	10 x 88	131.0	275.0	261.0	15.4	25.1	13.0
254 x 254	UC	254	x	254 x 132	132.0	276.3	261.3	15.3	25.3	12.7
254 x 254	W	10	x	10 x 100	149.0	282.0	263.0	17.3	28.4	13.0
254 x 254	W	10	x	10 x 112 c	167.0	289.0	265.0	19.2	31.8	13.0
254 x 254	UC	254	x	254 x 167 c	167.1	289.1	265.2	19.2	31.7	12.7
305 x 102	W	12	x	4 x 14 c	21.0	303.0	101.0	5.1	5.7	8.0
305 x 102	W	12	x	4 x 16 c	23.8	305.0	101.0	5.6	6.7	8.0
305 x 102	UB	305	x	102 x 25	24.8	305.1	101.6	5.8	7.0	7.6
305 x 102	UB	305	x	102 x 28	28.2	308.7	101.8	6.0	8.8	7.6
305 x 102	W	12	x	4 x 19 c	28.3	309.0	102.0	6.0	8.9	8.0
305 x 102	W	12	x	4 x 22 c	32.7	313.0	102.0	6.6	10.8	8.0

Designation					Mass/ Unit Length	Depth	Width	Thickness	Radius	
W : Wide Flange Beams/Column (inch,lb/ft)										
UB/UC : Universal Beam/Column (mm,kg/m)										
UBP : Universal Bearing Pile (mm,kg/m)										
					kg/m	h	b	t _w	t _f	r
					mm	mm	mm	mm	mm	mm
305 x 102	UB	305 x	102 x	33 c	32.8	312.7	102.4	6.6	10.8	7.6
305 x 127	UB	305 x	127 x	37	37.0	304.4	123.4	7.1	10.7	8.9
305 x 127	UB	305 x	127 x	42	41.9	307.2	124.3	8.0	12.1	8.9
305 x 127	UB	305 x	127 x	48	48.1	311.0	125.3	9.0	14.0	8.9
305 x 165	W	12 x	6.5 x	21 c	31.0	306.0	164.0	5.0	7.4	7.6
305 x 165	W	12 x	6.5 x	26	38.7	310.0	165.0	5.8	9.7	8.0
305 x 165	UB	305 x	165 x	40	40.3	303.4	165.0	6.0	10.2	8.9
305 x 165	W	12 x	6.5 x	30	44.5	313.0	166.0	6.6	11.2	8.0
305 x 165	UB	305 x	165 x	46	46.1	306.6	165.7	6.7	11.8	8.9
305 x 165	W	12 x	6.5 x	35	52.0	317.0	167.0	7.6	13.2	8.0
305 x 165	UB	305 x	165 x	54	54.0	310.4	166.9	7.9	13.7	8.9
305 x 203	W	12 x	8 x	40	60.0	303.0	203.0	7.5	13.1	15.0
305 x 203	W	12 x	8 x	45	67.0	306.0	204.0	8.5	14.6	15.0
305 x 203	W	12 x	8 x	50	74.0	310.0	205.0	9.4	16.3	15.0
305 x 254	W	12 x	10 x	53 c	79.0	306.0	254.0	8.8	14.6	15.0
305 x 254	W	12 x	10 x	58 c	86.0	310.0	254.0	9.1	16.3	15.0
305 x 305	UBP	305 x	305 x	79	78.9	299.3	306.4	11.0	11.1	15.2
305 x 305	UBP	305 x	305 x	88	88.0	301.7	307.8	12.4	12.3	15.2
305 x 305	UBP	305 x	305 x	95	94.9	303.7	308.7	13.3	13.3	15.2
305 x 305	UC	305 x	305 x	97	96.9	307.9	305.3	9.9	15.4	15.2
305 x 305	W	12 x	12 x	65	97.0	308.0	305.0	9.9	15.4	15.0
305 x 305	W	12 x	12 x	72	107.0	311.0	306.0	10.9	17.0	15.0
305 x 305	W	12 x	12 x	79	117.0	314.0	307.0	11.9	18.7	15.0
305 x 305	UBP	305 x	305 x	110	110.0	307.9	310.7	15.3	15.4	15.2
305 x 305	UC	305 x	305 x	118	117.9	314.5	307.4	12.0	18.7	15.2
305 x 305	UBP	305 x	305 x	126	126.1	312.3	312.9	17.5	17.6	15.2
305 x 305	W	12 x	12 x	87	129.0	318.0	308.0	13.1	20.6	15.0
305 x 305	UC	305 x	305 x	137	136.9	320.5	309.2	13.8	21.7	15.2

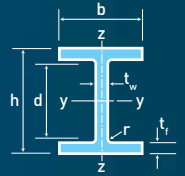
Beam / Column



^c Special conditions may apply, please contact our sales consultants
* Based on other specification

Beam / Column

Dimension : BS 4-1:2005 & ASTM A6/A6M-09
Tolerance : EN 10034:1993 & ASTM A6/A6M-09



Beam / Column



Designation			Mass/ Unit Length	Depth	Width	Thickness	Radius	
W : Wide Flange Beams/Column (inch,lb/ft)								
UB/UC : Universal Beam/Column (mm,kg/m)								
UBP : Universal Bearing Pile (mm,kg/m)								
			kg/m	h	b	t _w	t _f	r
			mm	mm	mm	mm	mm	mm
305 x 305	UBP	305 x 305 x 149	149.1	318.5	316.0	20.6	20.7	15.2
305 x 305	W	12 x 12 x 96	143.0	323.0	309.0	14.0	22.9	15.0
305 x 305	W	12 x 12 x 106	158.0	327.0	310.0	15.5	25.1	15.0
305 x 305	UC	305 x 305 x 158	158.1	327.1	311.2	15.8	25.0	15.2
305 x 305	W	12 x 12 x 120	179.0	333.0	313.0	18.0	28.1	15.0
305 x 305	UBP	305 x 305 x 186	186.0	328.3	320.9	25.5	25.6	15.2
305 x 305	UC	305 x 305 x 198	198.1	339.9	314.5	19.1	31.4	15.2
305 x 305	W	12 x 12 x 136	202.0	341.0	315.0	20.1	31.8	15.0
305 x 305	W	12 x 12 x 152	226.0	348.0	317.0	22.1	35.6	15.0
305 x 305	UBP	305 x 305 x 223	222.9	337.9	325.7	30.3	30.4	15.2
305 x 305	UC	305 x 305 x 240	240.0	352.5	318.4	23.0	37.7	15.2
305 x 305	W	12 x 12 x 170	253.0	356.0	319.0	24.4	39.6	15.0
305 x 305	UC	305 x 305 x 283	282.9	365.3	322.2	26.8	44.1	15.2
305 x 305	W	12 x 12 x 190	283.0	365.0	322.0	26.9	44.1	15.0
305 x 305	W	12 x 12 x 210 c	313.0	374.0	325.0	30.0	48.3	15.0
305 x 305	W	12 x 12 x 230 c	342.0	382.0	328.0	32.6	52.6	15.0
305 x 305	W	12 x 12 x 252 c	375.0	391.0	330.0	35.4	57.2	15.0
305 x 305	W	12 x 12 x 279 c	415.0	403.0	334.0	38.9	62.7	15.0
305 x 305	W	12 x 12 x 305 c	454.0	415.0	336.0	41.3	68.7	15.0
305 x 305	W	12 x 12 x 336 c	500.0	427.0	340.0	45.1	75.1	15.0
356 x 127	W	14 x 5 x 22	32.9	349.0	127.0	5.8	8.5	10.0
356 x 127	UB	356 x 127 x 33	33.1	349.0	125.4	6.0	8.5	10.2
356 x 127	W	14 x 5 x 26	39.0	353.0	128.0	6.5	10.7	10.0
356 x 127	UB	356 x 127 x 39	39.1	353.4	126.0	6.6	10.7	10.2
356 x 171	W	14 x 6.75 x 30	44.6	352.0	171.0	6.9	9.8	10.0
356 x 171	UB	356 x 171 x 45	45.0	351.4	171.1	7.0	9.7	10.2
356 x 171	UB	356 x 171 x 51	51.0	355.0	171.5	7.4	11.5	10.2
356 x 171	W	14 x 6.75 x 34	51.0	355.0	171.0	7.2	11.6	10.0

Designation					Mass/ Unit Length	Depth	Width	Thickness	Radius	
W : Wide Flange Beams/Column (inch,lb/ft)										
UB/UC : Universal Beam/Column (mm,kg/m)										
UBP : Universal Bearing Pile (mm,kg/m)										
					kg/m	h	b	t _w	t _f	r
					mm	mm	mm	mm	mm	mm
356 x 171	UB	356 x 171	x 57		57.0	358.0	172.2	8.1	13.0	10.2
356 x 171	W	14 x 6.75	x 38		58.0	358.0	172.0	7.9	13.1	10.0
356 x 171	UB	356 x 171	x 67		67.1	363.4	173.2	9.1	15.7	10.2
356 x 203	W	14 x 8	x 43 c		64.0	347.0	203.0	7.7	13.5	15.0
356 x 203	W	14 x 8	x 48 c		72.0	350.0	204.0	8.6	15.1	15.0
356 x 203	W	14 x 8	x 53 c		79.0	354.0	205.0	9.4	16.8	15.0
356 x 254	W	14 x 10	x 61 c		91.0	353.0	254.0	9.5	16.4	15.0
356 x 254	W	14 x 10	x 68 c		101.0	357.0	255.0	10.5	18.3	15.0
356 x 254	W	14 x 10	x 74 c		110.0	360.0	256.0	11.4	19.9	15.0
356 x 254	W	14 x 10	x 82 c		122.0	363.0	257.0	13.0	21.7	15.0
356 x 368	UBP	356 x 368	x 109		108.9	346.4	371.0	12.8	12.9	15.2
356 x 368	UC	356 x 368	x 129		129.0	355.6	368.6	10.4	17.5	15.2
356 x 368	UC	356 x 368	x 133 *		133.0	352.0	373.8	15.6	15.7	15.2
356 x 368	W	14 x 14.5	x 90		134.0	356.0	369.0	11.2	18.0	15.0
356 x 368	W	14 x 14.5	x 99		147.0	360.0	370.0	12.3	19.8	15.0
356 x 368	UBP	356 x 368	x 152 *		152.0	356.4	376.0	17.8	17.9	15.2
356 x 368	UC	356 x 368	x 153		152.9	362.0	370.5	12.3	20.7	15.2
356 x 368	W	14 x 14.5	x 109		162.0	364.0	371.0	13.3	21.8	15.0
356 x 368	UBP	356 x 368	x 174		173.9	361.4	378.5	20.3	20.4	15.2
356 x 368	UC	356 x 368	x 177		177.0	368.2	372.6	14.4	23.8	15.2
356 x 368	W	14 x 14.5	x 120		179.0	368.0	373.0	15.0	23.9	15.0
356 x 368	W	14 x 14.5	x 132		196.0	372.0	374.0	16.4	26.2	15.0
356 x 368	UC	356 x 368	x 202		201.9	374.6	374.7	16.5	27.0	15.2
356 x 406	W	14 x 16	x 145		216.0	375.0	394.0	17.3	27.7	15.0
356 x 406	UC	356 x 406	x 235		235.1	381.0	394.8	18.4	30.2	15.2
356 x 406	W	14 x 16	x 159 c		237.0	380.0	395.0	18.9	30.2	15.0
356 x 406	W	14 x 16	x 176 c		262.0	387.0	398.0	21.1	33.3	15.0
356 x 406	W	14 x 16	x 193 c		287.0	393.0	399.0	22.6	36.6	15.0

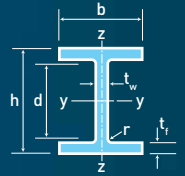
Beam / Column



^c Special conditions may apply, please contact our sales consultants
^{*} Based on other specification

Beam / Column

Dimension : BS 4-1:2005 & ASTM A6/A6M-09
Tolerance : EN 10034:1993 & ASTM A6/A6M-09



Beam / Column



Designation				Mass/ Unit Length	Depth h	Width b	Thickness t _w	Radius t _f	Radius r
W : Wide Flange Beams/Column (inch,lb/ft)				kg/m	mm	mm	mm	mm	mm
UB/UC : Universal Beam/Column (mm,kg/m)									
UBP : Universal Bearing Pile (mm,kg/m)									
356 x 406	UC	356 x 406	x 287	287.1	393.6	399.0	22.6	36.5	15.2
356 x 406	W	14 x 16	x 211 c	314.0	399.0	401.0	24.9	39.6	15.0
356 x 406	W	14 x 16	x 219 c	326.0	403.0	402.0	25.5	41.2	15.0
356 x 406	UC	356 x 406	x 340 c	339.9	406.4	403.0	26.6	42.9	15.2
356 x 406	W	14 x 16	x 233 c	347.0	407.0	404.0	27.2	43.7	15.0
356 x 406	W	14 x 16	x 257 c	382.0	416.0	406.0	29.8	48.0	15.0
356 x 406	UC	356 x 406	x 393 c	393.0	419.0	407.0	30.6	49.2	15.2
356 x 406	W	14 x 16	x 283 c	421.0	425.0	409.0	32.8	52.6	15.0
356 x 406	W	14 x 16	x 311 c	463.0	435.0	412.0	35.8	57.4	15.0
356 x 406	UC	356 x 406	x 467 c	467.0	436.6	412.2	35.8	58.0	15.2
356 x 406	W	14 x 16	x 342 c	509.0	446.0	416.0	39.1	62.7	15.0
356 x 406	UC	356 x 406	x 551 c	551.0	455.6	418.5	42.1	67.5	15.2
356 x 406	W	14 x 16	x 370 c	551.0	455.0	418.0	42.0	67.6	15.0
356 x 406	W	14 x 16	x 398 c	592.0	465.0	421.0	45.0	72.3	15.0
356 x 406	UC	356 x 406	x 634 c	633.9	474.6	424.0	47.6	77.0	15.2
356 x 406	W	14 x 16	x 426 c	634.0	474.0	424.0	47.6	77.1	15.0
356 x 406	W	14 x 16	x 455 c	677.0	483.0	428.0	51.2	81.5	15.0
356 x 406	W	14 x 16	x 500 c	744.0	498.0	432.0	55.6	88.9	15.0
356 x 406	W	14 x 16	x 550 c	818.0	514.0	437.0	60.5	97.0	15.0
356 x 406	W	14 x 16	x 605 c	900.0	531.0	442.0	65.9	106.0	15.0
356 x 406	W	14 x 16	x 665 c	990.0	550.0	448.0	71.9	115.0	15.0
356 x 406	W	14 x 16	x 730 c	1086.0	569.0	454.0	78.0	125.0	15.0
356 x 406	W	14 x 16	x 808 c*	1202.0	580.0	471.0	95.0	130.0	15.0
356 x 406	W	14 x 16	x 873 c*	1299.0	600.0	476.0	100.0	140.0	15.0
406 x 140	W	16 x 5.5	x 26	38.8	399.0	140.0	6.4	8.8	10.0
406 x 140	UB	406 x 140	x 39	39.0	398.0	141.8	6.4	8.6	10.2
406 x 140	UB	406 x 140	x 46	46.0	403.2	142.2	6.8	11.2	10.2
406 x 140	W	16 x 5.5	x 31	46.1	403.0	140.0	7.0	11.2	10.0

Designation				Mass/ Unit Length	Depth h	Width b	Thickness t _w	Radius t _f	Radius r
W : Wide Flange Beams/Column (inch,lb/ft)				kg/m	mm	mm	mm	mm	mm
UB/UC : Universal Beam/Column (mm,kg/m)									
UBP : Universal Bearing Pile (mm,kg/m)									
406 x 140	UB	406 x 140	x 53 c*	53.3	406.6	143.3	7.9	12.9	10.2
406 x 178	W	16 x 7	x 36	53.0	403.0	177.0	7.5	10.9	10.0
406 x 178	UB	406 x 178	x 54	54.1	402.6	177.7	7.7	10.9	10.2
406 x 178	W	16 x 7	x 40	60.0	407.0	178.0	7.7	12.8	10.0
406 x 178	UB	406 x 178	x 60	60.1	406.4	177.9	7.9	12.8	10.2
406 x 178	W	16 x 7	x 45	67.0	410.0	179.0	8.8	14.4	10.0
406 x 178	UB	406 x 178	x 67	67.1	409.4	178.8	8.8	14.3	10.2
406 x 178	UB	406 x 178	x 74	74.2	412.8	179.5	9.5	16.0	10.2
406 x 178	W	16 x 7	x 50	75.0	413.0	180.0	9.7	16.0	10.0
406 x 178	W	16 x 7	x 57 c	85.0	417.0	181.0	10.9	18.2	10.0
406 x 178	UB	406 x 178	x 85 c*	85.3	417.2	181.9	10.9	18.2	10.2
406 x 260	W	16 x 10.25	x 67 c	100.0	415.0	260.0	10.0	16.9	10.0
406 x 260	W	16 x 10.25	x 77 c	114.0	420.0	261.0	11.6	19.3	10.0
406 x 260	W	16 x 10.25	x 89 c	132.0	425.0	263.0	13.3	22.2	10.0
406 x 260	W	16 x 10.25	x 100 c	149.0	431.0	265.0	14.9	25.0	10.0
457 x 152	W	18 x 6	x 35	52.0	450.0	152.0	7.6	10.8	10.0
457 x 152	UB	457 x 152	x 52	52.3	449.8	152.4	7.6	10.9	10.2
457 x 152	UB	457 x 152	x 60	59.8	454.6	152.9	8.1	13.3	10.2
457 x 152	W	18 x 6	x 40	60.0	455.0	153.0	8.0	13.3	10.0
457 x 152	UB	457 x 152	x 67	67.2	458.0	153.8	9.0	15.0	10.2
457 x 152	W	18 x 6	x 46	68.0	459.0	154.0	9.1	15.4	10.0
457 x 152	UB	457 x 152	x 74	74.2	462.0	154.4	9.6	17.0	10.2
457 x 152	UB	457 x 152	x 82	82.1	465.8	155.3	10.5	18.9	10.2
457 x 191	UB	457 x 191	x 67	67.1	453.4	189.9	8.5	12.7	10.2
457 x 191	W	18 x 7.5	x 50	74.0	457.0	190.0	9.0	14.5	10.0
457 x 191	UB	457 x 291	x 74	74.3	457.0	190.4	9.0	14.5	10.2
457 x 191	UB	457 x 191	x 82	82.0	460.0	191.3	9.9	16.0	10.2
457 x 191	W	18 x 7.5	x 55	82.0	460.0	191.0	9.9	16.0	10.0

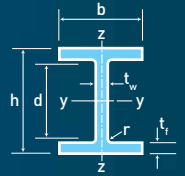
Beam / Column



^c Special conditions may apply, please contact our sales consultants
* Based on other specification

Beam / Column

Dimension : BS 4-1:2005 & ASTM A6/A6M-09
Tolerance : EN 10034:1993 & ASTM A6/A6M-09



Beam / Column



Designation					Mass/ Unit Length	Depth	Width	Thickness	Radius	
W : Wide Flange Beams/Column (inch,lb/ft)										
UB/UC : Universal Beam/Column (mm,kg/m)										
UBP : Universal Bearing Pile (mm,kg/m)										
					kg/m	h	b	t _w	t _f	r
					mm	mm	mm	mm	mm	mm
457 x 191	W	18	x	7.5 x 60	89.0	463.0	192.0	10.5	17.7	10.0
457 x 191	UB	457	x	191 x 89	89.3	463.4	191.9	10.5	17.7	10.2
457 x 191	W	18	x	7.5 x 65	97.0	466.0	193.0	11.4	19.0	10.0
457 x 191	UB	457	x	191 x 98	98.3	467.2	192.8	11.4	19.6	10.2
457 x 191	W	18	x	7.5 x 71 c	106.0	469.0	194.0	12.6	20.6	10.0
457 x 191	UB	457	x	191 x 133 c*	133.3	480.6	196.7	15.3	26.3	10.2
457 x 191	UB	457	x	191 x 161 c*	161.4	492.0	199.4	18.0	32.0	10.2
457 x 279	W	18	x	11 x 76	113.0	463.0	280.0	10.8	17.3	10.0
457 x 279	W	18	x	11 x 86	128.0	467.0	282.0	12.2	19.6	10.0
457 x 279	W	18	x	11 x 97	144.0	472.0	283.0	13.6	22.1	10.0
457 x 279	W	18	x	11 x 106	158.0	476.0	284.0	15.0	23.9	10.0
457 x 279	W	18	x	11 x 119	177.0	482.0	286.0	16.6	26.9	10.0
457 x 279	W	18	x	11 x 130 c	193.0	489.0	283.0	17.0	30.5	10.0
457 x 279	W	18	x	11 x 143 c	213.0	495.0	285.0	18.5	33.5	10.0
457 x 279	W	18	x	11 x 158 c	235.0	501.0	287.0	20.6	36.6	10.0
457 x 279	W	18	x	11 x 175 c	260.0	509.0	289.0	22.6	40.4	10.0
457 x 279	W	18	x	11 x 192 c	286.0	516.9	291.0	24.4	44.5	10.0
457 x 279	W	18	x	11 x 211 c	315.0	525.0	293.0	26.9	48.5	10.0
457 x 279	W	19	x	11 x 234 c	349.0	535.0	296.0	29.5	53.6	10.0
457 x 279	W	20	x	11 x 258 c	384.0	545.0	299.0	32.5	58.4	10.0
457 x 279	W	21	x	11 x 283 c	421.0	555.0	302.0	35.6	63.5	10.0
457 x 279	W	18	x	11 x 311 c	464.0	567.0	305.0	38.6	69.6	10.0
533 x 165	UB	533	x	165 x 66 c*	65.7	524.7	165.1	8.9	11.4	12.7
533 x 165	W	21	x	6.5 x 44 c	66.0	525.0	165.0	8.9	11.4	13.0
533 x 165	W	21	x	6.5 x 50	74.0	529.0	166.0	9.7	13.6	13.0
533 x 165	UB	533	x	165 x 75 c*	74.7	529.1	165.9	9.7	13.6	12.7
533 x 165	UB	533	x	165 x 85 c*	84.8	534.9	166.5	10.3	16.5	12.7
533 x 165	W	21	x	6.5 x 57	85.0	535.0	166.0	10.3	16.5	13.0

Designation					Mass/ Unit Length	Depth	Width	Thickness	Radius	
W : Wide Flange Beams/Column (inch,lb/ft)										
UB/UC : Universal Beam/Column (mm,kg/m)										
UBP : Universal Bearing Pile (mm,kg/m)										
					kg/m	h	b	t _w	t _f	r
					mm	mm	mm	mm	mm	mm
533 x 210	W	21	x	8.25 x 48 c	72.0	524.0	207.0	9.0	10.9	13.0
533 x 210	W	21	x	8.25 x 55 c	82.0	528.0	209.0	9.5	13.3	13.0
533 x 210	UB	533	x	210 x 82	82.2	528.3	208.8	9.6	13.2	12.7
533 x 210	W	21	x	8.25 x 62	92.0	533.0	209.0	10.2	15.6	13.0
533 x 210	UB	533	x	210 x 92	92.1	533.1	209.3	10.1	15.6	12.7
533 x 210	UB	533	x	210 x 101	101.0	536.7	210.0	10.8	17.4	12.7
533 x 210	W	21	x	8.25 x 68	101.0	537.0	210.0	10.9	17.4	13.0
533 x 210	UB	533	x	210 x 109	109.0	539.5	210.8	11.6	18.8	12.7
533 x 210	W	21	x	8.25 x 73	109.0	539.0	211.0	11.6	18.8	13.0
533 x 210	UB	533	x	210 x 122 c	122.0	544.5	211.9	12.7	21.3	12.7
533 x 210	W	21	x	8.25 x 83 c	123.0	544.0	212.0	13.1	21.2	13.0
533 x 210	W	21	x	8.25 x 93 c	138.0	549.0	214.0	14.7	23.6	13.0
533 x 210	UB	533	x	210 x 138 c*	138.3	549.1	213.9	14.7	23.6	12.7
533 x 312	W	21	x	12.25 x 101 c	150.0	543.0	312.0	12.7	20.3	12.7
533 x 312	UB	533	x	312 x 151 c*	150.6	542.5	312.0	12.7	20.3	12.7
533 x 312	W	21	x	12.25 x 111 c	165.0	546.0	313.0	14.0	22.2	12.7
533 x 312	UB	533	x	312 x 182 c*	181.5	550.7	314.5	15.2	24.4	12.7
533 x 312	W	21	x	12.25 x 122 c	182.0	551.0	315.0	15.2	24.4	12.7
533 x 312	W	21	x	12.25 x 132 c	196.0	554.0	316.0	16.5	26.3	12.7
533 x 312	UB	533	x	312 x 219 c*	218.8	560.3	317.4	18.3	29.2	12.7
533 x 312	W	21	x	12.25 x 147 c	219.0	560.0	318.0	18.3	29.2	12.7
533 x 312	W	21	x	12.25 x 166 c	248.0	571.0	315.0	19.0	34.5	12.7
533 x 312	W	21	x	12.25 x 182 c	272.0	577.0	317.0	21.1	37.6	12.7
533 x 312	UB	533	x	312 x 273 c*	273.3	577.1	320.2	21.1	37.6	12.7
533 x 312	W	21	x	12.25 x 201 c	300.0	585.0	319.0	23.1	41.4	12.7
610 x 178	UB	610	x	178 x 82 c*	81.8	598.6	177.9	10.0	12.8	12.7
610 x 178	W	24	x	7 x 55	82.0	599.0	178.0	10.0	12.8	13.0
610 x 178	W	24	x	7 x 62	92.0	603.0	179.0	10.9	15.0	13.0

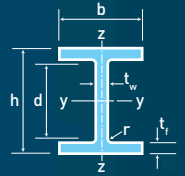
Beam / Column



^c Special conditions may apply, please contact our sales consultants
^{*} Based on other specification

Beam / Column

Dimension : BS 4-1:2005 & ASTM A6/A6M-09
Tolerance : EN 10034:1993 & ASTM A6/A6M-09



Beam / Column



Designation						Mass/ Depth Width Thickness Radius Unit Length					
W : Wide Flange Beams/Column (inch,lb/ft)											
UB/UC : Universal Beam/Column (mm,kg/m)											
UBP : Universal Bearing Pile (mm,kg/m)											
						kg/m	h	b	t _w	t _f	r
						mm	mm	mm	mm	mm	mm
610 x 178 UB	610 x	178 x	92 c*			92.2	603.0	178.8	10.9	15.0	12.7
610 x 178 UB	610 x	178 x	100 c*			100.3	607.4	179.2	11.3	17.2	12.7
610 x 229 W	24 x	9 x	68			101.0	603.0	228.0	10.5	14.9	13.0
610 x 229 UB	610 x	229 x	101			101.2	602.6	227.6	10.5	14.8	12.7
610 x 229 UB	610 x	229 x	113			113.0	607.6	228.2	11.1	17.3	12.7
610 x 229 W	24 x	9 x	76			113.0	608.0	228.0	11.2	17.3	13.0
610 x 229 W	24 x	9 x	84			125.0	612.0	229.0	11.9	19.6	13.0
610 x 229 UB	610 x	229 x	125			125.1	612.2	229.0	11.9	19.6	12.7
610 x 229 UB	610 x	229 x	140			139.9	617.2	230.2	13.1	22.1	12.7
610 x 229 W	24 x	9 x	94			140.0	617.0	230.0	13.1	22.2	13.0
610 x 229 W	24 x	9 x	103 c			153.0	623.0	229.0	14.0	24.9	13.0
610 x 305 UB	610 x	305 x	149 c			149.1	612.4	304.8	11.8	19.7	16.5
610 x 305 UB	610 x	305 x	179			179.0	620.2	307.1	14.1	23.6	16.5
610 x 305 UB	610 x	305 x	238			238.1	635.8	311.4	18.4	31.4	16.5
610 x 324 W	24 x	12.75 x	104			155.0	611.0	324.0	12.7	19.0	13.0
610 x 324 W	24 x	12.75 x	117			174.0	616.0	325.0	14.0	21.6	13.0
610 x 324 W	24 x	12.75 x	131			195.0	622.0	327.0	15.4	24.4	13.0
610 x 324 W	24 x	12.75 x	146			217.0	628.0	328.0	16.5	27.7	13.0
610 x 324 W	24 x	12.75 x	162 c			241.0	635.0	329.0	17.9	31.0	13.0
610 x 324 W	24 x	12.75 x	176 c			262.0	641.0	327.0	19.0	34.0	13.0
610 x 324 W	24 x	12.75 x	192 c			285.0	647.0	329.0	20.6	37.1	13.0
610 x 324 W	24 x	12.75 x	207 c			307.0	653.0	330.0	22.1	39.9	13.0
610 x 324 W	24 x	12.75 x	229 c			341.0	661.0	333.0	24.4	43.9	13.0
610 x 324 W	24 x	12.75 x	250 c			372.0	669.0	335.0	26.4	48.0	13.0
610 x 324 W	24 x	12.75 x	279 c			415.0	679.0	338.0	29.5	53.1	13.0
610 x 324 W	24 x	12.75 x	306 c			455.0	689.0	340.0	32.0	57.9	13.0
610 x 324 W	24 x	12.75 x	335 c			498.0	699.0	343.0	35.1	63.0	13.0
610 x 324 W	24 x	12.75 x	370 c			551.0	711.0	347.0	38.6	69.1	13.0

Designation						Mass/ Depth Width Thickness Radius Unit Length					
W : Wide Flange Beams/Column (inch,lb/ft)											
UB/UC : Universal Beam/Column (mm,kg/m)											
UBP : Universal Bearing Pile (mm,kg/m)											
						kg/m	h	b	t _w	t _f	r
						mm	mm	mm	mm	mm	mm
686 x 254 W	27 x	10 x	84			125.0	678.0	253.0	11.7	16.3	15.0
686 x 254 UB	686 x	254 x	125			125.2	677.9	253.0	11.7	16.2	15.2
686 x 254 W	27 x	10 x	94			140.0	684.0	254.0	12.4	18.9	15.0
686 x 254 UB	686 x	254 x	140			140.1	683.5	253.7	12.4	19.0	15.2
686 x 254 W	27 x	10 x	102			152.0	688.0	254.0	13.1	21.1	15.0
686 x 254 UB	686 x	254 x	152			152.4	687.5	254.5	13.2	21.0	15.2
686 x 254 W	27 x	10 x	114			170.0	693.0	256.0	14.5	23.6	15.0
686 x 254 UB	686 x	254 x	170			170.2	692.9	255.8	14.5	23.7	15.2
686 x 254 W	27 x	10 x	129 c			192.0	702.0	254.0	15.5	27.9	15.0
686 x 356 W	27 x	14 x	146 c			217.0	695.0	355.0	15.4	24.8	15.2
686 x 356 W	27 x	14 x	161 c			240.0	701.0	356.0	16.8	27.4	15.2
686 x 356 W	27 x	14 x	178 c			265.0	706.0	358.0	18.4	30.2	15.2
686 x 356 W	27 x	14 x	194 c			289.0	714.0	356.0	19.0	34.0	15.2
686 x 356 W	27 x	14 x	217 c			323.0	722.0	359.0	21.1	38.1	15.2
686 x 356 W	27 x	14 x	235 c			350.0	728.0	360.0	23.1	40.9	15.2
686 x 356 W	27 x	14 x	258 c			384.0	736.0	362.0	24.9	45.0	15.2
686 x 356 W	27 x	14 x	281 c			419.0	744.0	364.0	26.9	49.0	15.2
686 x 356 W	27 x	14 x	307 c			457.0	752.0	367.0	29.5	53.1	15.2
686 x 356 W	27 x	14 x	336 c			500.0	765.0	369.0	32.0	57.9	15.2
686 x 356 W	27 x	14 x	368 c			548.0	772.0	372.0	35.1	63.0	15.2
686 x 356 W	27 x	14 x	539 c			802.0	826.0	387.0	50.0	89.9	15.2
762 x 267 UB	762 x	267 x	134			133.9	750.0	264.4	12.0	15.5	16.5
762 x 267 W	30 x	10.5 x	90			134.0	750.0	264.0	11.9	15.5	17.0
762 x 267 UB	762 x	267 x	147			146.9	754.0	265.2	12.8	17.5	16.5
762 x 267 W	30 x	10.5 x	99			147.0	753.0	265.0	13.2	17.0	17.0
762 x 267 W	30 x	10.5 x	108			161.0	758.0	266.0	13.8	19.3	17.0
762 x 267 UB	762 x	267 x	173 c			173.0	762.2	266.7	14.3	21.6	16.5
762 x 267 W	30 x	10.5 x	116 c			173.0	762.0	267.0	14.4	21.6	17.0

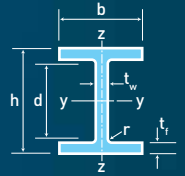
^c Special conditions may apply, please contact our sales consultants
* Based on other specification

Beam / Column



Beam / Column

Dimension : BS 4-1:2005 & ASTM A6/A6M-09
Tolerance : EN 10034:1993 & ASTM A6/A6M-09



Beam / Column



Designation		Mass/ Unit Length		Depth	Width	Thickness	Radius
W : Wide Flange Beams/Column (inch,lb/ft)							
UB/UC : Universal Beam/Column (mm,kg/m)							
UBP : Universal Bearing Pile (mm,kg/m)							
		kg/m	h	b	t _w	t _f	r
		mm	mm	mm	mm	mm	mm
762 x 267	W 30 x 10.5 x 124 c	185.0	766.0	267.0	14.9	23.6	17.0
762 x 267	W 30 x 10.5 x 132 c	196.0	770.0	268.0	15.6	25.4	17.0
762 x 267	UB 762 x 267 x 197 c	196.8	769.8	268.0	15.6	25.4	16.5
762 x 267	W 30 x 10.5 x 148 c	220.0	779.0	266.0	16.5	30.0	17.0
762 x 381	W 30 x 15 x 173 c	257.0	773.0	381.0	16.6	27.1	16.5
762 x 381	W 30 x 15 x 191 c	284.0	779.0	382.0	18.0	30.1	16.5
762 x 381	W 30 x 15 x 211 c	314.0	786.0	384.0	19.7	33.4	16.5
762 x 381	W 30 x 15 x 235 c	350.0	795.0	382.0	21.1	38.1	16.5
762 x 381	W 30 x 15 x 261 c	389.0	803.0	385.0	23.6	41.9	16.5
762 x 381	W 30 x 15 x 292 c	434.0	813.0	387.0	25.9	47.0	16.5
762 x 381	W 30 x 15 x 326 c	484.0	823.0	390.0	29.0	52.1	16.5
762 x 381	W 30 x 15 x 357 c	531.0	833.0	393.0	31.5	56.9	17.0
762 x 381	W 30 x 15 x 391 c	582.0	843.0	396.0	34.5	62.0	17.0
838 x 292	UB 838 x 292 x 176	175.9	834.9	291.7	14.0	18.8	17.8
838 x 292	W 33 x 11.5 x 118	176.0	835.0	292.0	14.0	18.8	18.0
838 x 292	W 33 x 11.5 x 130	193.0	840.0	292.0	14.7	21.7	18.0
838 x 292	UB 838 x 292 x 194	193.8	840.7	292.4	14.7	21.7	17.8
838 x 292	W 33 x 11.5 x 141 c	210.0	846.0	293.0	15.4	24.4	18.0
838 x 292	W 33 x 11.5 x 152 c	226.0	851.0	294.0	16.1	26.8	18.0
838 x 292	UB 838 x 292 x 226 c	226.5	850.9	293.8	16.1	26.8	17.8
838 x 292	W 33 x 11.5 x 169 c	251.0	859.0	292.0	17.0	31.0	18.0
838 x 388	W 33 x 15.25 x 201 c	299.0	855.0	400.0	18.2	29.2	
838 x 388	W 33 x 15.25 x 221 c	329.0	862.0	401.0	19.7	32.4	
838 x 388	W 33 x 15.25 x 241 c	359.0	868.0	403.0	21.1	35.6	
838 x 388	W 33 x 15.25 x 263 c	392.0	877.0	401.0	22.1	39.9	
838 x 388	W 33 x 15.25 x 291 c	433.0	885.0	404.0	24.4	43.9	
838 x 388	W 33 x 15.25 x 318 c	473.0	893.0	406.0	26.4	48.0	
838 x 388	W 33 x 15.25 x 354 c	527.0	903.0	409.0	29.5	53.1	

Designation		Mass/ Unit Length		Depth	Width	Thickness	Radius
W : Wide Flange Beams/Column (inch,lb/ft)							
UB/UC : Universal Beam/Column (mm,kg/m)							
UBP : Universal Bearing Pile (mm,kg/m)							
		kg/m	h	b	t _w	t _f	r
		mm	mm	mm	mm	mm	mm
838 x 388	W 33 x 15.25 x 387 c	576.0	913.0	411.0	32.0	57.9	
914 x 305	UB 914 x 305 x 201	200.9	903.0	303.3	15.1	20.2	19.1
914 x 305	W 36 x 12 x 135	201.0	903.0	304.0	15.2	20.1	19.0
914 x 305	W 36 x 12 x 150	223.0	911.0	304.0	15.9	23.9	19.0
914 x 305	UB 914 x 305 x 224	224.2	910.4	304.1	15.9	23.9	19.1
914 x 305	W 36 x 12 x 160	238.0	915.0	305.0	16.5	25.9	19.0
914 x 305	W 36 x 12 x 170	253.0	919.0	306.0	17.3	27.9	19.0
914 x 305	UB 914 x 305 x 253	253.4	918.4	305.5	17.3	27.9	19.1
914 x 305	W 36 x 12 x 182 c	271.0	923.0	307.0	18.4	30.0	19.0
914 x 305	W 36 x 12 x 194	289.0	927.0	308.0	19.4	32.0	19.0
914 x 305	UB 914 x 305 x 289	289.1	926.6	307.7	19.5	32.0	19.1
914 x 305	W 36 x 12 x 210 c	313.0	932.0	309.0	21.1	34.5	19.0
914 x 305	W 36 x 12 x 232 c	345.0	943.0	308.0	22.1	39.9	19.0
914 x 305	W 36 x 12 x 256 c	381.0	951.0	310.0	24.4	43.9	19.0
914 x 305	W 36 x 12 x 286 c*	425.0	961.0	313.0	26.9	48.0	19.0
914 x 305	W 36 x 12 x 318 c*	474.0	971.0	316.0	30.0	54.1	19.0
914 x 305	W 36 x 12 x 350 c*	521.0	981.0	319.0	33.0	58.9	19.0
914 x 305	W 36 x 12 x 387 c*	576.0	993.0	322.0	36.1	65.0	19.0
914 x 419	UB 914 x 419 x 343	343.3	911.8	418.5	19.4	32.0	24.1
914 x 419	W 36 x 16.5 x 231	344.0	927.0	418.0	19.3	32.0	19.0
914 x 419	W 36 x 16.5 x 247	368.0	931.0	419.0	20.3	34.3	19.0
914 x 419	UB 914 x 419 x 388	388.0	921.0	420.5	21.4	36.6	24.1
914 x 419	W 36 x 16.5 x 262 c	390.0	936.0	420.0	21.3	36.6	19.0
914 x 419	W 36 x 16.5 x 282 c	420.0	943.0	422.0	22.5	39.9	19.0
914 x 419	W 36 x 16.5 x 302 c	449.0	948.0	423.0	24.0	42.7	19.0
914 x 419	W 36 x 16.5 x 330 c	491.0	957.0	422.0	25.9	47.0	19.0
914 x 419	W 36 x 16.5 x 361 c	537.0	965.0	425.0	28.4	51.1	19.0
914 x 419	W 36 x 16.5 x 395 c	588.0	975.0	427.0	31.0	55.9	19.0

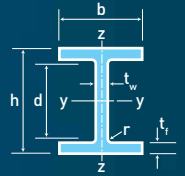
* Special conditions may apply, please contact our sales consultants
* Based on other specification

Beam / Column



Beam / Column

Dimension : BS 4-1:2005 & ASTM A6/A6M-09
Tolerance : EN 10034:1993 & ASTM A6/A6M-09



Beam / Column



Designation					Mass/ Unit Length		Depth	Width	Thickness	Radius
W : Wide Flange Beams/Column (inch,lb/ft)										
UB/UC : Universal Beam/Column (mm,kg/m)										
UBP : Universal Bearing Pile (mm,kg/m)										
					kg/m	h	b	t _w	t _f	r
					mm	mm	mm	mm	mm	mm
914 x 419	W	36	x	16.5 x 441 c	656.0	987.0	431.0	34.5	62.0	19
914 x 419	W	36	x	16.5 x 487 c	725.0	999.0	434.0	38.1	68.1	19
914 x 419	W	36	x	16.5 x 529 c	787.0	1011.0	437.0	40.9	73.9	19
914 x 419	W	36	x	16.5 x 652 c	970.0	1043.0	446.0	50.0	89.9	19
914 x 419	W	36	x	16.5 x 723 c*	1077.0	1061.4	451.0	55.0	99.1	19
914 x 419	W	36	x	16.5 x 802 c*	1194.0	1081.2	457.0	60.5	109.0	19
914 x 419	W	36	x	16.5 x 853 c*	1269.0	1093.4	461.0	64.0	115.1	19
914 x 419	W	36	x	16.5 x 925 c*	1377.0	1093.4	473.0	76.7	115.1	19
1016x 305	UB	1016x	305	x 222 c*	222.0	970.3	300.0	16.0	21.1	30
1016x 305	W	40	x	12 x 149 c	222.0	970.0	300.0	16.0	21.1	30
1016x 305	UB	1016x	305	x 249 c*	248.7	980.1	300.0	16.5	26.0	30
1016x 305	W	40	x	12 x 167 c	249.0	980.0	300.0	16.5	26.0	30
1016x 305	W	40	x	12 x 183 c	272.0	990.0	300.0	16.5	31.0	30
1016x 305	UB	1016x	305	x 272 c*	272.3	990.1	300.0	16.5	31.0	30
1016x 305	W	40	x	12 x 211 c	314.0	1000.0	300.0	19.1	35.9	30
1016x 305	UB	1016x	305	x 314 c*	314.3	999.9	300.0	19.1	35.9	30
1016x 305	UB	1016x	305	x 349 c*	349.4	1008.1	302.0	21.1	40.0	30
1016x 305	W	40	x	12 x 235 c	350.0	1008.0	302.0	21.1	40.0	30
1016x 305	UB	1016x	305	x 393 c*	392.7	1015.9	303.0	24.4	43.9	30
1016x 305	W	40	x	12 x 264 c	393.0	1016.0	303.0	24.4	43.9	30
1016x 305	W	40	x	12 x 278 c	415.0	1020.0	304.0	26.0	46.0	30
1016x 305	UB	1016x	305	x 437 c*	437.0	1026.1	305.4	26.9	49.0	30
1016x 305	W	40	x	12 x 294 c	438.0	1026.0	305.0	26.9	49.0	30
1016x 305	W	40	x	12 x 327 c	486.0	1036.0	308.0	30.0	54.1	30
1016x 305	UB	1016x	305	x 487 c*	486.7	1036.3	308.5	30.0	54.1	30
1016x 305	W	40	x	12 x 331 c	494.0	1036.0	309.0	31.0	54.0	30
1016x 305	W	40	x	12 x 392 c	584.0	1056.0	314.0	36.0	64.0	30
1016x 406	W	40	x	16 x 199 c	296.0	982.0	400.0	16.5	27.1	30

Designation					Mass/ Unit Length	Depth	Width	Thickness	Radius	
W : Wide Flange Beams/Column (inch,lb/ft)										
UB/UC : Universal Beam/Column (mm,kg/m)										
UBP : Universal Bearing Pile (mm,kg/m)										
					kg/m	h	b	t _w	t _f	r
					mm	mm	mm	mm	mm	mm
1016 x 406	W	40	x	16 x 215 c	321	990	400	16.5	31.0	30
1016 x 406	W	40	x	16 x 249 c	371	1000	400	19.0	36.1	30
1016 x 406	W	40	x	16 x 277 c	412	1008	402	21.1	40.0	30
1016 x 406	W	40	x	16 x 297 c	443	1012	402	23.6	41.9	30
1016 x 406	W	40	x	16 x 324 c	483	1020	404	25.4	46.0	30
1016 x 406	W	40	x	16 x 362 c	539	1030	407	28.4	51.1	30
1016 x 406	W	40	x	16 x 372 c	554	1032	408	29.5	52.0	30
1016 x 406	W	40	x	16 x 397 c	591	1040	409	31.0	55.9	30
1016 x 406	W	40	x	16 x 431 c	642	1048	412	34.0	60.0	30
1016 x 406	W	40	x	16 x 503 c	748	1068	417	39.0	70.0	30
1016 x 406	W	40	x	16 x 593 c	883	1092	424	45.5	82.0	30
1016 x 406	W	40	x	16 x 655 c*	976	1108	428	50.0	89.9	30
1118 x 406	W	44	x	16 x 230 c	343	1090	400	18.0	31.0	20
1118 x 406	W	44	x	16 x 262 c	390	1100	400	20.0	36.0	20
1118 x 406	W	44	x	16 x 290 c	433	1108	402	22.0	40.0	20
1118 x 406	W	44	x	16 x 335 c	499	1118	405	26.0	45.0	20

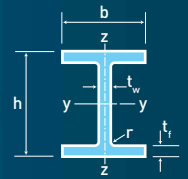
Beam / Column



^c Special conditions may apply, please contact our sales consultants
^{*} Based on other specification

H Section

Dimension : JIS G3192:2008
Tolerance : JIS G3192:2008



H Section



Designation	Mass / Unit Length		Depth h mm	Width b mm	Thickness		Radius r mm
	New kg/m	Old kg/m			t _w mm	t _f mm	
100 x 50	9.3	-	100	50.0	5.0	7	8
100 x 100	16.9	17.2	100	100.0	6.0	8	8
125 x 60	13.1	-	125	60.0	6.0	8	8
125 x 125	23.6	23.8	125	125	6.5	9	8
150 x 75	14.0	14.0	150	75	5.0	7	8
150 x 100	20.7	21.1	148	100	6.0	9	8
150 x 150	31.1	31.5	150	150	7.0	10	8
175 x 90	18.0	-	175	90	5.0	8	9
175 x 175	40.4	-	175	175	7.5	11	13
200 x 100	17.8	18.2	198	99	4.5	7	8
200 x 100	20.9	21.3	200	100	5.5	8	8
200 x 150	29.9	30.6	194	150	6.0	9	8
200 x 200	49.9	49.9	200	200	8.0	12	13
200 x 200 *	56.2	56.2	200	204	12.0	12	13
200 x 200	-	65.7	208	202	10.0	16	13.0
250 x 125	25.1	25.7	248	124	5.0	8	8
250 x 125	29.0	29.6	250	125	6.0	9	8
250 x 175	43.6	44.1	244	175	7.0	11	13
250 x 250	-	63.8	244	252	11.0	11	13
250 x 250	-	65.9	248	249	8.0	13	13
250 x 250	71.8	72.4	250	250	9.0	14	13
250 x 250	-	81.6	250	255	14.0	14	13
300 x 150	32.0	32.0	298	149	5.5	8	13
300 x 150	36.7	36.7	300	150	6.5	9	13
300 x 200	55.8	56.8	294	200	8.0	12	13
300 x 200	-	64.4	298	201	9.0	14	13
300 x 300	-	83.4	294	302	12.0	12	13
300 x 300	-	86.0	298	299	9.0	14	13

Designation	Mass / Unit Length		Depth h mm	Width b mm	Thickness		Radius r mm
	New kg/m	Old kg/m			t _w mm	t _f mm	
300 x 300	93.0	94.0	300	300	10	15	13
300 x 300	-	105.0	300	305.0	15	15	13
300 x 300	-	105.0	304	301	11	17	13
300 x 300	129.0	-	312	303	13	21	13
300 x 300	130.0	-	310	305	15	20	18
300 x 300	142.0	-	310	310	20	20	18
300 x 300	153.0	-	318	307	17	24	13
300 x 300	180.0	-	326	310	20	28	13
350 x 175	41.2	41.4	346	174	6	9	13
350 x 175	49.4	49.6	350	175	7	11	13
350 x 175	-	57.7	354	176	8	13	13
350 x 250	-	49.4	340	250	7	11	13
350 x 250	-	67.6	336	249	8	12	13
350 x 250	-	69.2	336	249	8	12	20
350 x 250	78.1	79.7	340	250	9	14	13
350 x 250	103.0	-	350	252	11	19	13
350 x 250	126.0	-	356	256	15	22	13
350 x 250	148.0	-	364	258	17	26	13
350 x 350	-	105.0	338	351	13	13	13
350 x 350 *	113.0	-	344	348	10	16	13
350 x 350	-	129.0	344	354	16	16	13
350 x 350	135.0	137.0	350	350	12	19	13
350 x 350	-	156.0	350	357	19	19	20
350 x 350	174.0	-	360	354	16	24	13
350 x 350	202.0	-	368.0	356.0	18	28	13
350 x 350	236.0	-	378.0	358	20	33	13
400 x 200	56.1	56.6	396.0	199	7	11	13
400 x 200	65.4	66.0	400.0	200	8	13	13

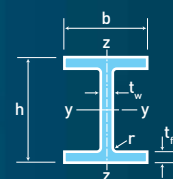
H Section



Special conditions may apply, please contact our sales consultants
* Based on other specification

H Section

Dimension : JIS G3192:2008
Tolerance : JIS G3192:2008



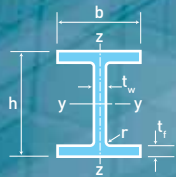
Designation	Mass / Unit Length		Depth	Width	Thickness		Radius
	New kg/m	Old kg/m	h mm	b mm	t _w mm	t _f mm	r mm
400 x 200	-	74.9	404	201	9	15	13
400 x 300	92.2	-	386	299	9	14	13
400 x 300	94.3	-	386	299	9	14	22
400 x 300	105.0	107.0	390	300	10	16	13
400 x 300	141.0	-	400	304	14	21	13
400 x 300	177.0	-	410	308	18	26	13
400 x 300	203.0	-	418	310	20	30	13
400 x 400	-	140.0	388	402	15	15	22
400 x 400	-	147.0	394	398	11	18	22
400 x 400	-	168.0	394	405	18	18	22
400 x 400	172.0	172.0	400	400	13	21	22
400 x 400 *	197.0	197.0	400	408	21	21	22
400 x 400	-	200.0	406	403	16	24	22
400 x 400	232.0	-	414	405	18	28	22
400 x 400	283.0	-	428	407	20	35	22
400 x 400 c	415.0	-	458	417	30	50	22
400 x 400 c	605.0	-	498	432	45	70	22
450 x 200	65.1	66.2	446	199	8	12	13
450 x 200	74.9	76.0	450	200	9	14	13
450 x 200	-	87.9	456	201	10	17	13
450 x 200	118.0	-	466	205	14	22	13
450 x 200	149.0	-	478	208	17	28	13
450 x 300	-	103.0	434	299	10	15	13
450 x 300	106.0	106.0	434	299	10	15	24
450 x 300	121.0	124.0	440	300	11	18	13
450 x 300	-	142.0	446	302	13	21	13
450 x 300	158.0	-	450	304	15	23	13
450 x 300	185.0	-	458	306	17	27	13

Designation	Mass / Unit Length		Depth	Width	Thickness		Radius
	New kg/m	Old kg/m	h mm	b mm	t _w mm	t _f mm	r mm
450 x 300	216.0	-	468	308	19	32	13
500 x 200	77.9	79.5	496	199	9	14	13
500 x 200	88.2	89.6	500	200	10	16	13
500 x 200	-	102.0	506	201	11	19	13
500 x 200	102.0	103.0	506	201	11	19	13
500 x 200	115.0	-	512	202	12	22	13
500 x 200	137.0	-	518	205	15	25	13
500 x 200	165.0	-	528	208	18	30	13
500 x 200	187.0	-	536	210	20	34	13
500 x 200	228.0	-	548	215	25	40	13
500 x 300	111.0	114.0	482	300	11	15	13
500 x 300	125.0	128.0	488	300	11	18	13
500 x 300	-	147.0	494	302	13	21	13
500 x 300	169.0	-	500	304	15	24	13
500 x 300	201.0	-	510	306	17	29	13
500 x 300	236.0	-	518	310	21	33	13
500 x 300	287.0	-	532	314	25	40	13
600 x 200	92.5	94.6	596	199	10	15	13
600 x 200	103.0	106.0	600	200	11	17	13
600 x 200	-	118.0	606	201	12	20	13
600 x 200	132.0	-	612	202	13	23	13
600 x 200	-	132.0	612	202	13	23	13
600 x 200	156.0	-	618	205	16	26	13
600 x 200	179.0	-	626	207	18	30	13
600 x 200	202.0	-	634	209	20	34	13
600 x 200	247.0	-	646	214	25	40	13
600 x 300	133.0	137.0	582	300	12	17	13
600 x 300	147.0	151.0	588	300	12	20	13

Special conditions may apply, please contact our sales consultants
* Based on other specification

H Section

Dimension : JIS G3192:2008
Tolerance : JIS G3192:2008



Designation	Mass / Unit Length		Depth h mm	Width b mm	Thickness		Radius r mm
	New kg/m	Old kg/m			t _w mm	t _f mm	
600 x 300	170	175	594	302	14	23	13
700 x 300	163	166	692	300	13	20	18
700 x 300	182	185	700	300	13	24	18
700 x 300		212	708	302	15	28	18
800 x 300	188	191	792	300	14	22	18
800 x 300	207	210	800	300	14	26	18
800 x 300	238	-	808	302	16	30	18
800 x 300	264	-	816	303	17	34	18
900 x 300	210	213	890	299	15	23	18
900 x 300	240	243	900	300	16	28	18
900 x 300	283	286	912	302	18	34	18
900 x 300	304	307	918	303	19	37	18

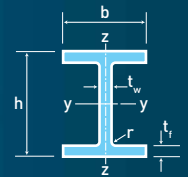
H Section



Special conditions may apply, please contact our sales consultants
* Based on other specification

HE Beam

Dimension : DIN 1025:1995
Tolerance : EN 10034:1993



Designation	Mass/ Unit Length kg/m	Depth h mm	Width b mm	Thickness		Radius r mm
				t _w mm	t _f mm	
HE 100 AA	12.2	91	100	4.2	5.5	12
HE 100 A	16.7	96	100	5.0	8.0	12
HE 100 B	20.4	100	100	6.0	10.0	12
HE 100 C	30.9	110	103	9.0	15.0	12
HE 100 M	41.8	120	106	12.0	20.0	12
HE 120 AA	14.6	109	120	4.2	5.5	12
HE 120 A	19.9	114	120	5.0	8.0	12
HE 120 B	26.7	120	120	6.5	11.0	12
HE 120 C	39.2	130	123	9.5	16.0	12
HE 120 M	52.1	140	126	12.5	21.0	12
HE 140 AA	18.1	128	140	4.3	6.0	12
HE 140 A	24.7	133	140	5.5	8.5	12
HE 140 B	33.7	140	140	7.0	12.0	12
HE 140 C	48.2	150	143	10.0	17.0	12
HE 140 M	63.2	160	146	13.0	22.0	12
HE 160 AA	23.8	148	160	4.5	7.0	15
HE 160 A	30.4	152	160	6.0	9.0	15
HE 160 B	42.6	160	160	8.0	13.0	15
HE 160 C	59.2	170	163	11.0	18.0	15
HE 160 M	76.2	180	166	14.0	23.0	15
HE 180 AA	28.7	167	180	5.0	7.5	15
HE 180 A	35.5	171	180	6.0	9.5	15
HE 180 B	51.2	180	180	8.5	14.0	15
HE 180 C	69.8	190	183	11.5	19.0	15
HE 180 M	88.9	200	186	14.5	24.0	15
HE 200 AA	34.6	186	200	5.5	8.0	18
HE 200 A	42.3	190	200	6.5	10.0	18
HE 200 B	61.3	200	200	9.0	15.0	18

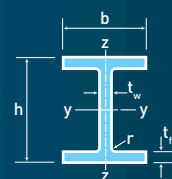
HE Beam



Special conditions may apply, please contact our sales consultants

HE Beam

Dimension : DIN 1025:1995
Tolerance : EN 10034:1993



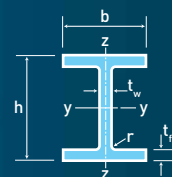
Designation	Mass/ Unit Length	Depth h	Width b	Thickness		Radius r
	kg/m	mm	mm	t _w mm	t _f mm	mm
HE 200 C	81.9	210	203	12.0	20.0	18
HE 200 M	103.0	220	206	15.0	25.0	18
HE 220 AA	40.4	205	220	6.0	8.5	18
HE 220 A	50.5	210	220	7.0	11.0	18
HE 220 B	71.5	220	220	9.5	16.0	18
HE 220 C	94.1	230	223	12.5	21.0	18
HE 220 M	117.0	240	226	15.5	26.0	18
HE 240 AA	47.4	224	240	6.5	9.0	21
HE 240 A	60.3	230	240	7.5	12.0	21
HE 240 B	83.2	240	240	10.0	17.0	21
HE 240 C	119.0	255	244	14.0	24.5	21
HE 240 M	157.0	270	248	18.0	32.0	21
HE 260 AA	54.1	244	260	6.5	9.5	24
HE 260 A	68.2	250	260	7.5	12.5	24
HE 260 B	93.0	260	260	10.0	17.5	24
HE 260 C	132.0	275	264	14.0	25.0	24
HE 260 M	172.0	290	268	18.0	32.5	24
HE 280 AA	61.2	264	280	7.0	10.0	24
HE 280 A	76.4	270	280	8.0	13.0	24
HE 280 B	103.0	280	280	10.5	18.0	24
HE 280 C	145.0	295	284	14.5	25.5	24
HE 280 M	189.0	310	288	18.5	33.0	24
HE 300 AA	69.8	283	300	7.5	10.5	27
HE 300 A	88.0	290	300	8.5	14.0	27
HE 300 B	117.0	300	300	11.0	19.0	27
HE 300 C	177.0	320	305	16.0	29.0	27
HE 300 M	238.0	340	310	21.0	39.0	27
HE 320 AA	74.0	301	300	8.0	11.0	27

Designation	Mass/ Unit Length	Depth h	Width b	Thickness		Radius r
	kg/m	mm	mm	t _w mm	t _f mm	mm
HE 320 A	97.6	310	300	9.0	15.5	27
HE 320 B	127.0	320	300	11.5	20.5	27
HE 320 C	186.0	340	305	16.0	30.5	27
HE 320 M	245.0	359	309	21.0	40.0	27
HE 340 AA	78.9	320	300	8.5	11.5	27
HE 340 A	105.0	330	300	9.5	16.5	27
HE 340 B	134.0	340	300	12.0	21.5	27
HE 340 M	248.0	377	309	21.0	40.0	27
HE 360 AA	84.0	339	300	9.0	12.0	27
HE 360 A	112.0	350	300	10.0	17.5	27
HE 360 B	142.0	360	300	12.5	22.5	27
HE 360 M	250.0	395	308	21.0	40.0	27
HE 400 AA	92.0	378	300	9.5	13.0	27
HE 400 A	125.0	390	300	11.0	19.0	27
HE 400 B	155.0	400	300	13.5	24.0	27
HE 400 M	256.0	432	307	21.0	40.0	27
HE 450 AA	100.0	425	300	10.0	13.5	27
HE 450 A	140.0	440	300	11.5	21.0	27
HE 450 B	171.0	450	300	14.0	26.0	27
HE 450 M	263.0	478	307	21.0	40.0	27
HE 500 AA	107.0	472	300	10.5	14.0	27
HE 500 A	155.0	490	300	12.0	23.0	27
HE 500 B	187.0	500	300	14.5	28.0	27
HE 500 M	270.0	524	306	21.0	40.0	27
HE 550 AA	120.0	522	300	11.5	15.0	27
HE 550 A	166.0	540	300	12.5	24.0	27
HE 550 B	199.0	550	300	15.0	29.0	27
HE 550 M	278.0	572	306	21.0	40.0	27

Special conditions may apply, please contact our sales consultants

HE Beam

Dimension : DIN 1025:1995
Tolerance : EN 10034:1993



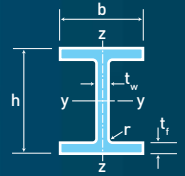
Designation	Mass/ Unit Length	Depth	Width	Thickness		Radius
	kg/m	h	b	t _w	t _f	r
		mm	mm	mm	mm	mm
HE 600 AA	129.0	571	300	12.0	15.5	27
HE 600 A	178.0	590	300	13.0	25.0	27
HE 600 B	212.0	600	300	15.5	30.0	27
HE 600 M	285.0	620	305	21.0	40.0	27
HE 600 x 337	337.0	632	310	25.5	46.0	27
HE 600 x 399	399.0	648	315	30.0	54.0	27
HE 650 AA	138.0	620	300	12.5	16.0	27
HE 650 A	190.0	640	300	13.5	26.0	27
HE 650 B	225.0	650	300	16.0	31.0	27
HE 650 M	293.0	668	305	21.0	40.0	27
HE 650 x 343	343.0	680	309	25.0	46.0	27
HE 650 x 407	407.0	696	314	29.5	54.0	27
HE 700 AA	150.0	670	300	13.0	17.0	27
HE 700 A	204.0	690	300	14.5	27.0	27
HE 700 B	241.0	700	300	17.0	32.0	27
HE 700 M	301.0	716	304	21.0	40.0	27
HE 700 x 352	352.0	728	308	25.0	46.0	27
HE 700 x 418	418.0	744	313	29.5	54.0	27
HE 800 AA	172.0	770	300	14.0	18.0	30
HE 800 A	224.0	790	300	15.0	28.0	30
HE 800 B	262.0	800	300	17.5	33.0	30
HE 800 M	317.0	814	303	21.0	40.0	30
HE 800 x 373	373.0	826	308	25.0	46.0	30
HE 800 x 444	444.0	842	313	30.0	54.0	30
HE 900 AA	198.0	870	300	15.0	20.0	30
HE 900 A	252.0	890	300	16.0	30.0	30
HE 900 B	291.0	900	300	18.5	35.0	30
HE 900 M	333.0	910	302	21.0	40.0	30

Designation	Mass/ Unit Length	Depth	Width	Thickness		Radius
	kg/m	h	b	t _w	t _f	r
		mm	mm	mm	mm	mm
HE 900 x 391	391.0	922	307	25.0	46.0	30
HE 900 x 466	466.0	938	312	30.0	54.0	30
HE 1000 AA	222.0	970	300	16.0	21.0	30
HE 1000 x 249	249.0	980	300	16.5	26.0	30
HE 1000 A	272.0	990	300	16.5	31.0	30
HE 1000 B	314.0	1000	300	19.0	36.0	30
HE 1000 M	349.0	1008	302	21.0	40.0	30
HE 1000 x 393	393.0	1016	303	24.4	43.9	30
HE 1000 x 415	415.0	1020	304	26.0	46.0	30
HE 1000 x 438	438.0	1026	305	26.9	49.0	30
HE 1000 x 494	494.0	1036	309	31.0	54.0	30
HE 1000 x 584	584.0	1056	314	36.0	64.0	30

Special conditions may apply, please contact our sales consultants

IPE Beam

Dimension : DIN 1025:1995
Tolerance : EN 10034:1993



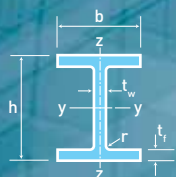
Designation	Mass/ Unit Length	Depth h	Width b	Thickness		Radius r
	kg/m	mm	mm	t _w mm	t _f mm	mm
IPE AA 80	4.9	78	46	3.2	4.2	5
IPE A 80	5.0	78	46	3.3	4.2	5
IPE 80	6.0	80	46	3.8	5.2	5
IPE AA 100	6.7	97.6	55	3.6	4.5	7
IPE A 100	6.9	98	55	3.6	4.7	7
IPE 100	8.1	100	55	4.1	5.7	7
IPE AA 120	8.4	117	64	3.8	4.8	7
IPE A 120	8.7	117.6	64	3.8	5.1	7
IPE 120	10.4	120	64	4.4	6.3	7
IPE AA 140	10.1	136.6	73	3.8	5.2	7
IPE A 140	10.5	137.4	73	3.8	5.6	7
IPE 140	12.9	140	73	4.7	6.9	7
IPE AA 160	12.1	156.4	82	4.0	5.6	7
IPE A 160	12.7	157	82	4.0	5.9	9
IPE 160	15.8	160	82	5.0	7.4	9
IPE AA 180	14.9	176.4	91	4.3	6.2	9
IPE A 180	15.4	177	91	4.3	6.5	9
IPE 180	18.8	180	91	5.3	8.0	9
IPE O 180	21.3	182	92	6.0	9.0	9
IPE AA 200	18.0	196.4	100	4.5	6.7	12
IPE A 200	18.4	197	100	4.5	7.0	12
IPE 200	22.4	200	100	5.6	8.5	12
IPE O 200	25.1	202	102	6.2	9.5	12
IPE AA 220	21.2	216.4	110	4.7	7.4	12
IPE A 220	22.2	217	110	5.0	7.7	12
IPE 220	26.2	220	110	5.9	9.2	12
IPE O 220	29.4	222	112	6.6	10.2	12
IPE A 240	247.9	236.4	120	4.8	8.0	15

Designation	Mass/ Unit Length	Depth h	Width b	Thickness		Radius r
	kg/m	mm	mm	t _w mm	t _f mm	mm
IPE A 240	26.2	237	120	5.2	8.3	15
IPE 240	30.7	240	120	6.2	9.8	15
IPE O 240	34.3	242	122	7.0	10.8	15
IPE A 270	30.7	267	135	5.5	8.7	15
IPE 270	36.1	270	135	6.6	10.2	15
IPE O 270	42.3	274	136	7.5	12.2	15
IPE A 300	36.5	297	150	6.1	9.2	15
IPE 300	42.2	300	150	7.1	10.7	15
IPE O 300	49.3	304	152	8.0	12.7	15
IPE A 330	43.0	327	160	6.5	10.0	18
IPE 330	49.1	330	160	7.5	11.5	18
IPE O 330	57.0	334	162	8.5	13.5	18
IPE A 360	50.2	357.6	170	6.6	11.5	18
IPE 360	57.1	360	170	8.0	12.7	18
IPE O 360	66.0	364	172	9.2	14.7	18
IPE A 400	57.4	397	180	7.0	12.0	21
IPE 400	66.3	400	180	8.6	13.5	21
IPE O 400	75.7	404	182	9.7	15.5	21
IPE A 450	67.2	447	190	7.6	13.1	21
IPE 450	77.6	450	190	9.4	14.6	21
IPE O 450	92.4	456	192	11.0	17.6	21
IPE A 500	79.4	497	200	8.4	14.5	21
IPE 500	90.7	500	200	10.2	16.0	21
IPE O 500	107.0	506	202	12.0	19.0	21
IPE A 550	92.1	547	210	9.0	15.7	24
IPE 550	106.0	550	210	11.1	17.2	24
IPE O 550	123.0	556	212	12.7	20.2	24
IPE A 600	108.0	597	220	9.8	17.5	24

Special conditions may apply, please contact our sales consultants

IPE Beam

Dimension : DIN 1025:1995
Tolerance : EN 10034:1993



Designation	Mass/ Unit Length	Depth h	Width b	Thickness		Radius r
				t _w	t _f	
	kg/m	mm	mm	mm	mm	mm
IPE 600	122.0	600	220	12.0	19.0	24
IPE O 600	154.0	610	224	15.0	24.0	24
IPE 750 x 137	137.0	753	263	11.5	17.0	17
IPE 750 x 147	147.0	753	265	13.2	17.0	17
IPE 750 x 173	173.0	762	267	14.4	21.6	17
IPE 750 x 196	196.0	770	268	15.6	25.4	17

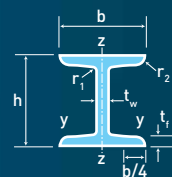
IPE Beam



Special conditions may apply, please contact our sales consultants

IPN Beam

Dimension : DIN 1025-1:1995
Tolerance : EN 10024:1995



Designation	Mass/ Unit Length	Depth h	Width b	Thickness		Radius	
				t _w	t _f	Root r ₁	Toe r ₂
	kg/m	mm	mm	mm	mm	mm	mm
IPN 80	5.94	80	42	3.9	5.9	3.9	2.3
IPN 100	8.34	100	50	4.5	6.8	4.5	2.7
IPN 120	11.1	120	58	5.1	7.7	5.1	3.1
IPN 140	14.3	140	66	5.7	8.6	5.7	3.4
IPN 160	17.9	160	74	6.3	9.5	6.3	3.8
IPN 180	21.9	180	82	6.9	10.4	6.9	4.1
IPN 200	26.2	200	90	7.5	11.3	7.5	4.5
IPN 220	31.1	220	98	8.1	12.2	8.1	4.9
IPN 240	36.2	240	106	8.7	13.1	8.7	5.2
IPN 260	41.9	260	113	9.4	14.1	9.4	5.6
IPN 280	47.9	280	119	10.1	15.2	10.1	6.1
IPN 300	54.2	300	125	10.8	16.2	10.8	6.5
IPN 320	61.0	320	131	11.5	17.3	11.5	6.9
IPN 340	68.0	340	137	12.2	18.3	12.2	7.3
IPN 360	76.1	360	143	13	19.5	13	7.8
IPN 380	84.0	380	149	13.7	20.5	13.7	8.2
IPN 400	92.4	400	155	14.4	21.6	14.4	8.6
IPN 450	115.0	450	170	16.2	24.3	16.2	9.7
IPN 500	141.0	500	185	18	27	18	10.8
IPN 550	166.0	550	200	19	30	19	11.9
IPN 600	199.0	600	215	21.6	32.4	21.6	13.0

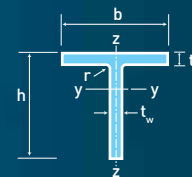
IPN Beam



Special conditions may apply, please contact our sales consultants

Tee Beam

Dimension : BS 4-1:2005 & ASTM A6/A6M-09
Tolerance: EN 10034:1993 & ASTM A6/A6M-09



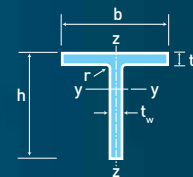
Designation		Mass/ Depth Width		Thickness		Radius	
W : Wide Flange Beams/Column		Unit					
UB/UC: Universal Beam/Column		Length					
UBP : Universal Bearing Pile							
		h	b	t _w	t _f	r	
		kg/m	mm	mm	mm	mm	
Cut from Section Designation							
h	b	t	h	b	t		
50 x 100 x 10	W	4 x 4 x 13	9.7	53.0	103.0	7.1	8.8
62.5 x 76 x 7	UB	127 x 76 x 13	6.5	63.5	76.0	4.0	7.6
62.5 x 76 x 12	W	5 x 5 x 16	11.9	63.5	127.0	6.1	9.1
62.5 x 76 x 14	W	5 x 5 x 19	14.1	65.5	128.0	6.9	10.9
45 x 89 x 8	UB	152 x 89 x 16	8.0	76.2	88.7	4.5	7.7
75 x 100 x 7	W	6 x 4 x 8.5	6.5	74.0	100.0	4.3	4.9
75 x 100 x 7	W	6 x 4 x 9	6.8	75.0	100.0	4.3	5.5
75 x 100 x 9	W	6 x 4 x 12	9.0	76.5	102.0	5.8	7.1
75 x 100 x 12	W	6 x 4 x 16	12.0	80.0	102.0	6.6	10.3
75 x 152 x 11	W	6 x 6 x 15	11.3	76.0	152.0	5.8	6.6
75 x 152 x 12	UC	152 x 152 x 23	11.5	76.2	152.2	5.8	6.8
75 x 152 x 15	W	6 x 6 x 20	14.9	78.5	153.0	6.6	9.3
75 x 152 x 15	UC	152 x 152 x 30	15.0	78.8	152.9	6.5	9.4
75 x 152 x 19	UC	152 x 152 x 37	18.5	80.9	154.4	8.0	11.5
75 x 152 x 19	W	6 x 6 x 25	18.6	81.0	154.0	8.1	11.6
75 x 152 x 22	UC	152 x 152 x 44 *	22.0	83.0	155.9	9.5	13.6
75 x 152 x 26	UC	152 x 152 x 51 *	25.6	85.1	157.4	11.0	15.7
89 x 102 x 10	UB	178 x 102 x 19	9.5	88.9	101.2	4.8	7.9
102 x 102 x 8	W	8 x 4 x 10	7.5	100.0	100.0	4.3	5.2
102 x 102 x 10	W	8 x 4 x 13	9.7	101.5	102.0	5.8	6.5
102 x 102 x 11	W	8 x 4 x 15	11.3	103.0	102.0	6.2	8.0
102 x 102 x 12	UB	203 x 102 x 23	11.6	101.6	101.8	5.4	9.3
102 x 133 x 11	W	8 x 5.25 x 14 *	10.7	101.5	134.0	5.0	6.4
102 x 133 x 13	UB	203 x 133 x 25	12.6	101.6	133.2	5.7	7.8
102 x 133 x 13	W	8 x 5.25 x 18	13.3	103.5	133.0	5.8	8.4
102 x 133 x 15	UB	203 x 133 x 30	15.0	103.4	133.9	6.4	9.6

Designation		Mass/ Depth Width		Thickness		Radius	
W : Wide Flange Beams/Column		Unit					
UB/UC: Universal Beam/Column		Length					
UBP : Universal Bearing Pile							
		h	b	t _w	t _f	r	
		kg/m	mm	mm	mm	mm	
Cut from Section Designation							
h	b	t	h	b	t		
102 x 133 x 16	W	8 x 5.25 x 21	15.6	105.0	134.0	6.4	10.2
102 x 165 x 18	W	8 x 6.5 x 24	18.0	100.5	165.0	6.2	10.2
102 x 165 x 21	W	8 x 6.5 x 28	20.8	102.5	166.0	7.2	11.8
102 x 203 x 22	UBP	203 x 203 x 45	22.5	100.1	205.9	9.5	9.5
102 x 203 x 23	UC	203 x 203 x 46	23.1	101.6	203.6	7.2	11.0
102 x 203 x 23	W	8 x 8 x 31	23.1	101.5	203.0	7.2	11.0
102 x 203 x 26	UC	203 x 203 x 52	26.0	103.1	204.3	7.9	12.5
102 x 203 x 27	UBP	203 x 203 x 54	27.0	102.0	207.7	11.3	11.4
102 x 203 x 26	W	8 x 8 x 35	26.0	103.0	204.0	7.9	12.6
102 x 203 x 30	W	8 x 8 x 40	29.5	105.0	205.0	9.1	14.2
102 x 203 x 30	UC	203 x 203 x 60	30.0	104.8	205.8	9.4	14.2
102 x 203 x 36	UC	203 x 203 x 71	35.5	107.9	206.4	10.0	17.3
102 x 203 x 36	W	8 x 8 x 48	35.5	108.0	206.0	10.2	17.4
102 x 203 x 43	W	8 x 8 x 58	43.0	111.0	209.0	13.0	20.6
102 x 203 x 43	UC	203 x 203 x 86	43.1	111.1	209.1	12.7	20.5
102 x 203 x 50	UC	203 x 203 x 100 *	49.8	114.3	210.3	14.5	23.7
102 x 203 x 50	W	8 x 8 x 67	50.0	114.5	210.0	14.5	23.7
102 x 203 x 57	UC	203 x 203 x 113 *	56.8	117.5	212.1	16.3	26.9
102 x 203 x 64	UC	203 x 203 x 127 *	63.8	120.7	213.9	18.1	30.1
127 x 102 x 9	W	10 x 4 x 12	8.9	125.5	101.0	4.8	5.3
127 x 102 x 11	UB	254 x 102 x 22	11.0	127.0	101.6	5.7	6.8
127 x 102 x 11	W	10 x 4 x 15	11.2	127.0	102.0	5.8	6.9
127 x 102 x 13	UB	254 x 102 x 25	12.6	128.6	101.9	6.0	8.4
127 x 102 x 13	W	10 x 4 x 17	12.7	128.5	102.0	6.1	8.4
127 x 102 x 14	UB	254 x 102 x 28	14.2	130.2	102.2	6.3	10.0
127 x 102 x 14	W	10 x 4 x 19	14.2	130.0	102.0	6.4	10.0

Special conditions may apply, please contact our sales consultants
* Based on other specification

Tee Beam

Dimension : BS 4-1:2005 & ASTM A6/A6M-09
Tolerance: EN 10034:1993 & ASTM A6/A6M-09



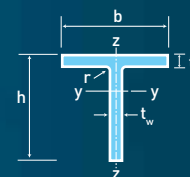
Designation				Mass/ Unit Length	Depth	Width	Thickness	Radius	
W : Wide Flange Beams/Column				kg/m	h mm	b mm	t _w mm	t _f mm	r mm
UB/UC: Universal Beam/Column									
UBP : Universal Bearing Pile									
Cut from Section Designation									
h	b	t		h	b	t			
127 x 146 x 16	UB	254 x 146 x 31		15.6	125.7	146.1	6.0	8.6	7.6
127 x 146 x 16	W	10 x 5.75 x 22		16.4	129.0	146.0	6.1	9.1	8.0
127 x 146 x 19	UB	254 x 146 x 37		18.5	128.0	146.4	6.3	10.9	7.6
127 x 146 x 19	W	10 x 5.75 x 26		19.3	131.0	147.0	6.6	11.2	8.0
127 x 146 x 22	UB	254 x 146 x 43		21.5	129.8	147.3	7.2	12.7	7.6
127 x 146 x 22	W	10 x 5.75 x 30		22.4	133.0	148.0	7.6	13.0	8.0
127 x 203 x 25	W	10 x 8 x 33		24.6	123.5	202.0	7.4	11.0	13.0
127 x 203 x 29	W	10 x 8 x 39		29.0	126.0	203.0	8.0	13.5	13.0
127 x 203 x 33	W	10 x 8 x 45		33.5	128.5	204.0	8.9	15.7	13.0
127 x 254 x 37	W	10 x 10 x 49		36.5	126.5	254.0	8.6	14.2	13.0
127 x 254 x 37	UC	254 x 254 x 73		36.6	127.1	254.6	8.6	14.2	12.7
127 x 254 x 40	W	10 x 10 x 54		40.0	128.0	255.0	9.4	15.6	13.0
127 x 254 x 32	UBP	10 x 10 x 63		31.5	123.6	256.6	10.6	10.7	12.7
127 x 254 x 36	UBP	10 x 10 x 71		35.5	124.9	258.0	12.0	12.0	12.7
127 x 254 x 43	UBP	10 x 10 x 85		42.6	127.2	260.4	14.4	14.3	12.7
127 x 254 x 44	UC	254 x 254 x 89		44.5	130.2	256.3	10.3	17.3	12.7
127 x 254 x 45	W	10 x 10 x 60		44.5	130.0	256.0	10.7	17.3	13.0
127 x 254 x 51	W	10 x 10 x 68		50.5	132.0	257.0	11.9	19.6	13.0
127 x 254 x 54	UC	254 x 254 x 107		53.6	133.4	258.8	12.8	20.5	12.7
127 x 254 x 58	W	10 x 10 x 77		57.5	134.5	259.0	13.5	22.1	13.0
127 x 254 x 66	W	10 x 10 x 88		65.5	137.5	261.0	15.4	25.1	13.0
127 x 254 x 66	UC	254 x 254 x 132		66.0	138.2	261.3	15.3	25.3	12.7
127 x 254 x 75	W	10 x 10 x 100		74.5	141.0	263.0	17.3	28.4	13.0
127 x 254 x 84	W	10 x 10 x 112		83.5	144.5	265.0	19.2	31.8	13.0
127 x 254 x 84	UC	254 x 254 x 167		83.6	144.6	265.2	19.2	31.7	12.7
152 x 102 x 11	W	12 x 4 x 14		10.5	151.5	101.0	5.1	5.7	8.0

Designation							Mass/ Unit Length	Depth	Width	Thickness	Radius	
W : Wide Flange Beams/Column												
UB/UC: Universal Beam/Column												
UBP : Universal Bearing Pile												
							kg/m	h mm	b mm	t _w mm	t _f mm	r mm
Cut from Section Designation												
h	b	t		h	b	t						
152 x 102 x 12	W	12 x 4 x 16		11.9	152.5	101.0	5.6	6.7	8.0			
152 x 102 x 12	UB	305 x 102 x 25		12.4	152.6	101.6	5.8	7.0	7.6			
152 x 102 x 14	UB	305 x 102 x 28		14.1	154.4	101.8	6.0	8.8	7.6			
152 x 102 x 14	W	12 x 4 x 19		14.2	154.5	102.0	6.0	8.9	8.0			
152 x 102 x 16	W	12 x 4 x 22		16.4	156.5	102.0	6.6	10.8	8.0			
152 x 102 x 16	UB	305 x 102 x 33		16.4	156.4	102.4	6.6	10.8	7.6			
152 x 127 x 19	UB	305 x 127 x 37		18.5	152.2	123.4	7.1	10.7	8.9			
152 x 127 x 21	UB	305 x 127 x 42		21.0	153.6	124.3	8.0	12.1	8.9			
152 x 127 x 24	UB	305 x 127 x 48		24.1	155.5	125.3	9.0	14.0	8.9			
152 x 165 x 19	W	12 x 6.5 x 26		19.3	155.0	165.0	5.8	9.7	8.0			
152 x 165 x 20	UB	305 x 165 x 40		20.2	151.7	165.0	6.0	10.2	8.9			
152 x 165 x 22	W	12 x 6.5 x 30		22.3	156.5	166.0	6.6	11.2	8.0			
152 x 165 x 23	UB	305 x 165 x 46		23.1	153.3	165.7	6.7	11.8	8.9			
152 x 165 x 26	W	12 x 6.5 x 35		26.0	158.5	167.0	7.6	13.2	8.0			
152 x 165 x 27	UB	305 x 165 x 54		27.0	155.2	166.9	7.9	13.7	8.9			
152 x 203 x 30	W	12 x 8 x 40		30.0	151.5	203.0	7.5	13.1	15.0			
152 x 203 x 33	W	12 x 8 x 45		33.5	153.0	204.0	8.5	14.6	15.0			
152 x 203 x 37	W	12 x 8 x 50		37.0	155.0	205.0	9.4	16.3	15.0			
152 x 254 x 40	W	12 x 10 x 53		39.5	153.0	254.0	8.8	14.6	15.0			
152 x 254 x 43	W	12 x 10 x 58		43.0	155.0	254.0	9.1	16.3	15.0			
152 x 305 x 39	UBP	305 x 305 x 79		39.5	149.7	306.4	11.0	11.1	15.2			
152 x 305 x 44	UBP	305 x 305 x 88		44.0	150.9	307.8	12.4	12.3	15.2			
152 x 305 x 47	UBP	305 x 305 x 95		47.5	151.9	308.7	13.3	13.3	15.2			
152 x 305 x 48	UC	305 x 305 x 97		48.5	154.0	305.3	9.9	15.4	15.2			
152 x 305 x 49	W	12 x 12 x 65		48.5	154.0	305.0	9.9	15.4	15.0			
152 x 305 x 54	W	12 x 12 x 72		53.5	155.5	306.0	10.9	17.0	15.0			

Special conditions may apply, please contact our sales consultants
* Based on other specification

Tee Beam

Dimension : BS 4-1:2005 & ASTM A6/A6M-09
Tolerance: EN 10034:1993 & ASTM A6/A6M-09



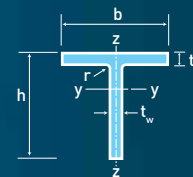
Designation			Mass/ Depth Width			Thickness	Radius	
W : Wide Flange Beams/Column			Unit					
UB/UC: Universal Beam/Column			Length					
UBP : Universal Bearing Pile								
			kg/m	h mm	b mm	t _w mm	t _f mm	r mm
Cut from Section Designation								
h	b	t	h	b	t			
152 x 305 x 59	W	12 x 12 x 79	58.5	157.0	307.0	11.9	18.7	15.0
152 x 305 x 55	UBP	305 x 305 x 110	55.0	154.0	310.7	15.3	15.4	15.2
152 x 305 x 59	UC	305 x 305 x 118	59.0	157.3	307.4	12.0	18.7	15.2
152 x 305 x 63	UBP	305 x 305 x 126	63.1	156.2	312.9	17.5	17.6	15.2
152 x 305 x 65	W	12 x 12 x 87	64.5	159.0	308.0	13.1	20.6	15.0
152 x 305 x 68	UC	305 x 305 x 137	68.5	160.3	309.2	13.8	21.7	15.2
152 x 305 x 75	UBP	305 x 305 x 149	74.6	159.3	316.0	20.6	20.7	15.2
152 x 305 x 72	W	12 x 12 x 96	71.5	161.5	309.0	14.0	22.9	15.0
152 x 305 x 79	W	12 x 12 x 106	79.0	163.5	310.0	15.5	25.1	15.0
152 x 305 x 79	UC	305 x 305 x 158	79.1	163.6	311.2	15.8	25.0	15.2
152 x 305 x 90	W	12 x 12 x 120	89.5	166.5	313.0	18.0	28.1	15.0
152 x 305 x 93	UBP	305 x 305 x 186	93.0	164.2	320.9	25.5	25.6	15.2
152 x 305 x 99	UC	305 x 305 x 198	99.1	170.0	314.5	19.1	31.4	15.2
152 x 305 x 101	W	12 x 12 x 136	101.0	170.5	315.0	20.1	31.8	15.0
152 x 305 x 113	W	12 x 12 x 152	113.0	174.0	317.0	22.1	35.6	15.0
152 x 305 x 111	UBP	305 x 305 x 223	111.5	169.0	325.7	30.3	30.4	15.2
152 x 305 x 120	UC	305 x 305 x 240	120.0	176.3	318.4	23.0	37.7	15.2
152 x 305 x 127	W	12 x 12 x 170	126.5	178.0	319.0	24.4	39.6	15.0
152 x 305 x 141	UC	305 x 305 x 283	141.5	182.7	322.2	26.8	44.1	15.2
152 x 305 x 142	W	12 x 12 x 190	141.5	182.5	322.0	26.9	44.1	15.0
152 x 305 x 157	W	12 x 12 x 210	156.5	187.0	325.0	30.0	48.3	15.0
152 x 305 x 171	W	12 x 12 x 230	171.0	191.0	328.0	32.6	52.6	15.0
152 x 305 x 188	W	12 x 12 x 252	187.5	195.5	330.0	35.4	57.2	15.0
152 x 305 x 208	W	12 x 12 x 279	207.5	201.5	334.0	38.9	62.7	15.0
152 x 305 x 227	W	12 x 12 x 305	227.0	207.5	336.0	41.3	68.7	15.0
152 x 305 x 250	W	12 x 12 x 336	250.0	213.5	340.0	45.1	75.1	15.0

Designation			Mass/ Depth Width			Thickness	Radius	
W : Wide Flange Beams/Column			Unit Length					
UB/UC: Universal Beam/Column								
UBP : Universal Bearing Pile				h	b	t _w	t _f	r
			kg/m	mm	mm	mm	mm	mm
Cut from Section Designation								
h	b	t	h	b	t			
178 x 127 x 16	W	14 x 5 x 22	16.5	174.5	127.0	5.8	8.5	10.0
178 x 127 x 17	UB	356 x 127 x 33	16.6	174.5	125.4	6.0	8.5	10.2
179 x 128 x 20	W	14 x 5 x 26	19.5	176.5	128.0	6.5	10.7	10.0
180 x 129 x 20	UB	356 x 127 x 39	19.6	176.7	126.0	6.6	10.7	10.2
178 x 171 x 22	W	14 x 6.75 x 30	22.3	176.0	171.0	6.9	9.8	10.0
178 x 171 x 23	UB	356 x 171 x 45	22.5	175.7	171.1	7.0	9.7	10.2
178 x 171 x 26	UB	356 x 171 x 51	25.5	177.5	171.5	7.4	11.5	10.2
178 x 171 x 26	W	14 x 6.75 x 34	25.5	177.5	171.0	7.2	11.6	10.0
178 x 171 x 29	UB	356 x 171 x 57	28.5	179.0	172.2	8.1	13.0	10.2
178 x 171 x 29	W	14 x 6.75 x 38	29.0	179.0	172.0	7.9	13.1	10.0
178 x 171 x 34	UB	356 x 171 x 67	33.6	181.7	173.2	9.1	15.7	10.2
178 x 203 x 32	W	14 x 8 x 43	32.0	173.5	203.0	7.7	13.5	15.0
178 x 203 x 36	W	14 x 8 x 48	36.0	175.0	204.0	8.6	15.1	15.0
178 x 203 x 40	W	14 x 8 x 53	39.5	177.0	205.0	9.4	16.8	15.0
178 x 254 x 46	W	14 x 10 x 61	45.5	176.5	254.0	9.5	16.4	15.0
178 x 254 x 51	W	14 x 10 x 68	50.5	178.5	255.0	10.5	18.3	15.0
178 x 254 x 55	W	14 x 10 x 74	55.0	180.0	256.0	11.4	19.9	15.0
178 x 254 x 61	W	14 x 10 x 82	61.0	181.5	257.0	13.0	21.7	15.0
178 x 368 x 54	UBP	356 x 368 x 109	54.5	173.2	371.0	12.8	12.9	15.2
178 x 368 x 65	UC	356 x 368 x 129	64.5	177.8	368.6	10.4	17.5	15.2
178 x 368 x 67	UC	356 x 368 x 133	66.5	176.0	373.8	15.6	15.7	15.2
178 x 368 x 67	W	14 x 14.5 x 90	67.0	178.0	369.0	11.2	18.0	15.0
178 x 368 x 74	W	14 x 14.5 x 99	73.5	180.0	370.0	12.3	19.8	15.0
178 x 368 x 76	UBP	356 x 368 x 152	76.0	178.2	376.0	17.8	17.9	15.2
178 x 368 x 76	UC	356 x 368 x 153	76.5	181.0	370.5	12.3	20.7	15.2
178 x 368 x 81	W	14 x 14.5 x 109	81.0	182.0	371.0	13.3	21.8	15.0

Special conditions may apply, please contact our sales consultants
* Based on other specification

Tee Beam

Dimension : BS 4-1:2005 & ASTM A6/A6M-09
Tolerance: EN 10034:1993 & ASTM A6/A6M-09



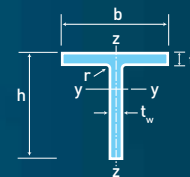
Designation			Mass/ Depth Width Unit Length		Thickness		Radius	
W : Wide Flange Beams/Column								
UB/UC : Universal Beam/Column								
UBP : Universal Bearing Pile								
			h	b	t _w	t _f	r	
			kg/m	mm	mm	mm	mm	mm
Cut from Section Designation								
h	b	t	h	b	t			
178 x 368 x 87	UBP	356 x 368 x 174	87.0	180.7	378.5	20.3	20.4	15.2
178 x 368 x 89	UC	356 x 368 x 177	88.5	184.1	372.6	14.4	23.8	15.2
178 x 368 x 90	W	14 x 14.5 x 120	89.5	184.0	373.0	15.0	23.9	15.0
178 x 368 x 98	W	14 x 14.5 x 132	98.0	186.0	374.0	16.4	26.2	15.0
178 x 368 x 101	UC	356 x 368 x 202	101.0	187.3	374.7	16.5	27.0	15.2
178 x 406 x 108	W	14 x 16 x 145	108.0	187.5	394.0	17.3	27.7	15.0
178 x 406 x 118	UC	356 x 406 x 235	117.6	190.5	394.8	18.4	30.2	15.2
178 x 406 x 119	W	14 x 16 x 159	118.5	190.0	395.0	18.9	30.2	15.0
178 x 406 x 131	W	14 x 16 x 176	131.0	193.5	398.0	21.1	33.3	15.0
178 x 406 x 144	W	14 x 16 x 193	143.5	196.5	399.0	22.6	36.6	15.0
178 x 406 x 144	UC	356 x 406 x 287	143.6	196.8	399.0	22.6	36.5	15.2
178 x 406 x 157	W	14 x 16 x 211	157.0	199.5	401.0	24.9	39.6	15.0
178 x 406 x 163	W	14 x 16 x 219	163.0	201.5	402.0	25.5	41.2	15.0
178 x 406 x 170	UC	356 x 406 x 340	170.0	203.2	403.0	26.6	42.9	15.2
178 x 406 x 174	W	14 x 16 x 233	173.5	203.5	404.0	27.2	43.7	15.0
178 x 406 x 191	W	14 x 16 x 257	191.0	208.0	406.0	29.8	48.0	15.0
178 x 406 x 197	UC	356 x 406 x 393	196.5	209.5	407.0	30.6	49.2	15.2
178 x 406 x 211	W	14 x 16 x 283	210.5	212.5	409.0	32.8	52.6	15.0
178 x 406 x 232	W	14 x 16 x 311	231.5	217.5	412.0	35.8	57.4	15.0
178 x 406 x 234	UC	356 x 406 x 467	233.5	218.3	412.2	35.8	58.0	15.2
178 x 406 x 255	W	14 x 16 x 342	254.5	223.0	416.0	39.1	62.7	15.0
178 x 406 x 276	UC	356 x 406 x 551	275.5	227.8	418.5	42.1	67.5	15.2
178 x 406 x 276	W	14 x 16 x 370	275.5	227.5	418.0	42.0	67.6	15.0
178 x 406 x 296	W	14 x 16 x 398	296.0	232.5	421.0	45.0	72.3	15.0
178 x 406 x 317	UC	356 x 406 x 634	317.0	237.3	424.0	47.6	77.0	15.2
178 x 406 x 317	W	14 x 16 x 426	317.0	237.0	424.0	47.6	77.1	15.0

Designation			Mass/ Depth Width Unit Length		Thickness		Radius	
W : Wide Flange Beams/Column								
UB/UC : Universal Beam/Column								
UBP : Universal Bearing Pile								
			h	b	t _w	t _f	r	
			kg/m	mm	mm	mm	mm	mm
Cut from Section Designation								
h	b	t	h	b	t			
178 x 406 x 339	W	14 x 16 x 455	338.5	241.5	428.0	51.2	81.5	15.0
178 x 406 x 372	W	14 x 16 x 500	372.0	249.0	432.0	55.6	88.9	15.0
178 x 406 x 409	W	14 x 16 x 550	409.0	257.0	437.0	60.5	97.0	15.0
178 x 406 x 450	W	14 x 16 x 605	450.0	265.5	442.0	65.9	106.0	15.0
178 x 406 x 495	W	14 x 16 x 665	495.0	275.0	448.0	71.9	115.0	15.0
178 x 406 x 543	W	14 x 16 x 730	543.0	284.5	454.0	78.0	125.0	15.0
178 x 406 x 601	W	14 x 16 x 808 *	601.0	290.0	471.0	95.0	130.0	15.0
178 x 406 x 650	W	14 x 16 x 873 *	649.5	300.0	476.0	100.0	140.0	15.0
203 x 140 x 19	W	16 x 5.5 x 26	19.4	199.5	140.0	6.4	8.8	10.0
203 x 140 x 20	UB	406 x 140 x 39	19.5	199.0	141.8	6.4	8.6	10.2
203 x 140 x 23	UB	406 x 140 x 46	23.0	201.6	142.2	6.8	11.2	10.2
203 x 140 x 23	W	16 x 5.5 x 31	23.1	201.5	140.0	7.0	11.2	10.0
203 x 140 x 27	UB	406 x 140 x 53 *	26.7	203.3	143.3	7.9	12.9	10.2
203 x 178 x 27	W	16 x 7 x 36	26.5	201.5	177.0	7.5	10.9	10.0
203 x 178 x 27	UB	406 x 178 x 54	27.1	201.3	177.7	7.7	10.9	10.2
203 x 178 x 30	W	16 x 7 x 40	30.0	203.5	178.0	7.7	12.8	10.0
203 x 178 x 30	UB	406 x 178 x 60	30.1	203.2	177.9	7.9	12.8	10.2
203 x 178 x 34	W	16 x 7 x 45	33.5	205.0	179.0	8.8	14.4	10.0
203 x 178 x 34	UB	406 x 178 x 67	33.6	204.7	178.8	8.8	14.3	10.2
203 x 178 x 37	UB	406 x 178 x 74	37.1	206.4	179.5	9.5	16.0	10.2
203 x 178 x 38	W	16 x 7 x 50	37.5	206.5	180.0	9.7	16.0	10.0
203 x 178 x 43	W	16 x 7 x 57	42.5	208.5	181.0	10.9	18.2	10.0
203 x 178 x 43	UB	406 x 178 x 85 *	42.7	208.6	181.9	10.9	18.2	10.2
203 x 260 x 50	W	16 x 10.25 x 67	50.0	207.5	260.0	10.0	16.9	10.0
203 x 260 x 57	W	16 x 10.25 x 77	57.0	210.0	261.0	11.6	19.3	10.0
203 x 260 x 66	W	16 x 10.25 x 89	66.0	212.5	263.0	13.3	22.2	10.0

Special conditions may apply, please contact our sales consultants
* Based on other specification

Tee Beam

Dimension : BS 4-1:2005 & ASTM A6/A6M-09
Tolerance: EN 10034:1993 & ASTM A6/A6M-09



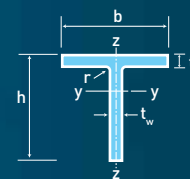
Designation					Mass/ Unit Length	Depth	Width	Thickness	Radius	
W : Wide Flange Beams/Column										
UB/UC : Universal Beam/Column										
UBP : Universal Bearing Pile										
					kg/m	h mm	b mm	t _w mm	t _f mm	r mm
Cut from Section Designation										
h	b	t		h	b	t				
203 x 260 x 75	W	16	x 10.25	x 100	74.5	215.5	265.0	14.9	25.0	10.0
230 x 152 x 26	W	18	x 6	x 35	26.0	225.0	152.0	7.6	10.8	10.0
230 x 152 x 26	UB	457	x 152	x 52	26.2	224.9	152.4	7.6	10.9	10.2
230 x 152 x 30	UB	457	x 152	x 60	29.9	227.3	152.9	8.1	13.3	10.2
230 x 152 x 30	W	18	x 6	x 40	30.0	227.5	153.0	8.0	13.3	10.0
230 x 152 x 34	UB	457	x 152	x 67	33.6	229.0	153.8	9.0	15.0	10.2
230 x 152 x 34	W	18	x 6	x 46	34.0	229.5	154.0	9.1	15.4	10.0
230 x 152 x 37	UB	457	x 152	x 74	37.1	231.0	154.4	9.6	17.0	10.2
230 x 152 x 41	UB	457	x 152	x 82	41.1	232.9	155.3	10.5	18.9	10.2
230 x 191 x 34	UB	457	x 191	x 67	33.6	226.7	189.9	8.5	12.7	10.2
230 x 191 x 37	W	18	x 7.5	x 50	37.0	228.5	190.0	9.0	14.5	10.0
230 x 191 x 37	UB	457	x 191	x 74	37.2	228.5	190.4	9.0	14.5	10.2
230 x 191 x 41	UB	457	x 191	x 82	41.0	230.0	191.3	9.9	16.0	10.2
230 x 191 x 41	W	18	x 7.5	x 55	41.0	230.0	191.0	9.9	16.0	10.0
230 x 191 x 45	W	18	x 7.5	x 60	44.5	231.5	192.0	10.5	17.7	10.0
230 x 191 x 45	UB	457	x 191	x 89	44.7	231.7	191.9	10.5	17.7	10.2
230 x 191 x 49	W	18	x 7.5	x 65	48.5	233.0	193.0	11.4	19.0	10.0
230 x 191 x 49	UB	457	x 191	x 98	49.2	233.6	192.8	11.4	19.6	10.2
230 x 191 x 53	W	18	x 7.5	x 71	53.0	234.5	194.0	12.6	20.6	10.0
230 x 191 x 67	UB	457	x 191	x 133 *	66.7	240.3	196.7	15.3	26.3	10.2
230 x 191 x 81	UB	457	x 191	x 161 *	80.7	246.0	199.4	18.0	32.0	10.2
230 x 280 x 57	W	18	x 11	x 76	56.5	231.5	280.0	10.8	17.3	10.0
230 x 280 x 64	W	18	x 11	x 86	64.0	233.5	282.0	12.2	19.6	10.0
230 x 280 x 72	W	18	x 11	x 97	72.0	236.0	283.0	13.6	22.1	10.0
230 x 280 x 79	W	18	x 11	x 106	79.0	238.0	284.0	15.0	23.9	10.0
230 x 280 x 89	W	18	x 11	x 119	88.5	241.0	286.0	16.6	26.9	10.0

Designation					Mass/ Unit Length	Depth	Width	Thickness	Radius	
W : Wide Flange Beams/Column					kg/m	h	b	t _w	t _f	r
UB/UC : Universal Beam/Column										
UBP : Universal Bearing Pile										
Cut from Section Designation					mm	mm	mm	mm	mm	mm
h	b	t								
230 x 280 x 97	W	18	x 11	x 130	96.5	244.5	283.0	17.0	30.5	10.0
230 x 280 x 107	W	18	x 11	x 143	106.5	247.5	285.0	18.5	33.5	10.0
230 x 280 x 118	W	18	x 11	x 158	117.5	250.5	287.0	20.6	36.6	10.0
230 x 280 x 130	W	18	x 11	x 175	130.0	254.5	289.0	22.6	40.4	10.0
230 x 280 x 143	W	18	x 11	x 192	143.0	258.5	291.0	24.4	44.5	10.0
230 x 280 x 158	W	18	x 11	x 211	157.5	262.5	293.0	26.9	48.5	10.0
230 x 280 x 175	W	19	x 11	x 234	174.5	267.5	296.0	29.5	53.6	10.0
230 x 280 x 192	W	20	x 11	x 258	192.0	272.5	299.0	32.5	58.4	10.0
230 x 280 x 211	W	21	x 11	x 283	210.5	277.5	302.0	35.6	63.5	10.0
230 x 280 x 232	W	18	x 11	x 311	232.0	283.5	305.0	38.6	69.6	10.0
270 x 165 x 33	UB	533	x 165	x 66 *	32.9	262.4	165.1	8.9	11.4	12.7
270 x 165 x 33	W	21	x 6.5	x 44	33.0	262.5	165.0	8.9	11.4	13.0
270 x 165 x 37	W	21	x 6.5	x 50	37.0	264.5	166.0	9.7	13.6	13.0
270 x 165 x 37	UB	533	x 165	x 75 *	37.4	264.6	165.9	9.7	13.6	12.7
270 x 165 x 42	UB	533	x 165	x 85 *	42.4	267.5	166.5	10.3	16.5	12.7
270 x 165 x 43	W	21	x 6.5	x 57	42.5	267.5	166.0	10.3	16.5	13.0
270 x 210 x 36	W	21	x 8.25	x 48	36.0	262.0	207.0	9.0	10.9	13.0
270 x 210 x 41	W	21	x 8.25	x 55	41.0	264.0	209.0	9.5	13.3	13.0
270 x 210 x 41	UB	533	x 210	x 82	41.1	264.2	208.8	9.6	13.2	12.7
270 x 210 x 46	W	21	x 8.25	x 62	46.0	266.5	209.0	10.2	15.6	13.0
270 x 210 x 46	UB	533	x 210	x 92	46.1	266.6	209.3	10.1	15.6	12.7
270 x 210 x 51	UB	533	x 210	x 101	50.5	268.4	210.0	10.8	17.4	12.7
270 x 210 x 51	W	21	x 8.25	x 68	50.5	268.5	210.0	10.9	17.4	13.0
270 x 210 x 55	UB	533	x 210	x 109	54.5	269.8	210.8	11.6	18.8	12.7
270 x 210 x 55	W	21	x 8.25	x 73	54.5	269.5	211.0	11.6	18.8	13.0
270 x 210 x 61	UB	533	x 210	x 122	61.0	272.3	211.9	12.7	21.3	12.7

Special conditions may apply, please contact our sales consultants
* Based on other specification

Tee Beam

Dimension : BS 4-1:2005 & ASTM A6/A6M-09
Tolerance: EN 10034:1993 & ASTM A6/A6M-09



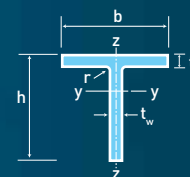
Designation				Mass/ Unit Length	Depth	Width	Thickness	Radius	
W : Wide Flange Beams/Column									
UB/UC : Universal Beam/Column									
UBP : Universal Bearing Pile									
				kg/m	h mm	b mm	t _w mm	t _f mm	r mm
Cut from Section Designation									
h	b	t		h	b	t			
270 x 210 x 62	W	21 x 8.25 x 83		61.5	272.0	212.0	13.1	21.2	13.0
270 x 210 x 69	W	21 x 8.25 x 93		69.0	274.5	214.0	14.7	23.6	13.0
270 x 210 x 69	UB	533 x 210 x 138 *		69.2	274.6	213.9	14.7	23.6	12.7
270 x 312 x 75	W	21 x 12.25 x 101		75.0	271.5	312.0	12.7	20.3	12.7
270 x 312 x 75	UB	533 x 312 x 151 *		75.3	271.3	312.0	12.7	20.3	12.7
270 x 312 x 83	W	21 x 12.25 x 111		82.5	273.0	313.0	14.0	22.2	12.7
270 x 312 x 91	UB	533 x 312 x 182 *		90.8	275.4	314.5	15.2	24.4	12.7
270 x 312 x 91	W	21 x 12.25 x 122		91.0	275.5	315.0	15.2	24.4	12.7
270 x 312 x 98	W	21 x 12.25 x 132		98.0	277.0	316.0	16.5	26.3	12.7
270 x 312 x 109	UB	533 x 312 x 219 *		109.4	280.2	317.4	18.3	29.2	12.7
270 x 312 x 110	W	21 x 12.25 x 147		109.5	280.0	318.0	18.3	29.2	12.7
270 x 312 x 124	W	21 x 12.25 x 166		124.0	285.5	315.0	19.0	34.5	12.7
270 x 312 x 136	W	21 x 12.25 x 182		136.0	288.5	317.0	21.1	37.6	12.7
270 x 312 x 137	UB	533 x 312 x 273 *		136.7	288.6	320.2	21.1	37.6	12.7
270 x 312 x 150	W	21 x 12.25 x 201		150.0	292.5	319.0	23.1	41.4	12.7
305 x 178 x 41	UB	610 x 178 x 82 *		40.9	299.3	177.9	10.0	12.8	12.7
305 x 178 x 41	W	24 x 7 x 55		41.0	299.5	178.0	10.0	12.8	13.0
305 x 178 x 46	W	24 x 7 x 62		46.0	301.5	179.0	10.9	15.0	13.0
305 x 178 x 46	UB	610 x 178 x 92 *		46.1	301.5	178.8	10.9	15.0	12.7
305 x 178 x 50	UB	610 x 178 x 100 *		50.2	303.7	179.2	11.3	17.2	12.7
305 x 229 x 51	W	24 x 9 x 68		50.5	301.5	228.0	10.5	14.9	13.0
305 x 229 x 51	UB	610 x 229 x 101		50.6	301.3	227.6	10.5	14.8	12.7
305 x 229 x 57	UB	610 x 229 x 113		56.5	303.8	228.2	11.1	17.3	12.7
305 x 229 x 57	W	24 x 9 x 76		56.5	304.0	228.0	11.2	17.3	13.0
305 x 229 x 63	W	24 x 9 x 84		62.5	306.0	229.0	11.9	19.6	13.0
305 x 229 x 63	UB	610 x 229 x 125		62.6	306.1	229.0	11.9	19.6	12.7

Designation				Mass/	Depth	Width	Thickness	Radius	
W : Wide Flange Beams/Column				Unit					
UB/UC : Universal Beam/Column				Length					
UBP : Universal Bearing Pile									
				kg/m	h	b	t _w	t _f	r
					mm	mm	mm	mm	mm
Cut from Section Designation									
h	b	t		h	b	t			
305 x 229 x 70	UB	610 x 229 x 140		70.0	308.6	230.2	13.1	22.1	12.7
305 x 229 x 70	W	24 x 9 x 94		70.0	308.5	230.0	13.1	22.2	13.0
305 x 229 x 77	W	24 x 9 x 103		76.5	311.5	229.0	14.0	24.9	13.0
305 x 305 x 75	UB	610 x 305 x 149		74.6	306.2	304.8	11.8	19.7	16.5
305 x 305 x 90	UB	610 x 305 x 179		89.5	310.1	307.1	14.1	23.6	16.5
305 x 305 x 119	UB	610 x 305 x 238		119.1	317.9	311.4	18.4	31.4	16.5
305 x 305 x 78	W	24 x 12.75 x 104		77.5	305.5	324.0	12.7	19.1	13.0
305 x 305 x 87	W	24 x 12.75 x 117		87.0	308.0	325.0	14.0	21.6	13.0
305 x 305 x 98	W	24 x 12.75 x 131		97.5	311.0	327.0	15.4	24.4	13.0
305 x 305 x 109	W	24 x 12.75 x 146		108.5	314.0	328.0	16.5	27.7	13.0
305 x 305 x 121	W	24 x 12.75 x 162		120.5	317.5	329.0	17.9	31.0	13.0
305 x 305 x 131	W	24 x 12.75 x 176		131.0	320.5	327.0	19.0	34.0	13.0
305 x 305 x 143	W	24 x 12.75 x 192		142.5	323.5	329.0	20.6	37.1	13.0
305 x 305 x 154	W	24 x 12.75 x 207		153.5	326.5	330.0	22.1	39.9	13.0
305 x 305 x 171	W	24 x 12.75 x 229		170.5	330.5	333.0	24.4	43.9	13.0
305 x 305 x 186	W	24 x 12.75 x 250		186.0	334.5	335.0	26.4	48.0	13.0
305 x 305 x 208	W	24 x 12.75 x 279		207.5	339.5	338.0	29.5	53.1	13.0
305 x 305 x 228	W	24 x 12.75 x 306		227.5	344.5	340.0	32.0	57.9	13.0
305 x 305 x 249	W	24 x 12.75 x 335		249.0	349.5	343.0	35.1	63.0	13.0
305 x 305 x 276	W	24 x 12.75 x 370		275.5	355.5	347.0	38.6	69.1	13.0
345 x 254 x 63	W	27 x 10 x 84		62.5	339.0	253.0	11.7	16.3	15.0
345 x 254 x 63	UB	686 x 254 x 125		62.6	339.0	253.0	11.7	16.2	15.2
345 x 254 x 70	W	27 x 10 x 94		70.0	342.0	254.0	12.4	18.9	15.0
345 x 254 x 70	UB	686 x 254 x 140		70.1	341.8	253.7	12.4	19.0	15.2
345 x 254 x 76	W	27 x 10 x 102		76.0	344.0	254.0	13.1	21.1	15.0
345 x 254 x 76	UB	686 x 254 x 152		76.2	343.8	254.5	13.2	21.0	15.2

Special conditions may apply, please contact our sales consultants
* Based on other specification

Tee Beam

Dimension : BS 4-1:2005 & ASTM A6/A6M-09
Tolerance: EN 10034:1993 & ASTM A6/A6M-09



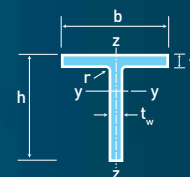
Designation		Mass/ Depth Width		Thickness		Radius	
W : Wide Flange Beams/Column		Unit					
UB/UC : Universal Beam/Column		Length					
UBP : Universal Bearing Pile							
		h	b	t _w	t _f	r	
		kg/m	mm	mm	mm	mm	
Cut from Section Designation							
h	b	t	h	b	t		
345 x 254 x 85	W	27 x 10 x 114	85.0	346.5	256.0	14.5	23.6
345 x 254 x 85	UB	686 x 254 x 170	85.1	346.5	255.8	14.5	23.7
345 x 254 x 96	W	27 x 10 x 129	96.0	351.0	254.0	15.5	27.9
345 x 356 x 109	W	27 x 14 x 146	108.5	347.5	355.0	15.4	24.8
345 x 356 x 120	W	27 x 14 x 161	120.0	350.5	356.0	16.8	27.4
345 x 356 x 133	W	27 x 14 x 178	132.5	353.0	358.0	18.4	30.2
345 x 356 x 145	W	27 x 14 x 194	144.5	357.0	356.0	19.0	34.0
345 x 356 x 162	W	27 x 14 x 217	161.5	361.0	359.0	21.1	38.1
345 x 356 x 175	W	27 x 14 x 235	175.0	364.0	360.0	23.1	40.9
345 x 356 x 192	W	27 x 14 x 258	192.0	368.0	362.0	24.9	45.0
345 x 356 x 210	W	27 x 14 x 281	209.5	372.0	364.0	26.9	49.0
345 x 356 x 229	W	27 x 14 x 307	228.5	376.0	367.0	29.5	53.1
345 x 356 x 250	W	27 x 14 x 336	250.0	382.5	369.0	32.0	57.9
345 x 356 x 274	W	27 x 14 x 368	274.0	386.0	372.0	35.1	63.0
345 x 356 x 401	W	27 x 14 x 539	401.0	413.0	387.0	50.0	89.9
380 x 267 x 67	UB	762 x 267 x 134	67.0	375.0	264.4	12.0	15.5
380 x 267 x 67	W	30 x 10.5 x 90	67.0	375.0	264.0	11.9	15.5
380 x 267 x 73	UB	762 x 267 x 147	73.5	377.0	265.2	12.8	17.5
380 x 267 x 74	W	30 x 10.5 x 99	73.5	376.5	265.0	13.2	17.0
380 x 267 x 81	W	30 x 10.5 x 108	80.5	379.0	266.0	13.8	19.3
380 x 267 x 87	UB	762 x 267 x 173	86.5	381.1	266.7	14.3	21.6
380 x 267 x 87	W	30 x 10.5 x 116	86.5	381.0	267.0	14.4	21.6
380 x 267 x 93	W	30 x 10.5 x 124	92.5	383.0	267.0	14.9	23.6
380 x 267 x 98	W	30 x 10.5 x 132	98.0	385.0	268.0	15.6	25.4
380 x 267 x 98	UB	762 x 267 x 197	98.4	384.9	268.0	15.6	25.4
380 x 267 x 110	W	30 x 10.5 x 148	110.0	389.5	266.0	16.5	30.0

Designation		Mass/ Depth Width		Thickness		Radius	
W : Wide Flange Beams/Column		Unit					
UB/UC : Universal Beam/Column		Length					
UBP : Universal Bearing Pile							
		h	b	t _w	t _f	r	
		kg/m	mm	mm	mm	mm	
Cut from Section Designation							
h	b	t	h	b	t		
380 x 380 x 129	W	30 x 15 x 173	128.5	386.5	381.0	16.6	27.1
380 x 380 x 142	W	30 x 15 x 191	142.0	389.5	382.0	18.0	20.1
380 x 380 x 157	W	30 x 15 x 211	157.0	393.0	384.0	19.7	33.4
380 x 380 x 175	W	30 x 15 x 235	175.0	397.5	382.0	21.1	38.1
380 x 380 x 195	W	30 x 15 x 261	194.5	401.5	385.0	23.6	41.9
380 x 380 x 217	W	30 x 15 x 292	217.0	406.5	387.0	25.9	47.0
380 x 380 x 242	W	30 x 15 x 326	242.0	411.5	390.0	29.0	52.1
380 x 380 x 266	W	30 x 15 x 357	265.5	416.5	393.0	31.5	56.9
380 x 380 x 291	W	30 x 15 x 391	291.0	421.5	396.0	34.5	62.0
420 x 292 x 88	UB	838 x 292 x 176	88.0	417.5	291.7	14.0	18.8
420 x 292 x 88	W	33 x 11.5 x 118	88.0	417.5	292.0	14.0	18.8
420 x 292 x 97	W	33 x 11.5 x 130	96.5	420.0	292.0	14.7	21.7
420 x 292 x 97	UB	838 x 292 x 194	96.9	420.4	292.4	14.7	21.7
420 x 292 x 105	W	33 x 11.5 x 141	105.0	423.0	293.0	15.4	24.4
420 x 292 x 113	W	33 x 11.5 x 152	113.0	425.5	294.0	16.1	26.8
420 x 292 x 113	UB	838 x 292 x 226	113.3	425.5	293.8	16.1	26.8
420 x 292 x 126	W	33 x 11.5 x 169	125.5	429.5	292.0	17.0	31.0
420 x 388 x 150	W	33 x 15.25 x 201	149.5	427.5	400.0	18.2	29.2
420 x 388 x 165	W	33 x 15.25 x 221	164.5	431.0	401.0	19.7	32.4
420 x 388 x 180	W	33 x 15.25 x 241	179.5	434.0	403.0	21.1	35.6
420 x 388 x 196	W	33 x 15.25 x 263	196.0	438.5	401.0	22.1	39.9
420 x 388 x 217	W	33 x 15.25 x 291	216.5	442.5	404.0	24.4	43.9
420 x 388 x 237	W	33 x 15.25 x 318	236.5	446.5	406.0	26.4	48.0
420 x 388 x 264	W	33 x 15.25 x 354	263.5	451.5	409.0	29.5	53.1
420 x 388 x 288	W	33 x 15.25 x 387	288.0	456.5	411.0	32.0	57.9
460 x 305 x 100	UB	914 x 305 x 201	100.5	451.5	303.3	15.1	20.2

Special conditions may apply, please contact our sales consultants
* Based on other specification

Tee Beam

Dimension : BS 4-1:2005 & ASTM A6/A6M-09
Tolerance: EN 10034:1993 & ASTM A6/A6M-09

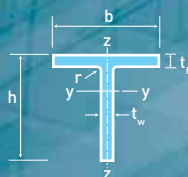


Designation				Mass/ Depth Width		Thickness		Radius	
W : Wide Flange Beams/Column				Unit					
UB/UC: Universal Beam/Column				Length					
UBP : Universal Bearing Pile									
				h	b	t _w	t _f	r	
				kg/m	mm	mm	mm	mm	mm
Cut from Section Designation									
h	b	t		h	b	t			
460 x 305 x 101	W	36 x 12 x 135		100.5	451.5	304.0	15.2	20.1	19.0
460 x 305 x 112	W	36 x 12 x 150		111.5	455.5	304.0	15.9	23.9	19.0
460 x 305 x 112	UB	914 x 305 x 224		112.1	455.2	304.1	15.9	23.9	19.1
460 x 305 x 119	W	36 x 12 x 160		119.0	457.5	305.0	16.5	25.9	19.0
460 x 305 x 127	W	36 x 12 x 170		126.5	459.5	306.0	17.3	27.9	19.0
460 x 305 x 127	UB	914 x 305 x 253		126.7	459.2	305.5	17.3	27.9	19.1
460 x 305 x 136	W	36 x 12 x 182		135.5	461.5	307.0	18.4	30.0	19.0
460 x 305 x 145	W	36 x 12 x 194		144.5	463.5	308.0	19.4	32.0	19.0
460 x 305 x 145	UB	914 x 305 x 289		144.6	463.3	307.7	19.5	32.0	19.1
460 x 305 x 157	W	36 x 12 x 210		156.5	466.0	309.0	21.1	34.5	19.0
460 x 305 x 173	W	36 x 12 x 232		172.5	471.5	308.0	22.1	39.9	19.0
460 x 305 x 191	W	36 x 12 x 256		190.5	475.5	310.0	24.4	43.9	19.0
460 x 305 x 213	W	36 x 12 x 286 *		212.5	480.5	313.0	26.9	48.0	19.0
460 x 305 x 237	W	36 x 12 x 318 *		237.0	485.5	316.0	30.0	54.1	19.0
460 x 305 x 261	W	36 x 12 x 350 *		260.5	490.5	319.0	33.0	58.9	19.0
460 x 305 x 288	W	36 x 12 x 387 *		288.0	496.5	322.0	36.1	65.0	19.0
460 x 419 x 172	UB	914 x 419 x 343		171.7	455.9	418.5	19.4	32.0	24.1
460 x 419 x 172	W	36 x 16.5 x 231		172.0	463.5	418.0	19.3	32.0	19.0
460 x 419 x 184	W	36 x 16.5 x 247		184.0	465.5	419.0	20.3	34.3	19.0
460 x 419 x 194	UB	914 x 419 x 388		194.0	460.5	420.5	21.4	36.6	24.1
460 x 419 x 195	W	36 x 16.5 x 262		195.0	468.0	420.0	21.3	36.6	19.0
460 x 419 x 210	W	36 x 16.5 x 282		210.0	471.5	422.0	22.5	39.9	19.0
460 x 419 x 225	W	36 x 16.5 x 302		224.5	474.0	423.0	24.0	42.7	19.0
460 x 419 x 246	W	36 x 16.5 x 330		245.5	478.5	422.0	25.9	47.0	19.0
460 x 419 x 269	W	36 x 16.5 x 361		268.5	482.5	425.0	28.4	51.1	19.0
460 x 419 x 294	W	36 x 16.5 x 395		294.0	487.5	427.0	31.0	55.9	19.0

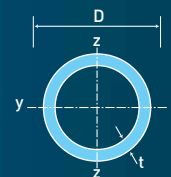
Designation				Mass/ Depth Width		Thickness		Radius	
W : Wide Flange Beams/Column				Unit					
UB/UC: Universal Beam/Column				Length					
UBP : Universal Bearing Pile									
				h	b	t _w	t _f	r	
				kg/m	mm	mm	mm	mm	mm
Cut from Section Designation									
h	b	t		h	b	t			
460 x 419 x 328	W	36 x 16.5 x 441		328.0	493.5	431.0	34.5	62.0	19
460 x 419 x 363	W	36 x 16.5 x 487		362.5	499.5	434.0	38.1	68.1	19
460 x 419 x 394	W	36 x 16.5 x 529		393.5	505.5	437.0	40.9	73.9	19
460 x 419 x 485	W	36 x 16.5 x 652		485.0	521.5	446.0	50.0	89.9	19
460 x 419 x 539	W	36 x 16.5 x 723 *		538.5	530.7	451.0	55.0	99.1	19
460 x 419 x 597	W	36 x 16.5 x 802 *		597.0	540.6	457.0	60.5	109.0	19
460 x 419 x 635	W	36 x 16.5 x 853 *		634.5	546.7	461.0	64.0	115.1	19
460 x 419 x 689	W	36 x 16.5 x 925 *		688.5	546.7	473.0	76.7	115.1	19
508 x 305 x 111	UB	1016x 305 x 222 *		111.0	485.2	300.0	16.0	21.1	30
508 x 305 x 111	W	40 x 12 x 149		111.0	485.0	300.0	16.0	21.1	30
508 x 305 x 124	UB	1016x 305 x 249 *		124.4	490.1	300.0	16.5	26.0	30
508 x 305 x 125	W	40 x 12 x 167		124.5	490.0	300.0	16.5	26.0	30
508 x 305 x 136	W	40 x 12 x 183		136.0	495.0	300.0	16.5	31.0	30
508 x 305 x 136	UB	1016x 305 x 272 *		136.2	495.1	300.0	16.5	31.0	30
508 x 305 x 157	W	40 x 12 x 211		157.0	500.0	300.0	19.1	35.9	30
508 x 305 x 157	UB	1016x 305 x 314 *		157.2	500.0	300.0	19.1	35.9	30
508 x 305 x 175	UB	1016x 305 x 349 *		174.7	504.1	302.0	21.1	40.0	30
508 x 305 x 175	W	40 x 12 x 235		175.0	504.0	302.0	21.1	40.0	30
508 x 305 x 196	UB	1016x 305 x 393 *		196.4	508.0	303.0	24.4	43.9	30
508 x 305 x 197	W	40 x 12 x 264		196.5	508.0	303.0	24.4	43.9	30
508 x 305 x 208	W	40 x 12 x 278		207.5	510.0	304.0	26.0	46.0	30
508 x 305 x 219	UB	1016x 305 x 437 *		218.5	513.1	305.4	26.9	49.0	30
508 x 305 x 219	W	40 x 12 x 294		219.0	513.0	305.0	26.9	49.0	30
508 x 305 x 243	W	40 x 12 x 327		243.0	518.0	308.0	30.0	54.1	30
508 x 305 x 243	UB	1016x 305 x 487 *		243.4	518.2	308.5	30.0	54.1	30
508 x 305 x 247	W	40 x 12 x 331		247.0	518.0	309.0	31.0	54.0	30

Special conditions may apply, please contact our sales consultants
* Based on other specification

Dimension : BS 4-1:2005 & ASTM A6/A6M-09
Tolerance: EN 10034:1993 & ASTM A6/A6M-09



Dimension : EN 10210-2:2006
Tolerance : EN 10210-2:2006



W : Wide Flange Beams/Column
UB/UC : Universal Beam/Column
UBP : Universal Bearing Pile

	h	b	t_w	t_f	r
kg/m	mm	mm	mm	mm	mm

			Cut from Section Designation									
h	b	t		h	b	t						
508 x 305 x 292	W	40	x	12	x	392	292.0	528	314	36.0	64.0	30
508 x 203 x 148	W	40	x	16	x	199	148.0	491	400	16.5	27.1	30
508 x 203 x 161	W	40	x	16	x	215	160.5	495	400	16.5	31.0	30
508 x 203 x 186	W	40	x	16	x	249	185.5	500	400	19.0	36.1	30
508 x 203 x 206	W	40	x	16	x	277	206.0	504	402	21.1	40.0	30
508 x 203 x 222	W	40	x	16	x	297	221.5	506	402	23.6	41.9	30
508 x 203 x 242	W	40	x	16	x	324	241.5	510	404	25.4	46.0	30
508 x 203 x 270	W	40	x	16	x	362	269.5	515	407	28.4	51.1	30
508 x 203 x 277	W	40	x	16	x	372	277.0	516	408	29.5	52.0	30
508 x 203 x 296	W	40	x	16	x	397	295.5	520	409	31.0	55.9	30
508 x 203 x 321	W	40	x	16	x	431	321.0	524	412	34.0	60.0	30
508 x 203 x 374	W	40	x	16	x	503	374.0	534	417	39.0	70.0	30
508 x 203 x 442	W	40	x	16	x	593	441.5	546	424	45.5	82.0	30
508 x 203 x 488	W	40	x	16	x	655 *	488.0	554	428	50.0	89.9	30
560 x 203 x 172	W	44	x	16	x	230	171.5	545	400	18.0	31.0	20
560 x 203 x 195	W	44	x	16	x	262	195.0	550	400	20.0	36.0	20
560 x 203 x 217	W	44	x	16	x	290	216.5	554	402	22.0	40.0	20
560 x 203 x 250	W	44	x	16	x	335	249.5	559	405	26.0	45.0	20

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Sectional
Area

D	t			A
mm	mm		kg/m	cm²
21.3	2.3	c	1.08	1.37
21.3	2.6	c	1.20	1.53
21.3	2.9	c*	1.32	1.32
21.3	3.2	c	1.43	1.82
26.9	2.3	c	1.40	1.78
26.9	2.6	c	1.56	1.98
26.9	2.9	c*	1.72	2.19
26.9	3.2	c	1.87	2.38
33.7	2.6	c	1.99	2.54
33.7	2.9	c*	2.20	2.81
33.7	3.2	c	2.41	3.07
33.7	3.6	c*	2.67	3.40
33.7	4.0	c	2.93	3.73
33.7	4.5	c*	3.24	4.13
33.7	5.0	c*	3.54	4.51
42.4	2.6	c	2.55	3.25
42.4	2.9	c*	2.82	3.60
42.4	3.2	c	3.09	3.94
42.4	3.6	c*	3.44	4.39
42.4	4.0		3.79	4.83
42.4	4.5	c*	4.21	5.36
42.4	5.0	c*	4.61	5.87
48.3	2.6	c	2.93	3.73
48.3	2.9	c*	3.25	4.14
48.3	3.2	c	3.56	4.53
48.3	3.6	c*	3.97	5.06
48.3	4.0	c*	4.37	5.57
48.3	4.5	c*	4.86	6.19

* Based on other specification

* Based on other specification

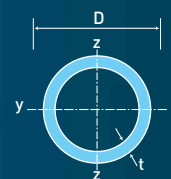
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Hot Finished Circular Hollow Section

Dimension : EN 10210-2:2006

Tolerance : EN 10210-2:2006



Hot Finished Circular Hollow Section

Outside Diameter	Thickness		Mass / Unit Length	Sectional Area
D	t		kg/m	A
mm	mm			cm ²
48.3	5.0		5.34	6.80
48.3	5.6	c*	5.90	7.51
48.3	6.3	c*	6.53	8.31
60.3	2.5	c	3.56	4.54
60.3	2.6	c	3.70	4.71
60.3	2.9	c*	4.11	5.23
60.3	3.2	c	4.51	5.74
60.3	3.6	c*	5.03	6.41
60.3	4.0		5.55	7.07
60.3	4.5	c*	6.19	7.89
60.3	5.0		6.82	8.69
60.3	5.6	c*	7.55	9.62
60.3	6.3	c*	8.39	10.70
60.3	8.0	c*	10.30	13.10
76.1	2.6	c	4.71	6.00
76.1	2.9	c*	5.24	6.67
76.1	3.2	c	5.75	7.33
76.1	3.6	c*	6.44	8.20
76.1	4.0		7.11	9.06
76.1	4.5	c*	7.95	10.10
76.1	5.0		8.77	11.20
76.1	5.6	c*	9.74	12.40
76.1	6.3	*	10.80	13.80
76.1	8.0	c*	13.40	17.10
88.9	2.9	c*	6.15	7.84
88.9	3.2	c	6.76	8.62
88.9	3.6	c*	7.57	9.65
88.9	4.0		8.38	10.70

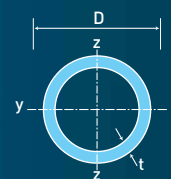
Outside Diameter	Thickness		Mass / Unit Length	Sectional Area
D	t		kg/m	A
mm	mm			cm ²
88.9	4.5	c*	9.37	11.90
88.9	5.0		10.30	13.20
88.9	5.6	c*	11.50	14.70
88.9	6.3		12.80	16.30
88.9	8.0	c*	16.00	20.30
88.9	10.0	c*	19.50	24.80
101.6	3.2	c	7.77	9.89
101.6	3.6	c*	8.70	11.10
101.6	4.0	c	9.63	12.30
101.6	4.5	c	10.80	13.70
101.6	5.0	c	11.90	15.20
101.6	5.6	c*	13.30	16.90
101.6	6.3	c	14.80	18.90
101.6	8.0	c	18.50	23.50
101.6	10.0	c	22.60	28.80
114.3	3.2	c	8.77	11.20
114.3	3.6	c*	9.83	12.50
114.3	4.0		10.90	13.90
114.3	5.0		13.50	17.20
114.3	6.3		16.80	21.40
114.3	8.0		21.00	26.70
114.3	10.0	c	25.70	32.80
139.7	3.2	c*	10.80	13.70
139.7	3.6	c*	12.10	15.40
139.7	4.0		13.40	17.10
139.7	5.0		16.60	21.20
139.7	5.6	c*	18.50	23.60
139.7	6.3		20.70	26.40

Hot Finished Circular Hollow Section

^c Special conditions may apply, please contact our sales consultants
^{*} Based on other specification

Hot Finished Circular Hollow Section

Dimension : EN 10210-2:2006
Tolerance : EN 10210-2:2006



Hot Finished Circular Hollow Section

Outside Diameter	Thickness	Mass / Unit Length	Sectional Area
D	t		A
mm	mm	kg/m	cm ²
139.7	8.0	26.0	33.1
139.7	10.0	32.0	40.7
139.7	12.5	c	50.0
168.3	4.0	16.2	20.6
168.3	5.0	20.1	25.7
168.3	5.6	c*	28.6
168.3	6.3	25.2	32.1
168.3	8.0	31.6	40.3
168.3	10.0	39.0	49.7
168.3	12.5	48.0	61.2
177.8	5.0	c	27.1
177.8	6.3	c	33.9
177.8	8.0	c	42.7
177.8	10.0	c	52.7
177.8	12.5	c	64.9
193.7	5.0	23.3	29.6
193.7	5.6	c*	33.0
193.7	6.3	29.1	37.1
193.7	8.0	36.6	46.7
193.7	10.0	45.3	57.7
193.7	12.5	55.9	71.2
193.7	14.2	c	80.1
193.7	16.0	c	89.3
219.1	4.5	c*	30.3
219.1	5.0	26.4	33.6
219.1	5.6	29.5	37.6
219.1	6.3	33.1	42.1
219.1	8.0	41.6	53.1

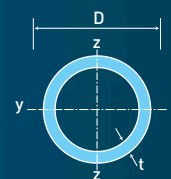
Outside Diameter	Thickness	Mass / Unit Length	Sectional Area
D	t		A
mm	mm	kg/m	cm ²
219.1	10.0	51.6	65.7
219.1	12.5	63.7	81.1
219.1	14.2	c	91.4
219.1	16.0	c	102.0
219.1	20.0	c	125.0
244.5	5.0	29.5	37.6
244.5	5.6	c*	42.0
244.5	6.3	37.0	47.1
244.5	8.0	46.7	59.4
244.5	10.0	57.8	73.7
244.5	12.5	71.5	91.1
244.5	14.2	c	102.7
244.5	16.0	c	115.0
244.5	20.0	c	141.0
244.5	25.0	c	172.0
273.0	5.0	c	42.1
273.0	5.6	c*	47.0
273.0	6.3	41.4	52.8
273.0	8.0	52.3	66.6
273.0	10.0	64.9	82.6
273.0	12.5	80.3	102.0
273.0	14.2	c	115.0
273.0	16.0	c	129.0
273.0	20.0	c	159.0
273.0	25.0	c	195.0
323.9	5.0	39.3	50.1
323.9	5.6	c*	44.0
323.9	6.3	49.3	62.9

Hot Finished Circular Hollow Section

^c Special conditions may apply, please contact our sales consultants
^{*} Based on other specification

Hot Finished Circular Hollow Section

Dimension : EN 10210-2:2006
Tolerance : EN 10210-2:2006



Hot Finished Circular Hollow Section

Outside Diameter	Thickness	Mass / Unit Length	Sectional Area
D	t		A
mm	mm	kg/m	cm ²
323.9	8.0	62.3	79.4
323.9	10.0	77.4	98.6
323.9	12.5	96.0	122.0
323.9	14.2	c	108.5
323.9	16.0	c	121.0
323.9	20.0	c	150.0
323.9	25.0	c	184.0
355.6	6.3	54.3	69.1
355.6	8.0	68.6	87.4
355.6	10.0	85.2	109.0
355.6	12.5	106.0	135.0
355.6	14.2	c	120.0
355.6	16.0	c	134.0
355.6	20.0	c	166.0
355.6	25.0	c	204.0
406.4	6.3	62.2	79.2
406.4	8.0	78.6	100.0
406.4	10.0	97.8	125.0
406.4	12.5	121.0	155.0
406.4	14.2	c	137.0
406.4	16.0	c	154.0
406.4	20.0	c	191.0
406.4	25.0	c	235.0
406.4	30.0	c	278.0
406.4	40.0	c	361.0
457.0	6.3	c	70.0
457.0	8.0	c	88.6
457.0	10.0	c	110.0

Outside Diameter	Thickness	Mass / Unit Length	Sectional Area
D	t		A
mm	mm	kg/m	cm ²
457	12.5	c	137.0
457	14.2	c	155.0
457	16.0	c	174.0
457	20.0	c	216.0
457	25.0	c	266.0
457	30.0	c	316.0
457	40.0	c	411.0
508	6.3	c	77.9
508	8.0		98.6
508	10.0		123.0
508	12.5		153.0
508	14.2	c	173.0
508	16.0	c	194.0
508	20.0	c	241.0
508	25.0	c	298.0
508	30.0	c	354.0
508	40.0	c	462.0
508	50.0	c	565.0
610	6.3		93.8
610	8.0		119.0
610	10.0		148.0
610	12.5		184.0
610	14.2	c	209.0
610	16.0	c	234.0
610	20.0	c	291.0
610	25.0	c	361.0
610	30.0	c	429.0
610	40.0	c	562.0

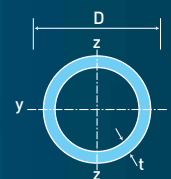
Hot Finished Circular Hollow Section

^c Special conditions may apply, please contact our sales consultants
* Based on other specification

Hot Finished Circular Hollow Section

Dimension : EN 10210-2:2006

Tolerance : EN 10210-2:2006



Hot Finished Circular Hollow Section

Outside Diameter	Thickness		Mass / Unit Length	Sectional Area
D	t		kg/m	A
mm	mm			cm ²
610	50.0	c	691	880
711	6.3	c	109	139
711	8.0	c	139	177
711	10.0	c	173	220
711	12.5	c	215	274
711	14.2	c	244	311
711	16.0	c	274	349
711	20.0	c	341	434
711	25.0	c	423	539
711	30.0	c	504	642
711	40.0	c	662	843
711	50.0	c	815	1038
711	60.0	c	963	1227
762	6.3	c	117	150
762	8.0	c	149	190
762	10.0	c	185	236
762	12.5	c	231	294
762	14.2	c	262	334
762	16.0	c	294	375
762	20.0	c	366	466
762	25.0	c	454	579
762	30.0	c	542	690
762	40.0	c	712	907
762	50.0	c	878	1118
813	8.0	c	159	252
813	10.0	c	198	314
813	12.5	c	247	356
813	14.2	c	280	356

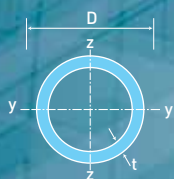
Outside Diameter	Thickness		Mass / Unit Length	Sectional Area
D	t		kg/m	A
mm	mm			cm ²
813	16.0	c	314	401
813	20.0	c	391	498
813	25.0	c	486	619
813	30.0	c	579	738
914	8.0	c	179	228
914	10.0	c	223	284
914	12.5	c	278	354
914	14.2	c	315	401
914	16.0	c	354	451
914	20.0	c	441	562
914	25.0	c	548	698
914	30.0	c	654	833
1016	8.0	c	199	253
1016	10.0	c	248	316
1016	12.5	c	309	394
1016	14.2	c	351	447
1016	16.0	c	395	503
1016	20.0	c	491	626
1016	25.0	c	611	778
1016	30.0	c	729	929
1067	10.0	c	261	332
1067	12.5	c	325	414
1067	14.2	c	369	470
1067	16.0	c	415	528
1067	20.0	c	516	658
1067.0	25.0	c	642	818
1067.0	30.0	c	767	977
1168.0	10.0	c	286	364

Hot Finished Circular Hollow Section

^c Special conditions may apply, please contact our sales consultants
^{*} Based on other specification

Hot Finished Circular Hollow Section

Dimension : EN 10210-2:2006
Tolerance : EN 10210-2:2006



Outside Diameter	Thickness	Mass / Unit Length	Sectional Area
D	t	kg/m	A
mm	mm		cm ²
1168	12.5 c	356	454
1168	14.2 c	404	515
1168	16.0 c	455	579
1168	20.0 c	566	721
1168	25.0 c	705	898
1219	10.0 c	298	380
1219	12.5 c	372	474
1219	14.2 c	422	537
1219	16.0 c	475	605
1219	20.0 c	591	753
1219	25.0 c	736	938

Hot Finished Circular Hollow Section

Hot Finished Square and Rectangular Hollow Section

Dimension : EN 10210-2:2006
Tolerance : EN 10210-2:2006

Dimension	Thickness	Mass / Unit Length	Sectional Area
h b	t	kg/m	A
mm mm	mm		cm ²
20 x 20	2.0 c+	1.10	1.40
20 x 20	2.5 c+	1.32	1.68
25 x 25	2.0 c+	1.41	1.80
25 x 25	2.5 c+	1.71	2.18
25 x 25	3.0 c+	2.00	2.54
25 x 25	3.2 c+	2.15	2.68
30 x 30	2.0 c+	1.72	2.20
30 x 30	2.5 c+	2.11	2.68
30 x 30	3.0 c+	2.47	3.14
40 x 40	2.5 c+	2.89	3.68
40 x 40	2.6 c	3.00	3.82
40 x 40	3.0 c+	3.41	4.34
40 x 40	3.2 c	3.61	4.60
40 x 40	3.6 c*	4.01	5.10
40 x 40	4.0	4.39	5.59
40 x 40	5.0	5.28	6.73
50 x 25	2.5 c+	2.69	3.43
50 x 25	3.0 c+	3.00	4.04
50 x 30	2.5 c+	2.89	3.68
50 x 30	2.6 c	3.00	3.82
50 x 30	3.0 c+	3.41	4.34
50 x 30	3.2 c	3.61	4.60
50 x 30	3.6 c*	4.01	5.10
50 x 30	4.0 c	4.39	5.59
50 x 30	5.0 c	5.28	6.73
50 x 50	2.5 c+	3.68	4.68
50 x 50	2.6 c	3.81	4.86
50 x 50	3.0 c+	4.35	5.54

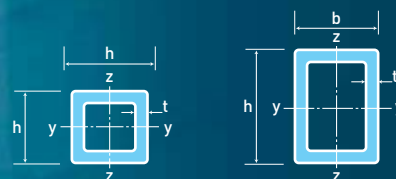
Hot Finished Square and Rectangular Hollow Section

c Special conditions may apply, please contact our sales consultants
* Based on other specification

c Special conditions may apply, please contact our sales consultants
* Based on other specification
+ Based on EN 10210-2:1997

Hot Finished Square and Rectangular Hollow Section

Dimension : EN 10210-2:2006
Tolerance : EN 10210-2:2006



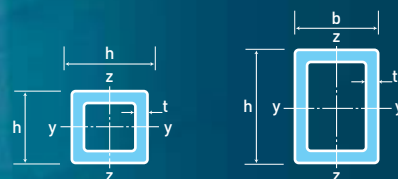
Dimension		Thickness	Mass / Unit Length	Sectional Area
h	b	t	kg/m	A
mm	mm	mm		cm ²
50	x	50	3.2 c	5.88
50	x	50	3.6 c*	6.54
50	x	50	4.0	7.19
50	x	50	5.0	8.73
50	x	50	6.0 c+	10.20
50	x	50	6.3	10.60
50	x	50	7.1 c*	11.60
50	x	50	8.0 c*	12.80
60	x	40	2.5 c+	4.68
60	x	40	2.6 c	4.86
60	x	40	3.0 c+	5.54
60	x	40	3.2 c	5.88
60	x	40	3.6 c*	6.54
60	x	40	4.0	7.19
60	x	40	5.0	8.73
60	x	40	6.0 c+	10.20
60	x	40	6.3 c	10.60
60	x	60	2.6 c	5.90
60	x	60	3.0 c+	6.74
60	x	60	3.2 c	7.16
60	x	60	3.6 c*	7.96
60	x	60	4.0	8.79
60	x	60	5.0	10.70
60	x	60	6.0 c+	12.60
60	x	60	6.3	13.10
60	x	60	7.1 c*	14.50
60	x	60	8.0 c	16.00
70	x	70	3.0 c+	6.24
70	x	70	3.2 c	6.63
70	x	70	3.6 c*	7.40
70	x	70	4.0 c	8.15
70	x	70	5.0	9.99
70	x	70	6.0 c+	11.80
70	x	70	6.3	12.30
70	x	70	7.1 c*	13.60
70	x	70	8.0 c	15.00
70	x	70	8.8 c*	16.30
80	x	40	3.0 c+	5.29
80	x	40	3.2 c	5.62
80	x	40	3.6 c*	6.27
80	x	40	4.0 c	6.90
80	x	40	5.0	8.42
80	x	40	6.0 c+	9.87
80	x	40	6.3	10.30
80	x	40	7.1 c*	11.40
80	x	40	8.0 c	12.50
80	x	80	3.0 c+	7.18
80	x	80	3.2 c	7.63
80	x	80	3.6 c*	8.53
80	x	80	4.0 c	9.41
80	x	80	5.0	11.60
80	x	80	6.0 c+	13.60
80	x	80	6.3	14.20
80	x	80	7.1 c*	15.80
80	x	80	8.0	17.50
80	x	80	8.8 c*	19.00

Dimension		Thickness	Mass / Unit Length	Sectional Area
h	b	t	kg/m	A
mm	mm	mm		cm ²
70	x	70	3.2 c	6.63
70	x	70	3.6 c*	7.40
70	x	70	4.0 c	8.15
70	x	70	5.0	9.99
70	x	70	6.0 c+	11.80
70	x	70	6.3	12.30
70	x	70	7.1 c*	13.60
70	x	70	8.0 c	15.00
70	x	70	8.8 c*	16.30
80	x	40	3.0 c+	5.29
80	x	40	3.2 c	5.62
80	x	40	3.6 c*	6.27
80	x	40	4.0 c	6.90
80	x	40	5.0	8.42
80	x	40	6.0 c+	9.87
80	x	40	6.3	10.30
80	x	40	7.1 c*	11.40
80	x	40	8.0 c	12.50
80	x	80	3.0 c+	7.18
80	x	80	3.2 c	7.63
80	x	80	3.6 c*	8.53
80	x	80	4.0 c	9.41
80	x	80	5.0	11.60
80	x	80	6.0 c+	13.60
80	x	80	6.3	14.20
80	x	80	7.1 c*	15.80
80	x	80	8.0	17.50
80	x	80	8.8 c*	19.00

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+ Based on EN 10210-2:1997

Hot Finished Square and Rectangular Hollow Section

Dimension : EN 10210-2:2006
Tolerance : EN 10210-2:2006



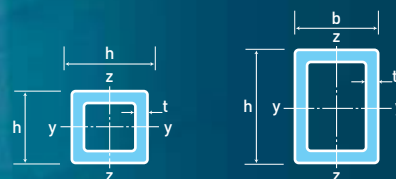
Dimension		Thickness		Mass / Unit Length		Sectional Area
h	b	t				A
mm	mm	mm			kg/m	cm ²
80	x	80	10.0	c*	21.10	26.90
80	x	80	12.5	c*	25.20	32.10
90	x	50	3.0	c+	6.24	7.94
90	x	50	3.2	c	6.63	8.44
90	x	50	3.6	c*	7.40	9.42
90	x	50	4.0	c	8.15	10.40
90	x	50	5.0	c	9.99	12.70
90	x	50	6.0	c+	11.8	15.00
90	x	50	6.3	c	12.30	15.60
90	x	50	7.1	c*	13.60	17.30
90	x	50	8.0	c	15.00	19.20
90	x	90	3.6	c*	9.66	12.30
90	x	90	4.0	c	10.70	13.60
90	x	90	5.0		13.10	16.70
90	x	90	6.0	c+	15.50	19.80
90	x	90	6.3		16.20	20.70
90	x	90	7.1	c*	18.10	23.00
90	x	90	8.0		20.10	25.60
90	x	90	8.8	c*	21.80	27.80
90	x	90	10.0	c*	24.30	30.90
90	x	90	12.5	c*	29.10	37.10
100	x	50	3.0	c+	6.71	8.54
100	x	50	3.2	c	7.13	9.08
100	x	50	3.6	c*	7.96	10.10
100	x	50	4.0		8.78	11.20
100	x	50	5.0		10.80	13.70
100	x	50	6.0	c+	12.70	16.20
100	x	50	6.3		13.30	16.90

Dimension			Thickness		Mass / Unit Length	Sectional Area
h		b	t			A
mm		mm	mm		kg/m	cm ²
100	x	50	7.1	c*	14.70	18.70
100	x	50	8.0	c	16.30	20.80
100	x	50	8.8	c*	17.60	22.50
100	x	50	10.0	c*	19.60	24.90
100	x	60	3.0	c+	7.18	9.14
100	x	60	3.2	c	7.63	9.72
100	x	60	3.6	c*	8.53	10.90
100	x	60	4.0		9.41	12.00
100	x	60	5.0		11.60	14.70
100	x	60	6.3		14.20	18.10
100	x	60	7.1	c*	15.80	20.20
100	x	60	8.0	c	17.50	22.40
100	x	60	8.8	c*	19.00	24.20
100	x	60	10.0	c*	21.10	26.90
100	x	100	3.6	c*	10.80	13.70
100	x	100	4.0		11.90	15.20
100	x	100	5.0		14.70	18.70
100	x	100	6.0	c+	17.40	22.20
100	x	100	6.3		18.20	23.20
100	x	100	7.1	c*	20.30	25.80
100	x	100	8.0		22.60	28.80
100	x	100	8.8	c*	24.50	31.30
100	x	100	10.0		27.40	34.90
100	x	100	12.5	c*	33.00	42.10
120	x	60	3.0	c*	8.12	10.30
120	x	60	3.2	c*	8.64	11.00
120	x	60	3.6	c*	9.66	12.30
120	x	60	4.0	c	10.70	13.60

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Hot Finished Square and Rectangular Hollow Section

Dimension : EN 10210-2:2006
Tolerance : EN 10210-2:2006



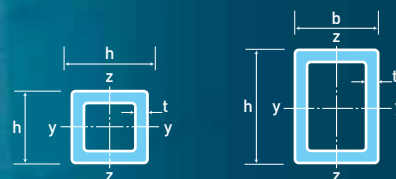
Dimension		Thickness	Mass / Unit Length	Sectional Area
h	b	t		A
mm	mm	mm	kg/m	cm ²
120	x 60	5.0	13.1	16.7
120	x 60	6.0 c+	15.5	19.8
120	x 60	6.3	16.2	20.7
120	x 60	7.1 c*	18.1	23.0
120	x 60	8.0 c	20.1	25.6
120	x 60	8.8 c*	21.8	27.8
120	x 60	10.0 c	24.3	30.9
120	x 60	12.5 c*	29.1	37.1
120	x 80	3.6 c*	10.8	13.7
120	x 80	4.0	11.9	15.2
120	x 80	5.0	14.7	18.7
120	x 80	6.0 c+	17.4	22.2
120	x 80	6.3	18.2	23.2
120	x 80	7.1 c*	20.3	25.8
120	x 80	8.0	22.6	28.8
120	x 80	8.8 c*	24.5	31.3
120	x 80	10.0 c	27.4	34.9
120	x 80	12.5 c*	33.0	42.1
120	x 120	4.0 c*	14.4	18.4
120	x 120	5.0	17.8	22.7
120	x 120	6.0 c+	21.2	27.0
120	x 120	6.3	22.2	28.2
120	x 120	8.0	27.6	35.2
120	x 120	8.8 c*	30.1	38.3
120	x 120	10.0 c	33.7	42.9
120	x 120	12.5 c	40.9	52.1
140	x 80	4.0 c	13.2	16.8
140	x 80	5.0 c	16.3	20.7

Dimension		Thickness	Mass / Unit Length	Sectional Area
h	b	t		A
mm	mm	mm	kg/m	cm ²
140	x 80	6.3 c	20.2	25.7
140	x 80	8.0 c	25.1	32.0
140	x 80	10.0 c	30.6	38.9
140	x 140	5.0 c	21.0	26.7
140	x 140	6.0 c+	24.9	31.8
140	x 140	6.3 c	26.1	33.3
140	x 140	7.1 c*	29.2	37.2
140	x 140	8.0 c	32.6	41.6
140	x 140	8.8 c*	35.6	45.4
140	x 140	10.0 c	40.0	50.9
140	x 140	12.5 c	48.7	62.1
150	x 100	4.0	15.1	19.2
150	x 100	5.0	18.6	23.7
150	x 100	6.0 c+	22.1	28.2
150	x 100	6.3	23.1	29.5
150	x 100	7.1 c*	25.9	32.9
150	x 100	8.0	28.9	36.8
150	x 100	8.8 c*	31.5	40.1
150	x 100	10.0	35.3	44.9
150	x 100	12.0 c+	41.4	52.7
150	x 100	12.5	42.8	54.6
150	x 150	5.0	22.6	28.7
150	x 150	6.0 c+	26.8	34.2
150	x 150	6.3	28.1	35.8
150	x 150	7.1 c*	31.4	40.0
150	x 150	8.0	35.1	44.8
150	x 150	8.8 c*	38.4	48.9
150	x 150	10.0	43.1	54.9

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Hot Finished Square and Rectangular Hollow Section

Dimension : EN 10210-2:2006
Tolerance : EN 10210-2:2006



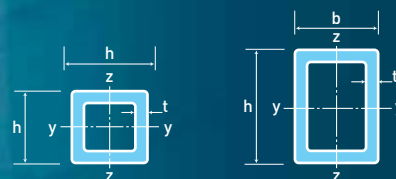
Dimension		Thickness		Mass / Unit Length	Sectional Area
h	b	t			A
mm	mm	mm		kg/m	cm ²
150	x	150	12.5		67.1
150	x	150	14.2	c	75.0
150	x	150	16.0	c	83.0
160	x	80	4.0		18.4
160	x	80	5.0		22.7
160	x	80	6.0	c+	27.0
160	x	80	6.3		28.2
160	x	80	7.1	c*	31.5
160	x	80	8.0		35.2
160	x	80	8.8	c*	38.3
160	x	80	10.0		42.9
160	x	80	12.0	c+	50.3
160	x	80	12.5	c	52.1
160	x	160	5.0	c	30.7
160	x	160	6.3	c	38.3
160	x	160	7.1	c*	42.9
160	x	160	8.0	c	48.0
160	x	160	8.8	c*	52.4
160	x	160	10.0	c	58.9
160	x	160	12.5	c	72.1
160	x	160	14.2	c	80.7
160	x	160	16.0	c	89.4
180	x	60	4.0	c*	18.4
180	x	60	5.0	c*	22.7
180	x	60	6.3	c*	28.2
180	x	60	7.1	c*	31.5
180	x	60	8.0	c*	35.2
180	x	60	8.8	c*	38.3

Dimension			Thickness		Mass / Unit Length	Sectional Area
h		b	t			A
mm		mm	mm		kg/m	cm²
180	x	60	10.0	c*	33.7	42.9
180	x	60	12.5	c*	40.9	52.1
180	x	100	4.0	c	16.9	21.6
180	x	100	5.0	c	21.0	26.7
180	x	100	6.0	c+	24.9	31.8
180	x	100	6.3	c	26.1	33.3
180	x	100	7.1	c*	29.2	37.2
180	x	100	8.0	c	32.6	41.6
180	x	100	8.8	c*	35.6	44.8
180	x	100	10.0	c	40.0	50.9
180	x	100	12.0	c+	47.0	59.9
180	x	100	12.5	c	48.7	62.1
180	x	180	5.0	c	27.3	34.7
180	x	180	6.0	c+	32.5	41.4
180	x	180	6.3	c	34.0	43.3
180	x	180	7.1	c*	38.1	48.6
180	x	180	8.0	c	42.7	54.4
180	x	180	8.8	c*	46.7	59.4
180	x	180	10.0	c	52.5	66.9
180	x	180	12.5	c	64.4	82.1
180	x	180	14.2	c	72.2	92.0
180	x	180	16.0	c	80.2	102.0
200	x	100	4.0		18.2	23.2
200	x	100	5.0		22.6	28.7
200	x	100	6.0	c+	26.8	34.2
200	x	100	6.3		28.1	35.8
200	x	100	7.1	c*	31.4	40.0
200	x	100	8.0		35.1	44.8

^c Special conditions may apply, please contact our sales consultants
* Based on other specification
+ Based on EN 10210-2:1997

Hot Finished Square and Rectangular Hollow Section

Dimension : EN 10210-2:2006
Tolerance : EN 10210-2:2006



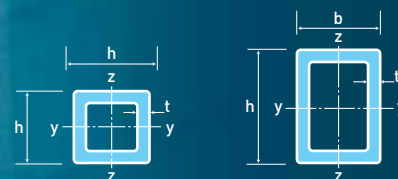
Dimension		Thickness		Mass / Unit Length	Sectional Area	
h	b	t			A	
mm	mm	mm		kg/m	cm ²	
200	x	100	8.8	c*	38.4	48.9
200	x	100	10.0		43.1	54.9
200	x	100	12.0	c+	50.8	64.7
200	x	100	12.5		52.7	67.1
200	x	100	14.2	c*	58.9	75.0
200	x	100	16.0	c	65.2	83.0
200	x	120	5.0	c*	24.1	30.7
200	x	120	6.3	c	30.1	38.3
200	x	120	7.1	c*	33.7	42.9
200	x	120	8.0	c	37.6	48.0
200	x	120	8.8	c*	41.1	52.4
200	x	120	10.0	c	46.3	58.9
200	x	120	12.5	c	56.6	72.1
200	x	120	14.2	c*	63.3	80.7
200	x	120	16.0	c*	70.2	89.4
200	x	150	5.0	c*	26.5	33.7
200	x	150	6.3	c*	33.0	42.1
200	x	150	7.1	c*	37.0	47.1
200	x	150	8.0	c*	41.4	52.8
200	x	150	8.8	c*	45.3	57.7
200	x	150	10.0	c*	51.0	64.9
200	x	150	12.5	c*	62.5	79.6
200	x	150	14.2	c*	70.0	89.2
200	x	150	16.0	c*	77.7	99.0
200	x	200	5.0		30.4	38.7
200	x	200	6.0	c+	36.2	46.2
200	x	200	6.3		38.0	48.4
200	x	200	7.1	c*	42.6	54.2

Dimension			Thickness		Mass / Unit Length	Sectional Area
h		b	t			A
mm		mm	mm		kg/m	cm²
200	x	200	8.0		47.7	60.8
200	x	200	8.8	c*	52.2	66.5
200	x	200	10.0		58.8	74.9
200	x	200	12.5		72.3	92.1
200	x	200	14.2	c	81.1	103.0
200	x	200	16.0	c	90.3	115.0
220	x	120	5.0	c*	25.7	32.7
220	x	120	6.3	c*	32.0	40.8
220	x	120	7.1	c*	35.9	45.7
220	x	120	8.0	c*	40.2	51.2
220	x	120	8.8	c*	43.9	55.9
220	x	120	10.0	c*	49.4	62.9
220	x	120	12.5	c*	60.5	77.1
220	x	120	14.2	c*	67.8	86.3
220	x	120	16.0	c*	75.2	95.8
220	x	220	6.0	c+	40.0	51.0
220	x	220	6.3	c	41.9	53.4
220	x	220	8.0	c	52.7	67.2
220	x	220	10.0	c	65.1	82.9
220	x	220	12.0	c+	77.2	98.3
220	x	220	12.5	c	80.1	102.0
220	x	220	14.2	c	90.1	115.0
220	x	220	16.0	c	108.0	128.0
250	x	100	5.0	c*	26.5	33.7
250	x	100	6.3	c*	33.0	42.1
250	x	100	7.1	c*	37.0	47.1
250	x	100	8.0	c*	41.4	52.8
250	x	100	8.8	c*	45.3	57.7

^c Special conditions may apply, please contact our sales consultants
* Based on other specification
+ Based on EN 10210-2:1997

Hot Finished Square and Rectangular Hollow Section

Dimension : EN 10210-2:2006
Tolerance : EN 10210-2:2006



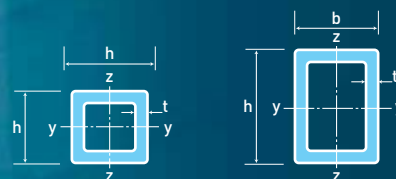
Dimension			Thickness		Mass / Unit Length	Sectional Area
h		b	t			A
mm		mm	mm		kg/m	cm ²
250	x	100	10.0	c*	51.0	64.9
250	x	100	12.5	c*	62.5	79.6
250	x	100	14.2	c*	70.0	89.2
250	x	100	16.0	c*	77.0	99.0
250	x	150	5.0	c*	30.4	38.7
250	x	150	6.0	c+	36.2	46.2
250	x	150	6.3		38.0	48.4
250	x	150	7.1	c*	42.6	54.2
250	x	150	8.0		47.7	60.8
250	x	150	8.8	c*	52.2	66.5
250	x	150	10.0		58.8	74.9
250	x	150	12.5		72.3	92.1
250	x	150	14.2	c	81.1	103.0
250	x	150	16.0	c	90.3	115.0
250	x	250	5.0	c*	38.3	49
250	x	250	6.0	c+	45.7	58.2
250	x	250	6.3		47.9	61.0
250	x	250	7.1	c*	53.7	68.4
250	x	250	8.0		60.3	76.8
250	x	250	8.8	c*	66.0	84.1
250	x	250	10.0		74.5	94.9
250	x	250	12.5		91.9	117.0
250	x	250	14.2	c	103.0	132.0
250	x	250	16.0	c	115.0	147.0
260	x	140	5.0	c*	30.4	38.7
260	x	140	6.0	c*	36.2	46.2
260	x	140	6.3	c*	38.0	48.4
260	x	140	7.1	c*	42.6	54.2

Dimension			Thickness		Mass / Unit Length	Sectional Area
h		b	t			A
mm		mm	mm		kg/m	cm²
260	x	140	8.0	c*	47.7	60.8
260	x	140	8.8	c*	52.2	66.5
260	x	140	10.0	c*	58.8	74.9
260	x	140	12.5	c*	72.3	92.1
260	x	140	14.2	c*	81.1	103.0
260	x	140	16.0	c*	90.3	115.0
260	x	180	6.0	c+	40.0	51.0
260	x	180	6.3	c	41.9	53.4
260	x	180	8.0	c	52.7	67.2
260	x	180	10.0	c	65.1	82.9
260	x	180	12.0	c+	77.2	98.3
260	x	180	12.5	c	80.1	102.0
260	x	180	14.2	c	90.1	115.0
260	x	180	16.0	c	100.0	128.0
260	x	260	6.0	c+	47.6	60.6
260	x	260	6.3	c	49.9	63.5
260	x	260	7.1	c*	56.0	71.3
260	x	260	8.0	c	62.8	80.0
260	x	260	8.8	c*	68.8	87.6
260	x	260	10.0	c	77.7	98.9
260	x	260	12.0	c+	92.2	117.0
260	x	260	12.5	c	95.8	122.0
260	x	260	14.2	c	108.0	137.0
260	x	260	16.0	c	120.0	153.0
300	x	100	5.0	c*	30.4	38.7
300	x	100	6.3	c*	38.0	48.4
300	x	100	7.1	c*	42.6	54.2
300	x	100	8.0	c*	47.7	60.8

^c Special conditions may apply, please contact our sales consultants
* Based on other specification
+ Based on EN 10210-2:1997

Hot Finished Square and Rectangular Hollow Section

Dimension : EN 10210-2:2006
Tolerance : EN 10210-2:2006



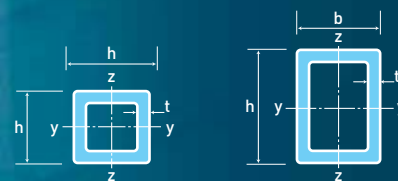
Dimension		Thickness		Mass / Unit Length		Sectional Area
h	b	t		kg/m		A
mm	mm	mm				cm ²
300	x	100	8.8	c*	52.2	66.5
300	x	100	10.0	c*	58.8	74.9
300	x	100	12.5	c*	72.3	92.1
300	x	100	14.2	c*	81.1	103.0
300	x	100	16.0	c*	90.3	115.0
300	x	150	8.0	c*	54.0	68.8
300	x	150	8.8	c*	59.1	75.3
300	x	150	10.0	c*	66.7	84.9
300	x	150	12.5	c*	82.1	105.0
300	x	150	14.2	c*	92.3	118.0
300	x	150	16.0	c*	103.0	131.0
300	x	200	5.0	c*	38.3	49.0
300	x	200	6.0	c+	45.7	58.2
300	x	200	6.3		47.9	61.0
300	x	200	7.1	c*	53.7	68.4
300	x	200	8.0		60.3	76.8
300	x	200	8.8	c*	66.0	84.1
300	x	200	10.0		74.5	94.9
300	x	200	12.5		91.9	117.0
300	x	200	14.2	c	103.0	132.0
300	x	200	16.0	c	115.0	147.0
300	x	250	5.0	c*	42.2	53.7
300	x	250	6.3	c*	52.8	67.3
300	x	250	7.1	c*	59.3	75.5
300	x	250	8.0	c*	66.5	84.8
300	x	250	8.8	c*	72.9	92.9
300	x	250	10.0	c*	82.4	105.0
300	x	250	12.5	c*	102.0	130.0

Dimension		Thickness		Mass / Unit Length		Sectional Area
h	b	t		kg/m		A
mm	mm	mm				cm ²
300	x	250	14.2	c*	115.0	146.0
300	x	250	16.0	c*	128.0	163.0
300	x	300	6.0	c+	55.1	70.2
300	x	300	6.3		57.8	74.0
300	x	300	7.1	c*	64.9	83.0
300	x	300	8.0		72.8	93.0
300	x	300	8.8	c*	79.8	102.0
300	x	300	10.0		90.2	115.0
300	x	300	12.0	c+	107.0	137.0
300	x	300	12.5		112.0	142.0
300	x	300	14.2	c	126.0	160.0
300	x	300	16.0	c	141.0	179.0
340	x	100	10.0	c*	65.1	83.0
350	x	150	5.0	c*	38.3	48.7
350	x	150	6.3	c*	47.9	61.0
350	x	150	7.1	c*	53.7	68.4
350	x	150	8.0	c*	60.3	76.8
350	x	150	8.8	c*	66.0	84.1
350	x	150	10.0	c*	74.5	94.9
350	x	150	12.5	c*	91.9	117.0
350	x	150	14.2	c*	103.0	132.0
350	x	150	16.0	c*	115.0	147.0
350	x	250	6.0	c+	55.1	70.2
350	x	250	6.3	c	57.8	73.6
350	x	250	7.1	c*	64.9	82.6
350	x	250	8.0	c	72.8	92.8
350	x	250	8.8	c*	79.8	102.0
350	x	250	10.0	c	90.2	115.0

^c Special conditions may apply, please contact our sales consultants
* Based on other specification
+ Based on EN 10210-2:1997

Hot Finished Square and Rectangular Hollow Section

Dimension : EN 10210-2:2006
Tolerance : EN 10210-2:2006



Dimension		Thickness		Mass / Unit Length		Sectional Area
h	b	t		kg/m		A
mm	mm	mm				cm ²
350	x	250	12.0	c+	107.0	137.0
350	x	250	12.5	c	112.0	142.0
350	x	250	14.2	c	126.0	160.0
350	x	250	16.0	c	141.0	179.0
350	x	350	8.0		85.4	109.0
350	x	350	8.8	c*	93.6	119.0
350	x	350	10.0		106.0	135.0
350	x	350	12.0	c+	126.0	161.0
350	x	350	12.5		131.0	167.0
350	x	350	14.2	c	148.0	189.0
350	x	350	16.0	c	166.0	211.0
400	x	150	6.3	c*	52.8	67.3
400	x	150	7.1	c*	59.3	75.5
400	x	150	8.0	c*	66.5	84.8
400	x	150	8.8	c*	72.9	92.9
400	x	150	10.0	c*	82.4	105.0
400	x	150	12.5	c*	102.0	130.0
400	x	150	14.2	c*	115.0	146.0
400	x	150	16.0	c*	128.0	163.0
400	x	200	6.3	c*	57.8	73.6
400	x	200	7.1	c*	64.9	82.6
400	x	200	8.0		72.8	92.8
400	x	200	8.8	c*	79.8	102.0
400	x	200	10.0		90.2	115.0
400	x	200	12.0	c+	107.0	137.0
400	x	200	12.5		112.0	142.0
400	x	200	14.2	c	126.0	160.0
400	x	200	16.0	c	141.0	179.0

Dimension		Thickness		Mass / Unit Length		Sectional Area
h	b	t		kg/m		A
mm	mm	mm				cm ²
400	x	300	8.0	c*	85.4	109
400	x	300	8.8	c*	93.6	119
400	x	300	10.0	c*	106.0	135
400	x	300	12.5	c*	131.0	167
400	x	300	14.2	c*	148.0	189
400	x	300	16.0	c*	166.0	211
400	x	400	8.0	*	97.9	125
400	x	400	8.8	c*	107.0	137
400	x	400	10.0		122.0	155
400	x	400	12.0	c+	145.0	185
400	x	400	12.5		151.0	192
400	x	400	14.2	c	170.0	217
400	x	400	16.0	c	191.0	243
400	x	400	20.0	c	235.0	300
450	x	250	8.0		85.4	109
450	x	250	8.8	c*	93.6	119
450	x	250	10.0		106.0	135
450	x	250	12.0	c+	126.0	161
450	x	250	12.5		131.0	167
450	x	250	14.2	c	148.0	189
450	x	250	16.0	c	166.0	211
500	x	200	8.0	c*	85.4	109
500	x	200	8.8	c*	93.6	119
500	x	200	10.0	c*	106.0	135
500	x	200	12.5	c*	131.0	168
500	x	200	14.2	c*	148.0	189
500	x	200	16.0	c*	166.0	213
500	x	300	8.0	c*	97.9	125

^c Special conditions may apply, please contact our sales consultants
* Based on other specification
+ Based on EN 10210-2:1997

Hot Finished Square and Rectangular Hollow Section

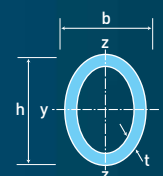
Dimension : EN 10210-2:2006
Tolerance : EN 10210-2:2006

Dimension		Thickness		Mass / Unit Length		Sectional Area
h	b	t				A
mm	mm	mm		kg/m		cm ²
500	x	300	8.8	c*	107	137
500	x	300	10.0	c	122	155
500	x	300	12.0	c+	145	185
500	x	300	12.5	c	151	192
500	x	300	14.2	c	170	217
500	x	300	16.0	c	191	243
500	x	300	20.0	c	235	300

° Special conditions may apply, please contact our sales consultants
* Based on other specification
+ Based on EN 10210-2:1997

Hot Finished Elliptical Hollow Section

Dimension : EN 10210-2:2006
Tolerance : EN 10210-2:2006

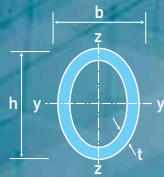


Dimension		Thickness		Mass / Unit Length		Sectional Area
h	b	t				A
mm	mm	mm		kg/m		cm ²
120	x	60	3.2	68.5		8.7
120	x	60	4.0	84.8		10.8
120	x	60	5.0	10.5		13.4
120	x	60	6.0	12.4		15.8
120	x	60	8.0	16.2		20.6
150	x	75	4.0	10.7		13.6
150	x	75	5.0	13.3		16.9
150	x	75	6.0	15.8		20.1
150	x	75	6.3	16.5		21.0
150	x	75	8.0	20.6		26.3
150	x	75	10.0	25.3		32.2
180	x	90	6.0	19.1		24.3
180	x	90	8.0	25.1		31.9
180	x	90	10.0	30.8		39.3
200	x	100	6.3	22.3		28.4
200	x	100	8.0	28.0		35.7
200	x	100	10.0	34.5		44.0
200	x	100	12.5	42.4		54.0
220	x	110	6.0	23.5		30.0
220	x	110	8.0	31.0		39.5
220	x	110	10.0	38.2		48.7
250	x	125	6.0	26.9		34.2
250	x	125	6.3	28.2		35.9
250	x	125	8.0	35.4		45.1
250	x	125	10.0	43.8		55.8
250	x	125	12.0	51.9		66.2
250	x	125	12.5	53.9		68.7
300	x	150	8.0	42.8		54.5

Special conditions may apply, please contact our sales consultants

Hot Finished Elliptical Hollow Section

Dimension : EN 10210-2:2006
Tolerance : EN 10210-2:2006



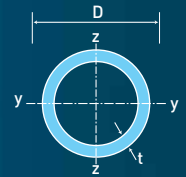
Hot Finished Elliptical Hollow Section

Dimension		Thickness	Mass / Unit Length	Sectional Area
h	b	t		A
mm	mm	mm	kg/m	cm ²
300	x 150	10.0	53.0	67.5
300	x 150	12.5	65.5	83.4
300	x 150	16.0	82.5	105.0
320	x 160	8.0	45.8	58.3
320	x 160	10.0	56.7	72.3
320	x 160	12.0	67.5	86.0
320	x 160	14.0	78.0	99.4
400	x 200	8.0	57.6	73.4
400	x 200	10.0	71.5	91.1
400	x 200	12.0	85.2	109.0
400	x 200	12.5	88.6	113.0
400	x 200	14.0	98.7	126.0
480	x 240	10.0	86.3	110.0
480	x 240	12.0	103.0	131.0
480	x 240	14.0	119.0	152.0
500	x 250	10.0	90.0	115.0
500	x 250	12.5	112.0	142.0
500	x 250	16.0	142.0	180.0

Special conditions may apply, please contact our sales consultants

Cold Formed Circular Hollow Section

Dimension : EN 10219-2:2006
Tolerance : EN 10219-2:2006



Cold Formed Circular Hollow Section

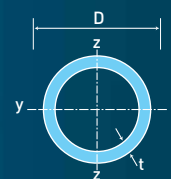
Outside Diameter	Thickness	Mass / Unit Length	Sectional Area
D	t		A
mm	mm	kg/m	cm ²
21.3	2.0 c	0.95	1.21
21.3	2.5 c	1.16	1.48
21.3	3.0 c	1.35	1.72
26.9	2.0 c	1.23	1.56
26.9	2.5 c	1.50	1.92
26.9	3.0 c	1.77	2.25
33.7	2.0 c	1.56	1.99
33.7	2.5 c	1.92	2.45
33.7	3.0 c	2.27	2.89
42.4	2.0 c	1.99	2.54
42.4	2.5 c	2.46	3.13
42.4	3.0 c	2.91	3.71
42.4	4.0	3.79	4.83
48.3	2.0 c	2.28	2.91
48.3	2.5 c	2.82	3.60
48.3	3.0 c	3.35	4.27
48.3	4.0	4.37	5.57
48.3	5.0	5.34	6.80
60.3	2.0 c	2.88	3.66
60.3	2.5 c	3.56	4.54
60.3	3.0 c	4.24	5.40
60.3	4.0	5.55	7.07
60.3	5.0	6.82	8.69
76.1	2.0 c	3.65	4.66
76.1	2.5 c	4.54	5.78
76.1	3.0 c	5.41	6.89
76.1	4.0	7.11	9.06
76.1	5.0	8.77	11.20

^c Special conditions may apply, please contact our sales consultants

* Based on other specification

Cold Formed Circular Hollow Section

Dimension : EN 10219-2:2006
Tolerance : EN 10219-2:2006



Cold Formed Circular Hollow Section

Outside Diameter	Thickness		Mass / Unit Length	Sectional Area
D	t		kg/m	A
mm	mm			cm ²
76.1	6.0	c	10.40	13.20
76.1	6.3		10.80	13.80
88.9	2.0	c	4.29	5.46
88.9	2.5	c	5.33	6.79
88.9	3.0	c	6.36	8.10
88.9	4.0	c	8.38	10.70
88.9	5.0		10.30	13.20
88.9	6.0		12.30	15.60
88.9	6.3		12.80	16.30
101.6	2.0	c	4.91	6.26
101.6	2.5	c	6.11	7.78
101.6	3.0	c	7.29	9.29
101.6	4.0		9.63	12.30
101.6	5.0		11.90	15.20
101.6	6.0	c	14.10	18.00
101.6	6.3		14.80	18.90
114.3	2.5	c	6.90	8.80
114.3	3.0	c	8.23	10.50
114.3	4.0		10.90	13.90
114.3	5.0		13.50	17.20
114.3	6.0	c	16.00	20.40
114.3	6.3		16.80	21.40
114.3	8.0	c	21.00	26.70
139.7	3.0	c	10.10	12.90
139.7	4.0	c	13.40	17.10
139.7	5.0		16.60	21.20
139.7	6.0	c	19.80	25.20
139.7	6.3		20.70	26.40

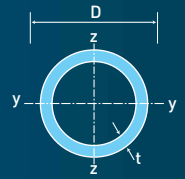
Outside Diameter	Thickness		Mass / Unit Length	Sectional Area
D	t		kg/m	A
mm	mm			cm ²
139.7	8.0		26.0	33.1
139.7	10.0	c	32.0	40.7
168.3	3.0	c	12.2	15.6
168.3	4.0		16.2	20.6
168.3	5.0		20.1	25.7
168.3	6.0	c	24.0	30.6
168.3	6.3		25.2	32.1
168.3	8.0		31.6	40.3
168.3	10.0		39.0	49.7
168.3	12.5	*	48.0	61.2
177.8	4.0	c	17.1	21.8
177.8	5.0	c	21.3	27.1
177.8	6.0	c	25.4	32.4
177.8	6.3	c	26.6	33.9
177.8	8.0	c	33.6	42.7
177.8	10.0	c	41.4	52.7
177.8	12.0	c	49.1	62.5
177.8	12.5	c	51.0	64.9
193.7	4.0	c	18.7	23.8
193.7	4.5	c*	21.0	26.7
193.7	5.0		23.3	29.6
193.7	6.0	c	27.8	35.4
193.7	6.3		29.1	37.1
193.7	8.0		36.6	46.7
193.7	10.0		45.3	57.7
193.7	12.0	c	53.8	68.5
193.7	12.5		55.9	71.2
219.1	4.0	c	21.2	27.0

Cold Formed Circular Hollow Section

^c Special conditions may apply, please contact our sales consultants
^{*} Based on other specification

Cold Formed Circular Hollow Section

Dimension : EN 10219-2:2006
Tolerance : EN 10219-2:2006



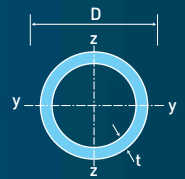
Outside Diameter	Thickness		Mass / Unit Length	Sectional Area
D	t		kg/m	A
mm	mm			cm ²
219.1	4.5	c*	23.8	30.3
219.1	5.0		26.4	33.6
219.1	6.0	c	31.5	40.2
219.1	6.3		33.1	42.1
219.1	8.0		41.6	53.1
219.1	10.0		51.6	65.7
219.1	12.0	c	61.3	78.1
219.1	12.5		63.7	81.1
219.1	16.0	c*	80.1	102.0
244.5	5.0		29.5	37.6
244.5	6.0		35.3	45.0
244.5	6.3		37.0	47.1
244.5	8.0		46.7	59.4
244.5	10.0		57.8	73.7
244.5	12.0	c	68.8	87.7
244.5	12.5		71.5	91.1
244.5	16.0	c*	90.2	115.0
273.0	5.0		33.0	42.1
273.0	6.0	c	39.5	50.3
273.0	6.3		41.4	52.8
273.0	8.0		52.3	66.6
273.0	10.0		64.9	82.6
273.0	12.0	c	77.2	98.4
273.0	12.5		80.3	102.0
273.0	16.0	c*	101	129.0
323.9	5.0		39.3	50.1
323.9	6.0	c	47.0	59.9
323.9	6.3		49.3	62.9

Outside Diameter	Thickness		Mass / Unit Length	Sectional Area
D	t		kg/m	A
mm	mm			cm ²
323.9	8.0		62.3	79.4
323.9	10.0		77.4	98.6
323.9	12.0	c	92.3	118.0
323.9	12.5		96.0	122.0
323.9	16.0	c*	121.0	155.0
355.6	5.0	c	43.2	55.1
355.6	6.0	c	51.7	65.9
355.6	6.3		54.3	69.1
355.6	8.0		68.6	87.4
355.6	10.0		85.2	109.0
355.6	12.0	c	102.0	130.0
355.6	12.5		106.0	135.0
355.6	16.0	c	134.0	171.0
355.6	20.0	c	166.0	211.0
406.4	6.0	c	59.2	75.5
406.4	6.3		62.2	79.2
406.4	8.0		78.6	100.0
406.4	10.0	c	97.8	125.0
406.4	12.0	c	117.0	149.0
406.4	12.5		121.0	155.0
406.4	16.0	c	154.0	196.0
406.4	20.0	c	191.0	243.0
406.4	25.0	c	235.0	300.0
457.0	6.0	c	66.7	85.0
457.0	6.3		70.0	89.2
457.0	8.0		88.6	113.0
457.0	10.0		110.0	140.0
457.0	12.0	c	132.0	168.0

^c Special conditions may apply, please contact our sales consultants
^{*} Based on other specification

Cold Formed Circular Hollow Section

Dimension : EN 10219-2:2006
Tolerance : EN 10219-2:2006



Cold Formed Circular Hollow Section

Outside Diameter	Thickness	Mass / Unit Length	Sectional Area
D	t	kg/m	A
mm	mm		cm ²
457	12.5	137.0	175.0
457	16.0	c	222.0
457	20.0	c	275.0
457	25.0	c	339.0
457	30.0	c	402.0
508	6.0	c	94.6
508	6.3	c	99.3
508	8.0	c	126.0
508	10.0	c	156.0
508	12.0	c	187.0
508	12.5	c	195.0
508	16.0	c	247.0
508	20.0	c	307.0
508	25.0	c	379.0
508	30.0	c	451.0
610	6.0	c	89.4
610	6.3	c	93.8
610	8.0	c	119.0
610	10.0	c	148.0
610	12.0	c	177.0
610	12.5	c	184.0
610	16.0	c	234.0
610	20.0	c	291.0
610	25.0	c	361.0
610	30.0	c	429.0
711	6.0	c	104.0
711	6.3	c	109.0
711	8.0	c	139.0

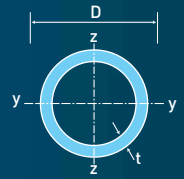
Outside Diameter	Thickness	Mass / Unit Length	Sectional Area
D	t	kg/m	A
mm	mm		cm ²
711	10.0	c	173
711	12.0	c	207
711	12.5	c	215
711	16.0	c	274
711	20.0	c	341
711	25.0	c	423
711	30.0	c	504
762	6.0	c	112
762	6.3	c	117
762	8.0	c	149
762	10.0	c	185
762	12.0	c	222
762	12.5	c	231
762	16.0	c	294
762	20.0	c	366
762	25.0	c	454
762	30.0	c	542
813	8.0	c	159
813	10.0	c	198
813	12.0	c	237
813	12.5	c	247
813	16.0	c	314
813	20.0	c	391
813	25.0	c	486
813	30.0	c	579
914	8.0	c	179
914	10.0	c	223
914	12.0	c	267

Cold Formed Circular Hollow Section

^c Special conditions may apply, please contact our sales consultants
* Based on other specification

Cold Formed Circular Hollow Section

Dimension : EN 10219-2:2006
Tolerance : EN 10219-2:2006



Cold Formed Circular Hollow Section

Outside Diameter	Thickness	Mass / Unit Length	Sectional Area
D	t		A
mm	mm	kg/m	cm ²
914	12.5	c	278
914	16.0	c	354
914	20.0	c	441
914	25.0	c	548
914	30.0	c	654
1016	8.0	c	199
1016	10.0	c	248
1016	12.0	c	297
1016	12.5	c	309
1016	16.0	c	395
1016	20.0	c	491
1016	25.0	c	611
1016	30.0	c	729
1067	10.0	c	261
1067	12.0	c	312
1067	12.5	c	325
1067	16.0	c	415
1067	20.0	c	516
1067	25.0	c	642
1067	30.0	c	767
1168	10.0	c	286
1168	12.0	c	342
1168	12.5	c	356
1168	16.0	c	455
1168	20.0	c	566
1168	25.0	c	705
1219	10.0	c	298
1219	12.0	c	357

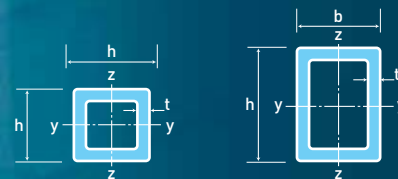
Outside Diameter	Thickness	Mass / Unit Length	Sectional Area
D	t		A
mm	mm	kg/m	cm ²
1219	12.5	c	372
1219	16.0	c	475
1219	20.0	c	591
1219	25.0	c	736

Cold Formed Circular Hollow Section

^c Special conditions may apply, please contact our sales consultants
* Based on other specification

Cold Formed Square and Rectangular Hollow Section

Dimension : BS EN 10219-2:2006
Tolerance : BS EN 10219-2:2006



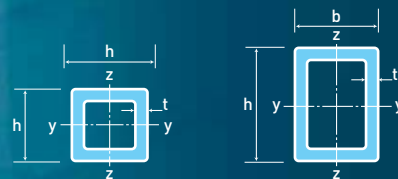
Dimension		Thickness		Mass / Unit Length		Sectional Area
h	b	t		kg/m	A	
mm	mm	mm			cm ²	
25	x	25	2.0	c	1.36	1.74
25	x	25	2.5	c	1.64	2.09
25	x	25	3.0	c	1.89	2.41
30	x	30	2.0	c	1.68	2.14
30	x	30	2.5	c	2.03	2.59
30	x	30	3.0	c	2.36	3.01
40	x	20	2.0	c	1.68	2.14
40	x	20	2.5	c	2.03	2.59
40	x	20	3.0	c	2.36	3.01
40	x	40	2.0	c	2.31	2.94
40	x	40	2.5	c	2.82	3.59
40	x	40	3.0	c	3.30	4.21
40	x	40	4.0	c	4.20	5.35
50	x	25	2.0	c*	2.15	2.74
50	x	25	2.5	c*	2.62	3.34
50	x	25	3.0	c*	3.07	3.91
50	x	25	4.0	c*	5.45	6.95
50	x	25	5.0	c*	6.56	8.36
50	x	30	2.0		2.31	2.94
50	x	30	2.5		2.82	3.59
50	x	30	3.0		3.30	4.21
50	x	30	4.0		4.20	5.35
50	x	50	2.0		2.93	3.74
50	x	50	2.5		3.60	4.59
50	x	50	3.0		4.25	5.41
50	x	50	4.0		5.45	6.95
50	x	50	5.0		6.56	8.36
60	x	40	2.0	c	2.93	3.74

Dimension		Thickness		Mass / Unit Length		Sectional Area
h	b	t		kg/m	A	
mm	mm	mm			cm ²	
60	x	40	2.5	c	3.60	4.59
60	x	40	3.0	c	4.25	5.41
60	x	40	4.0		5.45	6.95
60	x	40	5.0		6.56	8.36
60	x	60	2.5	c	4.39	5.59
60	x	60	4.0	c	6.71	8.55
60	x	60	5.0	c	8.13	10.40
60	x	60	6.0	c	9.45	12.00
65	x	38	3.0		4.38	5.59
70	x	50	2.0	c	3.56	4.54
70	x	50	2.5	c	4.39	5.59
70	x	50	3.0	c	5.19	6.61
70	x	50	4.0	c	6.71	8.55
70	x	50	5.0	c	8.13	10.40
70	x	70	2.5	c	5.17	6.59
70	x	70	3.0	c	6.13	7.81
70	x	70	4.0	c	7.97	10.10
70	x	70	5.0	c	9.70	12.40
70	x	70	6.0	c	11.30	14.40
70	x	70	6.3	c	11.50	14.70
80	x	40	2.0	c	3.56	4.54
80	x	40	2.5	c	4.39	5.59
80	x	40	3.0	c	5.19	6.61
80	x	40	4.0	c	6.71	8.55
80	x	40	5.0	c	8.13	10.40
80	x	60	2.0	c	4.19	5.34
80	x	60	2.5	c	5.17	6.59
80	x	60	3.0	c	6.13	7.81

^c Special conditions may apply, please contact our sales consultants
^{*} Based on other specification

Cold Formed Square and Rectangular Hollow Section

Dimension : BS EN 10219-2:2006
Tolerance : BS EN 10219-2:2006



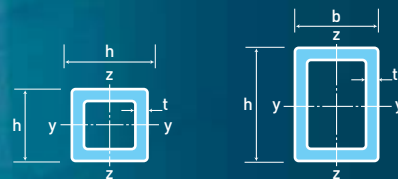
Dimension		Thickness		Mass / Unit Length		Sectional Area
h	b	t		kg/m		A
mm	mm	mm				cm ²
80	x 60	4.0	c	10.10		10.10
80	x 60	5.0	c	12.40		12.40
80	x 80	3.0	c	7.07		9.01
80	x 80	4.0		9.22		11.70
80	x 80	5.0		11.30		14.40
80	x 80	6.0		13.20		16.80
80	x 80	6.3		13.50		17.20
80	x 80	8.0	c	16.40		20.80
90	x 50	2.0		4.19		5.34
90	x 50	2.5		5.17		6.69
90	x 50	3.0		6.13		7.81
90	x 50	4.0		7.97		10.10
90	x 50	5.0		9.70		12.40
90	x 90	3.0	c	8.01		10.20
90	x 90	4.0	c	10.50		13.30
90	x 90	5.0		12.80		16.40
90	x 90	6.0		15.10		19.20
90	x 90	6.3		15.50		19.70
90	x 90	8.0	c	18.90		24.00
100	x 40	2.5	c	5.17		6.59
100	x 40	3.0	c	6.13		7.81
100	x 40	4.0	c	7.97		10.10
100	x 40	5.0	c	9.70		12.40
100	x 50	2.5	c	5.56		7.09
100	x 50	3.0	c	6.60		8.41
100	x 50	4.0		8.59		10.90
100	x 50	5.0	c	10.50		13.40
100	x 50	6.0		12.30		15.60

Dimension		Thickness		Mass / Unit Length		Sectional Area
h	b	t		kg/m		A
mm	mm	mm				cm ²
100	x 50	6.3		12.50		15.90
100	x 60	3.0	c	7.07		9.01
100	x 60	4.0	c	9.22		11.70
100	x 60	5.0	c	11.30		14.40
100	x 60	6.0	c	13.20		16.80
100	x 60	6.3	c	13.50		17.20
100	x 80	2.5	c	6.74		8.60
100	x 80	3.0	c	8.01		10.20
100	x 80	4.0	c	10.50		13.30
100	x 80	5.0	c	12.80		16.40
100	x 80	6.0	c	15.10		19.20
100	x 80	6.3	c	15.50		19.70
100	x 100	3.0	c	8.96		11.40
100	x 100	4.0		11.70		14.90
100	x 100	5.0		14.40		18.40
100	x 100	6.0		17.00		21.60
100	x 100	6.3		17.50		22.20
100	x 100	8.0		21.40		27.20
100	x 100	10.0	c	25.60		32.60
100	x 100	12.0	c	28.30		36.10
100	x 100	12.5	c	29.10		37.00
120	x 60	2.5	c	6.74		10.20
120	x 60	3.0	c	8.01		10.20
120	x 60	4.0		10.50		10.50
120	x 60	5.0		12.80		12.80
120	x 60	6.0		15.10		15.10
120	x 60	6.3		15.50		15.50
120	x 60	8.0	c	18.90		18.90

^c Special conditions may apply, please contact our sales consultants
* Based on other specification

Cold Formed Square and Rectangular Hollow Section

Dimension : BS EN 10219-2:2006
Tolerance : BS EN 10219-2:2006



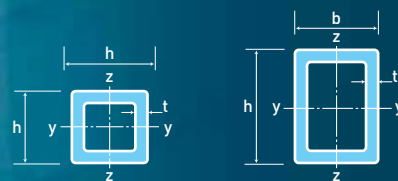
Dimension		Thickness		Mass / Unit Length		Sectional Area
h	b	t		kg/m		A
mm	mm	mm				cm ²
120	x 80	3.0	c	8.96		11.4
120	x 80	4.0		11.70		14.9
120	x 80	5.0		14.40		18.4
120	x 80	6.0		17.00		21.6
120	x 80	6.3		17.50		22.2
120	x 80	8.0	c	21.40		27.2
120	x 120	3.0	c	10.80		13.8
120	x 120	4.0	c	14.20		18.1
120	x 120	5.0	c	17.50		22.4
120	x 120	6.0	c	20.70		26.4
120	x 120	6.3	c	21.40		27.3
120	x 120	8.0	c	26.40		33.6
120	x 120	10.0	c	31.80		40.6
120	x 120	12.0	c	35.80		45.7
120	x 120	12.5	c	36.90		47.0
140	x 80	4.0	c	13.00		13.0
140	x 80	5.0	c	16.00		16.0
140	x 80	6.0	c	18.90		18.9
140	x 80	6.3	c	19.40		19.4
140	x 80	8.0	c	23.90		23.9
140	x 140	4.0	c	16.80		21.3
140	x 140	5.0	c	20.70		26.4
140	x 140	6.0	c	24.50		31.2
140	x 140	6.3	c	25.40		32.3
140	x 140	8.0	c	31.40		40.0
140	x 140	10.0	c	38.10		48.6
140	x 140	12.0	c	43.40		55.3
140	x 140	12.5	c	44.80		57.0

Dimension		Thickness		Mass / Unit Length		Sectional Area
h	b	t		kg/m		A
mm	mm	mm				cm ²
150	x 100	3.0	c*	11.3		14.4
150	x 100	4.0	c	14.9		18.9
150	x 100	5.0		18.3		23.4
150	x 100	6.0		21.7		27.6
150	x 100	6.3		22.4		28.5
150	x 100	8.0		27.7		35.2
150	x 100	10.0		33.4		42.6
150	x 100	12.0	c	37.7		48.1
150	x 100	12.5	c	38.9		49.5
150	x 150	4.0		18.0		22.9
150	x 150	5.0		22.3		28.4
150	x 150	6.0	c	26.4		33.6
150	x 150	6.3		27.4		34.8
150	x 150	8.0		33.9		43.2
150	x 150	10.0		41.3		52.6
150	x 150	12.0		47.1		60.1
150	x 150	12.5		48.7		62.0
150	x 150	16.0	c	58.7		74.8
160	x 80	4.0		14.2		18.1
160	x 80	5.0		17.5		22.4
160	x 80	6.0		20.7		26.4
160	x 80	6.3		21.4		27.3
160	x 80	8.0		26.4		33.6
160	x 80	10.0		31.8		40.6
160	x 80	12.0	c	35.8		45.7
160	x 80	12.5	c	36.9		47.0
160	x 160	4.0	c	19.3		24.5
160	x 160	5.0	c	23.8		30.4

^c Special conditions may apply, please contact our sales consultants
^{*} Based on other specification

Cold Formed Square and Rectangular Hollow Section

Dimension : BS EN 10219-2:2006
Tolerance : BS EN 10219-2:2006



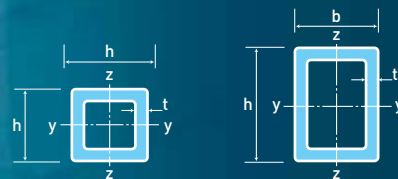
Dimension		Thickness		Mass / Unit Length	Sectional Area	
h	b	t			A	
mm	mm	mm		kg/m	cm ²	
160	x	160	6.0	c	28.3	36.0
160	x	160	6.3	c	29.3	37.4
160	x	160	8.0	c	36.5	46.4
160	x	160	10.0	c	44.4	56.6
160	x	160	12.0	c	50.9	64.9
160	x	160	12.5	c	52.6	67.0
160	x	160	16.0	c	63.7	81.2
180	x	100	4.0	c	16.8	21.3
180	x	100	5.0	c	20.7	26.4
180	x	100	6.0	c	24.5	31.2
180	x	100	6.3	c	25.4	32.3
180	x	100	8.0	c	31.4	40.0
180	x	100	10.0	c	38.1	48.6
180	x	100	12.0	c	43.4	55.3
180	x	100	12.5	c	44.8	57.0
180	x	180	4.0	c	21.8	27.7
180	x	180	5.0	c	27.0	34.4
180	x	180	6.0	c	32.1	40.8
180	x	180	6.3	c	33.3	42.4
180	x	180	8.0	c	41.5	52.8
180	x	180	10.0	c	50.7	64.6
180	x	180	12.0	c	58.5	74.5
180	x	180	12.5	c	60.5	77.0
180	x	180	16.0	c	73.8	94.0
200	x	100	4.0		18.0	22.9
200	x	100	5.0		22.3	28.4
200	x	100	6.0		26.4	33.6
200	x	100	6.3		27.4	34.8

Dimension			Thickness		Mass / Unit Length	Sectional Area
h		b	t			A
mm		mm	mm		kg/m	cm ²
200	x	100	8.0		33.9	43.2
200	x	100	10.0		41.3	52.6
200	x	100	12.0	c	49.1	60.1
200	x	100	12.5		48.7	62.0
200	x	150	4.0	*	21.2	26.9
200	x	150	6.0	*	31.1	39.6
200	x	150	8.0	*	40.2	51.2
200	x	150	10.0	c*	49.1	62.6
200	x	200	4.0		24.3	30.9
200	x	200	5.0		30.1	38.4
200	x	200	6.0		35.8	45.6
200	x	200	6.3		37.2	47.4
200	x	200	8.0		46.5	59.2
200	x	200	10.0		57.0	72.6
200	x	200	12.0	c	66.0	84.1
200	x	200	12.5		68.3	87.0
200	x	200	16.0	c	83.8	107.0
220	x	220	5.0	c	33.2	42.4
220	x	220	6.0	c	39.6	50.4
220	x	220	6.3	c	41.2	52.5
220	x	220	8.0	c	51.5	65.6
220	x	220	10.0	c	63.2	80.6
220	x	220	12.0	c	73.5	93.7
220	x	220	12.5	c	76.2	97.0
220	x	220	16.0	c	93.9	120.0
250	x	150	5.0		30.1	38.4
250	x	150	6.0		35.8	45.6
250	x	150	6.3		37.2	47.4

^c Special conditions may apply, please contact our sales consultants
^{*} Based on other specification

Cold Formed Square and Rectangular Hollow Section

Dimension : BS EN 10219-2:2006
Tolerance : BS EN 10219-2:2006



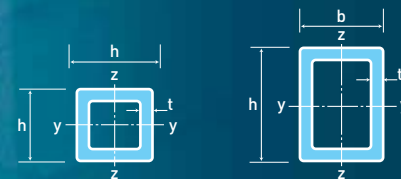
Dimension		Thickness	Mass / Unit Length	Sectional Area
h	b	t		A
mm	mm	mm	kg/m	cm ²
250	x 150	8.0	46.5	59.2
250	x 150	10.0	57.0	72.6
250	x 150	12.0 c	66.0	84.1
250	x 150	12.5	68.3	87.0
250	x 150	16.0 c	83.8	106.8
250	x 250	5.0	38.0	48.4
250	x 250	6.0	45.2	57.6
250	x 250	6.3	47.1	60.0
250	x 250	8.0	59.1	75.2
250	x 250	10.0	72.7	92.6
250	x 250	12.0 c	84.8	108.0
250	x 250	12.5	88.0	112.0
250	x 250	16.0 c	109.0	112.0
260	x 180	5.0 c	33.2	42.4
260	x 180	6.3 c	41.2	52.5
260	x 180	8.0 c	51.5	65.6
260	x 180	10.0 c	63.2	80.6
260	x 180	12.0 c	73.5	93.7
260	x 180	12.5 c	76.2	97.0
260	x 180	16.0 c	93.9	120.0
260	x 260	6.0 c	47.1	60.0
260	x 260	6.3 c	49.1	62.6
260	x 260	8.0 c	61.6	78.4
260	x 260	10.0 c	75.8	96.6
260	x 260	12.0 c	88.6	113.0
260	x 260	12.5 c	91.9	117.0
260	x 260	16.0 c	114.0	145.0
300	x 100	6.0	35.8	45.6

Dimension		Thickness	Mass / Unit Length	Sectional Area
h	b	t		A
mm	mm	mm	kg/m	cm ²
300	x 100	6.3	37.2	47.4
300	x 100	8.0	46.5	59.2
300	x 100	10.0	57.0	72.6
300	x 100	12.0 c	66.0	84.1
300	x 100	12.5	68.3	87.0
300	x 100	16.0 c	83.8	107.0
300	x 150	6.0	40.5	51.6
300	x 150	6.3	42.2	53.7
300	x 150	8.0	52.8	67.2
300	x 150	10.0	64.8	82.6
300	x 150	12.0 c	75.4	96.1
300	x 150	12.5	78.1	99.5
300	x 150	16.0 c	96.4	123.0
300	x 200	6.0	45.2	57.6
300	x 200	6.3	47.1	60.0
300	x 200	8.0	59.1	75.2
300	x 200	10.0	72.7	92.6
300	x 200	12.0 c	84.8	108.0
300	x 200	12.5	88.0	112.0
300	x 200	16.0 c	109.0	139.0
300	x 300	6.0	54.7	69.6
300	x 300	6.3	57.0	72.6
300	x 300	8.0	71.6	91.2
300	x 300	10.0	88.4	113.0
300	x 300	12.0 c	104.0	132.0
300	x 300	12.5	108.0	137.0
300	x 300	16.0 c	134.0	171.0
350	x 250	6.3	57.0	73.0

^c Special conditions may apply, please contact our sales consultants
* Based on other specification

Cold Formed Square and Rectangular Hollow Section

Dimension : BS EN 10219-2:2006
Tolerance : BS EN 10219-2:2006



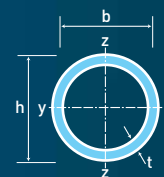
Dimension		Thickness		Mass / Unit Length	Sectional Area
h	b	t		kg/m	A
mm	mm	mm			cm ²
350	x	250	8.0	71.6	91.0
350	x	250	10.0	88.4	113.0
350	x	250	12.0	c	104.0
350	x	250	12.5	108.0	137.0
350	x	250	16.0	c	134.0
350	x	350	8.0	84.2	107.0
350	x	350	10.0	104.0	133.0
350	x	350	12.0	c	123.0
350	x	350	12.5	127.0	162.0
350	x	350	16.0	c	159.0
400	x	200	6.0	*	54.7
400	x	200	6.3	c*	57.0
400	x	200	8.0	71.6	91.2
400	x	200	10.0	*	88.4
400	x	200	12.0	c*	104.0
400	x	200	12.5	108.0	137.0
400	x	200	16.0	134.0	171.0
400	x	300	8.0	c	84.2
400	x	300	10.0	c	104.0
400	x	300	12.0	c	123.0
400	x	300	12.5	c	127.0
400	x	300	16.0	c	159.0
400	x	400	10.0	120.0	153.0
400	x	400	12.0	c*	141.0
400	x	400	12.5	147.0	187.0
400	x	400	16.0	184.0	235.0
450	x	250	6.0	c*	64.1
450	x	250	6.3	c*	66.9

Dimension		Thickness		Mass / Unit Length	Sectional Area	
	b	t			A	
	mm	mm		kg/m	cm ²	
450	x	250	8.0	c*	84.2	107.0
450	x	250	10.0	c*	104.0	133.0
450	x	250	12.0	c*	123.0	156.0
450	x	250	12.5	c*	127.0	162.0
500	x	300	6.0	c*	73.5	93.6
500	x	300	6.3	c*	76.8	97.6
500	x	300	8.0	c*	96.7	123.0
500	x	300	10.0	c*	120.0	153.0
500	x	300	12.0	c*	141.0	180.0
500	x	300	12.5	c*	147.0	187.0

^c Special conditions may apply, please contact our sales consultants
^{*} Based on other specification

Welded and Seamless Steel Pipe

Tolerance : ASME B36.10M:2004
Dimension : ASME B36.10M:2004



Welded and Seamless Steel Pipe

Outside Diameter	Nominal Pipe Size	Nominal Diameter	Identification Standard (STD), Extra-Strong (XS) or Double Extra Strong (XXS)	Sch. No (Class)	Thickness t	Mass / Unit Length
D	in	mm			mm	kg/m
10.3	1/8	6	...	10	1.24	0.28
10.3	1/8	6(3)	...	30	1.45	0.32
10.3	1/8	6(3)	STD	40	1.73	0.37
10.3	1/8	6(3)	XS	80	2.41	0.47
13.7	1/4	8(3)	...	10	1.65	0.49
13.7	1/4	8(3)	...	30	1.85	0.54
13.7	1/4	8(3)	STD	40	2.24	0.63
13.7	1/4	8(3)	XS	80	3.02	0.80
17.1	3/8	10	...	10	1.65	0.63
17.1	3/8	10	...	30	1.85	0.70
17.1	3/8	10	STD	40	2.31	0.84
17.1	3/8	10	XS	80	3.20	1.10
21.3	1/2	15	...	5	1.65	0.80
21.3	1/2	15	...	10	2.11	1.00
21.3	1/2	15	...	30	2.41	1.12
21.3	1/2	15	STD	40	2.77	1.27
21.3	1/2	15	XS	80	3.73	1.62
21.3	1/2	15	...	160	4.78	1.95
21.3	1/2	15	XXS	...	7.47	2.55
26.7	3/4	20	...	5	1.65	1.02
26.7	3/4	20	...	10	2.11	1.28
26.7	3/4	20	...	30	2.41	1.44
26.7	3/4	20	STD	40	2.87	1.69
26.7	3/4	20	XS	80	3.91	2.20
26.7	3/4	20	...	160	5.56	2.90
26.7	3/4	20	XXS	...	7.82	3.64
33.4	1	25	...	5	1.65	1.29
33.4	1	25	...	10	2.77	2.09

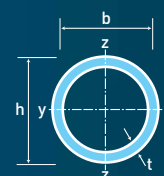
Outside Diameter	Nominal Pipe Size	Nominal Diameter	Identification Standard (STD), Extra-Strong (XS) or Double Extra Strong (XXS)	Sch. No (Class)	Thickness t	Mass / Unit Length
D	in	mm			mm	kg/m
33.4	1	25	...	30	2.90	2.18
33.4	1	25	STD	40	3.38	2.50
33.4	1	25	XS	80	4.55	3.24
33.4	1	25	...	160	6.35	4.24
33.4	1	25	XXS	...	9.09	5.45
42.2	1 1/4	32	...	5	1.65	1.65
42.2	1 1/4	32	...	10	2.77	2.69
42.2	1 1/4	32	...	30	2.97	2.87
42.2	1 1/4	32	STD	40	3.56	3.39
42.2	1 1/4	32	XS	80	4.85	4.47
42.2	1 1/4	32	...	160	6.35	5.61
42.2	1 1/4	32	XXS	...	9.70	7.77
48.3	1 1/2	40	...	5	1.65	1.90
48.3	1 1/2	40	...	10	2.77	3.11
48.3	1 1/2	40	...	30	3.18	3.54
48.3	1 1/2	40	STD	40	3.68	4.05
48.3	1 1/2	40	XS	80	5.08	5.41
48.3	1 1/2	40	...	160	7.14	7.25
48.3	1 1/2	40	XXS	...	10.15	9.55
60.3	2	50	...	5	1.65	2.39
60.3	2	50	...	...	2.11	3.03
60.3	2	50	...	10	2.77	3.93
60.3	2	50	...	30	3.18	4.48
60.3	2	50	...	...	3.58	5.01
60.3	2	50	STD	40	3.91	5.44
60.3	2	50	...	...	4.37	6.03
60.3	2	50	...	...	4.78	6.54
60.3	2	50	XS	80	5.54	7.48

Welded and Seamless Steel Pipe

Special conditions may apply, please contact our sales consultants

Welded and Seamless Steel Pipe

Tolerance : ASME B36.10M:2004
Dimension : ASME B36.10M:2004



Welded and Seamless Steel Pipe

Outside Diameter	Nominal Pipe Size	Nominal Diameter	Identification Standard (STD), Extra-Strong (XS) or Double Extra Strong (XXS)	Sch. No (Class)	Thickness t	Mass / Unit Length
D	in	mm			mm	kg/m
60.3	2	50	...	...	6.35	8.45
60.3	2	50	...	...	7.14	9.36
60.3	2	50	...	160	8.74	11.11
60.3	2	50	XXS	...	11.07	13.44
73.0	2 1/2	65	...	5	2.11	3.69
73.0	2 1/2	65	...	...	2.77	4.80
73.0	2 1/2	65	...	10	3.05	5.26
73.0	2 1/2	65	...	...	3.18	5.48
73.0	2 1/2	65	...	...	3.58	6.13
73.0	2 1/2	65	...	...	3.96	6.74
73.0	2 1/2	65	...	...	4.37	7.40
73.0	2 1/2	65	...	30	4.78	8.04
73.0	2 1/2	65	STD	40	5.16	8.63
73.0	2 1/2	65	...	...	5.49	9.14
73.0	2 1/2	65	...	...	6.35	10.44
73.0	2 1/2	65	XS	80	7.01	11.41
73.0	2 1/2	65	...	160	9.53	14.92
73.0	2 1/2	65	XXS	...	14.02	20.39
88.9	3	80	...	5	2.11	4.52
88.9	3	80	...	...	2.77	5.88
88.9	3	80	...	10	3.05	6.46
88.9	3	80	...	...	3.18	6.72
88.9	3	80	...	...	3.58	7.53
88.9	3	80	...	...	3.96	8.30
88.9	3	80	...	...	4.37	9.11
88.9	3	80	...	30	4.78	9.92
88.9	3	80	STD	40	5.49	11.29
88.9	3	80	...	...	6.35	12.93

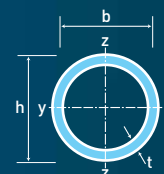
Outside Diameter	Nominal Pipe Size	Nominal Diameter	Identification Standard (STD), Extra-Strong (XS) or Double Extra Strong (XXS)	Sch. No (Class)	Thickness t	Mass / Unit Length
D	in	mm			mm	kg/m
88.9	3	80	...	...	7.14	14.40
88.9	3	80	XS	80	7.62	15.27
88.9	3	80	...	160	11.13	21.35
88.9	3	80	XXS	...	15.24	27.68
101.6	3 1/2	90	...	5	2.11	5.18
101.6	3 1/2	90	...	...	2.77	6.75
101.6	3 1/2	90	...	10	3.05	7.41
101.6	3 1/2	90	...	...	3.18	7.72
101.6	3 1/2	90	...	...	3.58	8.65
101.6	3 1/2	90	...	...	3.96	9.54
101.6	3 1/2	90	...	...	4.37	10.48
101.6	3 1/2	90	...	30	4.78	11.41
101.6	3 1/2	90	STD	40	5.74	13.57
101.6	3 1/2	90	...	...	6.35	14.92
101.6	3 1/2	90	...	...	7.14	16.63
101.6	3 1/2	90	XS	80	8.08	18.64
114.3	4	100	...	5	2.11	5.84
114.3	4	100	...	...	2.77	7.62
114.3	4	100	...	10	3.05	8.37
114.3	4	100	...	...	3.18	8.71
114.3	4	100	...	...	3.58	9.78
114.3	4	100	...	...	3.96	10.78
114.3	4	100	...	...	4.37	11.85
114.3	4	100	...	30	4.78	12.91
114.3	4	100	...	...	5.16	13.89
114.3	4	100	...	...	5.56	14.91
114.3	4	100	STD	40	6.02	16.08
114.3	4	100	...	...	6.35	16.91

Special conditions may apply, please contact our sales consultants

Welded and Seamless Steel Pipe

Welded and Seamless Steel Pipe

Tolerance : ASME B36.10M:2004
Dimension : ASME B36.10M:2004



Welded and Seamless Steel Pipe

Outside Diameter	Nominal Pipe Size	Nominal Diameter	Identification Standard (STD), Extra-Strong (XS) or Double Extra Strong (XXS)	Sch. No (Class)	Thickness t	Mass / Unit Length
D	in	mm			mm	kg/m
114.3	4	100	...	...	7.14	18.87
114.3	4	100	...	...	7.92	20.78
114.3	4	100	XS	80	8.56	22.32
114.3	4	100	...	120	11.13	28.32
114.3	4	100	...	160	13.49	33.54
114.3	4	100	XXS	...	17.12	41.03
141.3	5	125	...	...	2.11	7.24
141.3	5	125	...	5	2.77	9.46
141.3	5	125	...	...	3.18	10.83
141.3	5	125	...	10	3.40	11.56
141.3	5	125	...	...	3.96	13.41
141.3	5	125	...	...	4.78	16.09
141.3	5	125	...	...	5.56	18.61
141.3	5	125	STD	40	6.55	21.77
141.3	5	125	...	...	7.14	23.62
141.3	5	125	...	...	7.92	26.05
141.3	5	125	...	...	8.74	28.57
141.3	5	125	XS	80	9.53	30.97
141.3	5	125	...	120	12.70	40.28
141.3	5	125	...	160	15.88	49.12
141.3	5	125	XXS	...	19.05	57.43
168.3	6	150	...	...	2.11	8.65
168.3	6	150	...	5	2.77	11.31
168.3	6	150	...	...	3.18	12.95
168.3	6	150	...	10	3.40	13.83
168.3	6	150	...	...	3.58	14.54
168.3	6	150	...	...	3.96	16.05
168.3	6	150	...	...	4.37	17.67

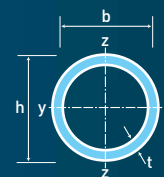
Outside Diameter	Nominal Pipe Size	Nominal Diameter	Identification Standard (STD), Extra-Strong (XS) or Double Extra Strong (XXS)	Sch. No (Class)	Thickness t	Mass / Unit Length
D	in	mm			mm	kg/m
168.3	6	150	...	...	4.78	19.28
168.3	6	150	...	...	5.16	20.76
168.3	6	150	...	...	5.56	22.31
168.3	6	150	...	...	6.35	25.36
168.3	6	150	STD	40	7.11	28.26
168.3	6	150	...	...	7.92	31.33
168.3	6	150	...	...	8.74	34.39
168.3	6	150	...	...	9.53	37.31
168.3	6	150	XS	80	10.97	42.56
168.3	6	150	...	...	12.70	48.73
168.3	6	150	...	120	14.27	54.21
168.3	6	150	...	...	15.88	59.69
168.3	6	150	...	160	18.26	67.57
168.3	6	150	...	...	19.05	70.12
168.3	6	150	XXS	...	21.95	79.22
168.3	6	150	...	...	22.23	80.08
219.1	8	200	...	5	2.77	14.78
219.1	8	200	...	...	3.18	16.93
219.1	8	200	...	10	3.76	19.97
219.1	8	200	...	...	3.96	21.01
219.1	8	200	...	...	4.78	25.26
219.1	8	200	...	...	5.16	27.22
219.1	8	200	...	...	5.56	29.28
219.1	8	200	...	20	6.35	33.32
219.1	8	200	...	30	7.04	36.82
219.1	8	200	...	...	7.92	41.25
219.1	8	200	STD	40	8.18	42.55
219.1	8	200	...	...	8.74	45.34

Welded and Seamless Steel Pipe

Special conditions may apply, please contact our sales consultants

Welded and Seamless Steel Pipe

Tolerance : ASME B36.10M:2004
Dimension : ASME B36.10M:2004



Welded and Seamless Steel Pipe

Outside Diameter	Nominal Pipe Size	Nominal Diameter	Identification Standard (STD), Extra-Strong (XS) or Double Extra Strong (XXS)	Sch. No (Class)	Thickness t	Mass / Unit Length
D	in	mm			mm	kg/m
219.1	8	200	...	...	9.53	49.25
219.1	8	200	...	60	10.31	53.09
219.1	8	200	...	...	11.13	57.08
219.1	8	200	XS	80	12.70	64.64
219.1	8	200	...	...	14.27	72.08
219.1	8	200	...	100	15.09	75.92
219.1	8	200	...	...	15.88	79.59
219.1	8	200	...	120	18.26	90.44
219.1	8	200	...	...	19.05	93.98
219.1	8	200	...	140	20.62	100.93
219.1	8	200	XXS	...	22.23	107.93
219.1	8	200	...	160	23.01	111.27
219.1	8	200	...	...	25.40	121.33
273.0	10	250	...	5	3.40	22.61
273.0	10	250	...	...	3.96	26.27
273.0	10	250	...	10	4.19	27.78
273.0	10	250	...	...	4.78	31.62
273.0	10	250	...	...	5.16	34.08
273.0	10	250	...	...	5.56	36.67
273.0	10	250	...	20	6.35	41.76
273.0	10	250	...	...	7.09	46.49
273.0	10	250	...	30	7.80	51.01
273.0	10	250	...	...	8.74	56.96
273.0	10	250	STD	40	9.27	60.29
273.0	10	250	...	...	11.13	71.88
273.0	10	250	XS	60	12.70	81.53
273.0	10	250	...	...	14.27	91.05
273.0	10	250	...	80	15.09	95.98

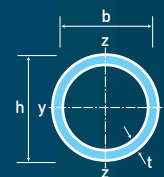
Outside Diameter	Nominal Pipe Size	Nominal Diameter	Identification Standard (STD), Extra-Strong (XS) or Double Extra Strong (XXS)	Sch. No (Class)	Thickness t	Mass / Unit Length
D	in	mm			mm	kg/m
273.0	10	250	...	...	15.88	100.69
273.0	10	250	...	100	18.26	114.71
273.0	10	250	...	...	20.62	128.34
273.0	10	250	...	120	21.44	133.01
273.0	10	250	...	...	22.23	137.48
273.0	10	250	...	...	23.83	146.43
273.0	10	250	XXS	140	25.40	155.10
273.0	10	250	...	160	28.58	172.27
273.0	10	250	...	...	31.75	188.90
323.8	12	300	...	5	3.96	31.24
323.8	12	300	...	...	4.37	34.43
323.8	12	300	...	10	4.57	35.98
323.8	12	300	...	...	4.78	37.61
323.8	12	300	...	...	5.16	40.55
323.8	12	300	...	...	5.56	43.64
323.8	12	300	...	20	6.35	49.71
323.8	12	300	...	...	7.14	55.76
323.8	12	300	...	...	7.92	61.70
323.8	12	300	...	30	8.39	65.26
323.8	12	300	...	...	8.74	67.91
323.8	12	300	STD	...	9.53	73.86
323.8	12	300	...	40	10.31	79.71
323.8	12	300	...	...	11.13	85.82
323.8	12	300	XS	...	12.70	97.44
323.8	12	300	...	60	14.27	108.93
323.8	12	300	...	...	15.88	120.59
323.8	12	300	...	80	17.48	132.05
323.8	12	300	...	...	19.05	143.17

Welded and Seamless Steel Pipe

Special conditions may apply, please contact our sales consultants

Welded and Seamless Steel Pipe

Tolerance : ASME B36.10M:2004
Dimension : ASME B36.10M:2004



Welded and Seamless Steel Pipe

Outside Diameter	Nominal Pipe Size	Nominal Diameter	Identification Standard (STD), Extra-Strong (XS) or Double Extra Strong (XXS)	Sch. No (Class)	Thickness t	Mass / Unit Length
D	in	mm			mm	kg/m
323.8	12	300	...	...	20.62	154.17
323.8	12	300	...	100	21.44	159.87
323.8	12	300	...	...	22.23	165.33
323.8	12	300	...	...	23.83	176.29
323.8	12	300	XXS	120	25.40	186.92
323.8	12	300	...	...	26.97	197.43
323.8	12	300	...	140	28.58	208.08
323.8	12	300	...	...	31.75	228.68
323.8	12	300	...	160	33.32	238.69
355.6	14	350	...	5	3.96	34.34
355.6	14	350	...	...	4.78	41.36
355.6	14	350	...	...	5.16	44.59
355.6	14	350	...	...	5.33	46.04
355.6	14	350	...	...	5.56	48.00
355.6	14	350	...	10	6.35	54.69
355.6	14	350	...	...	7.14	61.36
355.6	14	350	...	20	7.92	67.91
355.6	14	350	...	...	8.74	74.76
355.6	14	350	STD	30	9.53	81.33
355.6	14	350	...	...	10.31	87.79
355.6	14	350	...	40	11.13	94.55
355.6	14	350	...	...	11.91	100.95
355.6	14	350	XS	...	12.70	107.40
355.6	14	350	...	...	14.27	120.12
355.6	14	350	...	60	15.09	126.72
355.6	14	350	...	...	15.88	133.04
355.6	14	350	...	...	17.48	145.76
355.6	14	350	...	80	19.05	158.11

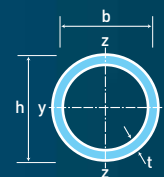
Outside Diameter	Nominal Pipe Size	Nominal Diameter	Identification Standard (STD), Extra-Strong (XS) or Double Extra Strong (XXS)	Sch. No (Class)	Thickness t	Mass / Unit Length
D	in	mm			mm	kg/m
355.6	14	350	...	...	20.62	170.34
355.6	14	350	...	...	22.23	182.76
355.6	14	350	...	100	23.83	194.98
355.6	14	350	...	...	25.40	206.84
355.6	14	350	...	...	26.97	218.58
355.6	14	350	...	120	27.79	224.66
355.6	14	350	...	...	28.58	230.49
355.6	14	350	...	140	31.75	253.58
355.6	14	350	...	160	35.71	281.72
355.6	14	350	...	...	50.80	381.85
355.6	14	350	...	...	53.98	401.52
355.6	14	350	...	...	55.88	413.04
355.6	14	350	...	...	63.50	457.43
406.4	16	400	...	5	4.19	41.56
406.4	16	400	...	...	4.78	47.34
406.4	16	400	...	...	5.16	51.06
406.4	16	400	...	...	5.56	54.96
406.4	16	400	...	10	6.35	62.65
406.4	16	400	...	...	7.14	70.30
406.4	16	400	...	20	7.92	77.83
406.4	16	400	...	...	8.74	85.71
406.4	16	400	STD	30	9.53	93.27
406.4	16	400	...	...	10.31	100.71
406.4	16	400	...	...	11.13	108.49
406.4	16	400	...	...	11.91	115.87
406.4	16	400	XS	40	12.70	123.31
406.4	16	400	...	...	14.27	138.00
406.4	16	400	...	...	15.88	152.94

Welded and Seamless Steel Pipe

Special conditions may apply, please contact our sales consultants

Welded and Seamless Steel Pipe

Tolerance : ASME B36.10M:2004
Dimension : ASME B36.10M:2004



Welded and Seamless Steel Pipe

Outside Diameter	Nominal Pipe Size	Nominal Diameter	Identification Standard (STD), Extra-Strong (XS) or Double Extra Strong (XXS)	Sch. No (Class)	Thickness t	Mass / Unit Length
D	in	mm			mm	kg/m
406.4	16	400	...	60	16.66	160.13
406.4	16	400	...	...	17.48	167.66
406.4	16	400	...	...	19.05	181.98
406.4	16	400	...	...	20.62	196.18
406.4	16	400	...	80	21.44	203.54
406.4	16	400	...	...	22.23	210.61
406.4	16	400	...	...	23.83	224.83
406.4	16	400	...	...	25.40	238.66
406.4	16	400	...	100	26.19	245.57
406.4	16	400	...	...	26.97	252.37
406.4	16	400	...	...	28.58	266.30
406.4	16	400	...	...	30.18	280.01
406.4	16	400	...	120	30.96	286.66
406.4	16	400	...	...	31.75	293.35
406.4	16	400	...	140	36.53	333.21
406.4	16	400	...	160	40.49	365.38
457.0	18	450	...	5	4.19	46.79
457.0	18	450	...	...	4.78	53.31
457.0	18	450	...	...	5.56	61.90
457.0	18	450	...	10	6.35	70.57
457.0	18	450	...	...	7.14	79.21
457.0	18	450	...	20	7.92	87.71
457.0	18	450	...	...	8.74	96.62
457.0	18	450	...	...	9.53	105.17
457.0	18	450	...	...	10.31	113.58
457.0	18	450	...	30	11.13	122.38
457.0	18	450	...	...	11.91	130.73
457.0	18	450	XS	...	12.70	139.16

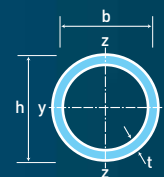
Outside Diameter	Nominal Pipe Size	Nominal Diameter	Identification Standard (STD), Extra-Strong (XS) or Double Extra Strong (XXS)	Sch. No (Class)	Thickness t	Mass / Unit Length
D	in	mm			mm	kg/m
457	18	450	...	40	14.27	155.81
457	18	450	...	...	15.88	172.75
457	18	450	...	...	17.48	189.47
457	18	450	...	60	19.05	205.75
457	18	450	...	...	20.62	221.91
457	18	450	...	...	22.23	238.35
457	18	450	...	80	23.83	254.57
457	18	450	...	...	25.40	270.36
457	18	450	...	...	26.97	286.02
457	18	450	...	...	28.58	301.96
457	18	450	...	100	29.36	309.64
457	18	450	...	...	30.18	317.68
457	18	450	...	...	31.75	332.97
457	18	450	...	120	34.93	363.58
457	18	450	...	140	39.67	408.28
457	18	450	...	160	45.24	459.39
508	20	500	...	5	4.78	59.32
508	20	500	...	...	5.56	68.89
508	20	500	...	10	6.35	78.56
508	20	500	...	...	7.14	88.19
508	20	500	...	...	7.92	97.68
508	20	500	...	...	8.74	107.61
508	20	500	STD	20	9.53	117.15
508	20	500	...	...	10.31	126.54
508	20	500	...	...	11.13	136.38
508	20	500	...	...	11.91	145.71
508	20	500	XS	30	12.70	155.13
508	20	500	...	...	14.27	173.75

Welded and Seamless Steel Pipe

Special conditions may apply, please contact our sales consultants

Welded and Seamless Steel Pipe

Tolerance : ASME B36.10M:2004
Dimension : ASME B36.10M:2004



Welded and Seamless Steel Pipe

Outside Diameter	Nominal Pipe Size	Nominal Diameter	Identification Standard (STD), Extra-Strong (XS) or Double Extra Strong (XXS)	Sch. No (Class)	Thickness t	Mass / Unit Length
D	in	mm			mm	kg/m
508	20	500	...	40	15.09	183.43
508	20	500	...	...	15.88	192.73
508	20	500	...	...	17.48	211.45
508	20	500	...	...	19.05	229.71
508	20	500	...	60	20.62	247.84
508	20	500	...	...	22.23	266.31
508	20	500	...	...	23.83	284.54
508	20	500	...	...	25.4	302.30
508	20	500	...	80	26.19	311.19
508	20	500	...	...	26.97	319.94
508	20	500	...	...	28.58	337.91
508	20	500	...	...	30.18	355.63
508	20	500	...	...	31.75	372.91
508	20	500	...	100	32.54	381.55
508	20	500	...	...	33.32	390.05
508	20	500	...	...	34.93	407.51
508	20	500	...	120	38.10	441.52
508	20	500	...	140	44.45	508.15
508	20	500	...	160	50.01	564.85
559	22	550	...	5	4.78	65.33
559	22	550	...	...	5.56	75.89
559	22	550	...	10	6.35	86.55
559	22	550	...	...	7.14	97.17
559	22	550	...	...	7.92	107.64
559	22	550	...	...	8.74	118.60
559	22	550	...	20	9.53	129.14
559	22	550	...	...	10.31	139.51
559	22	550	...	...	11.13	150.38

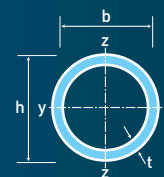
Outside Diameter	Nominal Pipe Size	Nominal Diameter	Identification Standard (STD), Extra-Strong (XS) or Double Extra Strong (XXS)	Sch. No (Class)	Thickness t	Mass / Unit Length
D	in	mm			mm	kg/m
559	22	550	...	...	11.91	160.69
559	22	550	...	30	12.70	171.10
559	22	550	...	...	14.27	191.70
559	22	550	...	...	15.88	212.70
559	22	550	...	...	17.48	233.44
559	22	550	...	...	19.05	253.67
559	22	550	...	...	20.62	273.78
559	22	550	...	60	22.23	294.27
559	22	550	...	...	23.83	314.51
559	22	550	...	...	25.40	334.25
559	22	550	...	...	26.97	353.86
559	22	550	...	80	28.58	373.85
559	22	550	...	...	30.18	393.59
559	22	550	...	...	31.75	412.84
559	22	550	...	...	33.32	431.96
559	22	550	...	100	34.93	451.45
559	22	550	...	...	36.53	470.69
559	22	550	...	...	38.10	489.44
559	22	550	...	120	41.28	527.05
559	22	550	...	140	47.63	600.67
559	22	550	...	160	53.98	672.3
610	24	600	...	5	5.54	82.58
610	24	600	...	10	6.35	94.53
610	24	600	...	...	7.14	106.15
610	24	600	...	...	7.92	117.60
610	24	600	...	...	8.74	129.60
610	24	600	STD	20	9.53	141.12
610	24	600	...	...	10.31	152.48

Welded and Seamless Steel Pipe

Special conditions may apply, please contact our sales consultants

Welded and Seamless Steel Pipe

Tolerance : ASME B36.10M:2004
Dimension : ASME B36.10M:2004



Welded and Seamless Steel Pipe

Outside Diameter	Nominal Pipe Size	Nominal Diameter	Identification Standard (STD), Extra-Strong (XS) or Double Extra Strong (XXS)	Sch. No (Class)	Thickness t	Mass / Unit Length
D	in	mm			mm	kg/m
610	24	600	...	...	11.13	164.38
610	24	600	...	...	11.91	175.67
610	24	600	XS	...	12.70	187.07
610	24	600	...	30	14.27	209.65
610	24	600	...	...	15.88	232.67
610	24	600	...	40	17.48	255.43
610	24	600	...	...	19.05	277.63
610	24	600	...	...	20.62	299.71
610	24	600	...	...	22.23	322.23
610	24	600	...	...	23.83	344.48
610	24	600	...	60	24.61	355.28
610	24	600	...	...	25.40	366.19
610	24	600	...	...	26.97	387.79
610	24	600	...	...	28.58	409.80
610	24	600	...	...	30.18	431.55
610	24	600	...	80	30.96	442.11
610	24	600	...	...	31.75	452.77
610	24	600	...	...	33.32	473.87
610	24	600	...	...	34.93	495.38
610	24	600	...	...	36.53	516.63
610	24	600	...	...	38.10	537.36
610	24	600	...	100	38.89	547.74
610	24	600	...	...	39.67	557.97
610	24	600	...	120	46.02	640.07
610	24	600	...	140	52.37	720.19
610	24	600	...	160	59.54	808.27
660	26	650	...	...	6.35	102.36
660	26	650	...	...	7.14	114.96

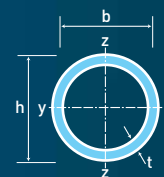
Outside Diameter	Nominal Pipe Size	Nominal Diameter	Identification Standard (STD), Extra-Strong (XS) or Double Extra Strong (XXS)	Sch. No (Class)	Thickness t	Mass / Unit Length
D	in	mm			mm	kg/m
660	26	650	...	10	7.92	127.36
660	26	650	...	...	8.74	140.37
660	26	650	STD	...	9.53	152.88
660	26	650	...	...	10.31	165.19
660	26	650	...	...	11.13	178.10
660	26	650	...	...	11.91	190.36
660	26	650	XS	20	12.70	202.74
660	26	650	...	...	14.27	227.25
660	26	650	...	...	15.88	252.25
660	26	650	...	...	17.48	276.98
660	26	650	...	...	19.05	301.12
660	26	650	...	...	20.62	325.14
660	26	650	...	...	22.23	349.64
660	26	650	...	...	23.83	373.87
660	26	650	...	...	25.40	397.51
711	28	700	...	...	6.35	110.35
711	28	700	...	...	7.14	123.94
711	28	700	...	10	7.92	137.32
711	28	700	...	...	8.74	151.37
711	28	700	...	...	9.53	164.86
711	28	700	...	...	10.31	178.16
711	28	700	...	...	11.13	192.10
711	28	700	...	...	11.91	205.34
711	28	700	XS	20	12.70	218.71
711	28	700	...	...	14.27	245.19
711	28	700	...	30	15.88	272.23
711	28	700	...	...	17.48	298.96
711	28	700	...	...	19.05	325.08

Welded and Seamless Steel Pipe

Special conditions may apply, please contact our sales consultants

Welded and Seamless Steel Pipe

Tolerance : ASME B36.10M:2004
Dimension : ASME B36.10M:2004



Welded and Seamless Steel Pipe

Outside Diameter	Nominal Pipe Size	Nominal Diameter	Identification Standard (STD), Extra-Strong (XS) or Double Extra Strong (XXS)	Sch. No (Class)	Thickness t	Mass / Unit Length
D	in	mm			mm	kg/m
711	28	700	...	...	20.62	351.07
711	28	700	...	...	22.23	377.6
711	28	700	...	...	23.83	403.84
711	28	700	...	...	25.40	429.46
762	30	750	...	5	6.35	118.34
762	30	750	...	...	7.14	132.92
762	30	750	...	10	7.92	147.29
762	30	750	...	...	8.74	162.36
762	30	750	...	...	9.53	176.85
762	30	750	...	...	10.31	191.12
762	30	750	...	...	11.13	206.10
762	30	750	...	...	11.91	220.32
762	30	750	XS	20	12.70	234.68
762	30	750	...	...	14.27	263.14
762	30	750	...	30	15.88	292.2
762	30	750	...	...	17.48	320.95
762	30	750	...	...	19.05	349.04
762	30	750	...	...	20.62	377.01
762	30	750	...	...	22.23	405.56
762	30	750	...	...	23.83	433.81
762	30	750	...	...	25.40	461.41
762	30	750	...	...	26.97	488.88
762	30	750	...	...	28.58	516.93
762	30	750	...	...	30.18	544.68
762	30	750	...	...	31.75	571.79
813	32	800	...	...	6.35	126.32
813	32	800	...	...	7.14	141.90
813	32	800	...	10	7.92	157.25

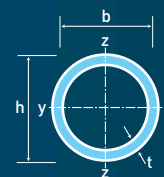
Outside Diameter	Nominal Pipe Size	Nominal Diameter	Identification Standard (STD), Extra-Strong (XS) or Double Extra Strong (XXS)	Sch. No (Class)	Thickness t	Mass / Unit Length
D	in	mm			mm	kg/m
813	32	800	...	...	8.74	173.35
813	32	800	STD	...	9.53	188.83
813	32	800	...	...	10.31	204.09
813	32	800	...	...	11.13	220.10
813	32	800	...	...	11.91	235.29
813	32	800	XS	20	12.70	250.65
813	32	800	...	...	14.27	281.09
813	32	800	...	30	15.88	312.17
813	32	800	...	40	17.48	342.94
813	32	800	...	...	19.05	373.00
813	32	800	...	...	20.62	402.94
813	32	800	...	...	22.23	433.52
813	32	800	...	...	23.83	463.78
813	32	800	...	...	25.40	493.35
813	32	800	...	...	26.97	522.80
813	32	800	...	...	28.58	552.88
813	32	800	...	...	30.18	582.64
813	32	800	...	...	31.75	611.72
864	34	850	...	...	6.35	134.31
864	34	850	...	...	7.14	150.88
864	34	850	...	10	7.92	167.21
864	34	850	...	...	8.74	184.34
864	34	850	STD	...	9.53	200.82
864	34	850	...	...	10.31	217.06
864	34	850	...	...	11.13	234.10
864	34	850	...	...	11.91	250.27
864	34	850	XS	20	12.70	266.63
864	34	850	...	...	14.27	299.04

Welded and Seamless Steel Pipe

Special conditions may apply, please contact our sales consultants

Welded and Seamless Steel Pipe

Tolerance : ASME B36.10M:2004
Dimension : ASME B36.10M:2004



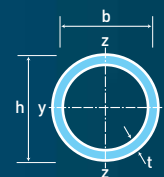
Outside Diameter	Nominal Pipe Size	Nominal Diameter	Identification Standard (STD), Extra-Strong (XS) or Double Extra Strong (XXS)	Sch. No (Class)	Thickness t	Mass / Unit Length
D	in	mm			mm	kg/m
864	34	850	...	30	15.88	332.14
864	34	850	...	40	17.48	364.92
864	34	850	...	...	19.05	396.96
864	34	850	...	...	20.62	428.88
864	34	850	...	...	22.23	461.48
864	34	850	...	...	23.83	493.75
864	34	850	...	...	25.40	525.30
864	34	850	...	...	26.97	556.73
864	34	850	...	...	28.58	588.83
864	34	850	...	...	30.18	620.60
864	34	850	...	...	31.75	651.65
914	36	900	...	...	6.35	142.14
914	36	900	...	...	7.14	159.68
914	36	900	...	10	7.92	176.97
914	36	900	...	...	8.74	195.12
914	36	900	STD	...	9.53	212.57
914	36	900	...	...	10.31	229.77
914	36	900	...	...	11.13	247.82
914	36	900	...	...	11.91	264.96
914	36	900	XS	20	12.70	282.29
914	36	900	...	...	14.27	316.63
914	36	900	...	30	15.88	351.73
914	36	900	...	...	17.48	386.47
914	36	900	...	40	19.05	420.45
914	36	900	...	...	20.62	454.30
914	36	900	...	...	22.23	488.89
914	36	900	...	...	23.83	523.14
914	36	900	...	...	25.40	556.62

Outside Diameter	Nominal Pipe Size	Nominal Diameter	Identification Standard (STD), Extra-Strong (XS) or Double Extra Strong (XXS)	Sch. No (Class)	Thickness t	Mass / Unit Length
D	in	mm			mm	kg/m
914	36	900	...	...	26.97	589.98
914	36	900	...	...	28.58	624.07
914	36	900	...	...	30.18	657.81
914	36	900	...	...	31.75	690.80
965	38	950	...	...	7.92	186.94
965	38	950	...	...	8.74	206.11
965	38	950	STD	...	9.53	224.56
965	38	950	...	...	10.31	242.74
965	38	950	...	...	11.13	261.82
965	38	950	...	...	11.91	279.94
965	38	950	XS	...	12.70	298.26
965	38	950	...	...	14.27	334.58
965	38	950	...	...	15.88	371.70
965	38	950	...	...	17.48	408.46
965	38	950	...	...	19.05	444.41
965	38	950	...	...	20.62	480.24
965	38	950	...	...	22.23	516.85
965	38	950	...	...	23.83	553.11
965	38	950	...	...	25.40	588.57
965	38	950	...	...	26.97	623.90
965	38	950	...	...	28.58	660.01
965	38	950	...	...	30.18	695.77
965	38	950	...	...	31.75	730.74
1016	40	1000	...	...	7.92	196.90
1016	40	1000	...	...	8.74	217.11
1016	40	1000	STD	...	9.53	236.54
1016	40	1000	...	...	10.31	255.71
1016	40	1000	...	...	11.13	275.82

Special conditions may apply, please contact our sales consultants

Welded and Seamless Steel Pipe

Tolerance : ASME B36.10M:2004
Dimension : ASME B36.10M:2004



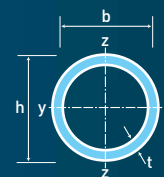
Outside Diameter	Nominal Pipe Size	Nominal Diameter	Identification Standard (STD), Extra-Strong (XS) or Double Extra Strong (XXS)	Sch. No (Class)	Thickness t	Mass / Unit Length
D	in	mm			mm	kg/m
1016	40	1000	...	...	11.91	294.92
1016	40	1000	XS	...	12.70	314.23
1016	40	1000	...	...	14.27	352.53
1016	40	1000	...	...	15.88	391.67
1016	40	1000	...	...	17.48	430.45
1016	40	1000	...	...	19.05	468.37
1016	40	1000	...	...	20.62	506.17
1016	40	1000	...	...	22.23	544.81
1016	40	1000	...	...	23.83	583.08
1016	40	1000	...	...	25.40	620.51
1016	40	1000	...	...	26.97	657.82
1016	40	1000	...	...	28.58	695.96
1016	40	1000	...	...	30.18	733.73
1016	40	1000	...	...	31.75	770.67
1067	42	1050	...	...	8.74	228.10
1067	42	1050	STD	...	9.53	248.53
1067	42	1050	...	...	10.31	268.67
1067	42	1050	...	...	11.13	289.82
1067	42	1050	...	...	11.91	309.90
1067	42	1050	XS	...	12.7	330.21
1067	42	1050	...	...	14.27	370.48
1067	42	1050	...	...	15.88	411.64
1067	42	1050	...	...	17.48	452.43
1067	42	1050	...	...	19.05	492.33
1067	42	1050	...	...	20.62	532.11
1067	42	1050	...	...	22.23	572.77
1067	42	1050	...	...	23.83	613.05
1067	42	1050	...	...	25.40	652.46

Outside Diameter	Nominal Pipe Size	Nominal Diameter	Identification Standard (STD), Extra-Strong (XS) or Double Extra Strong (XXS)	Sch. No (Class)	Thickness t	Mass / Unit Length
D	in	mm			mm	kg/m
1067	42	1050	...	...	26.97	691.75
1067	42	1050	...	...	28.58	731.91
1067	42	1050	...	...	30.18	771.69
1067	42	1050	...	...	31.75	810.60
1118	44	1100	...	...	8.74	239.09
1118	44	1100	STD	...	9.53	260.52
1118	44	1100	...	...	10.31	281.64
1118	44	1100	...	...	11.13	303.82
1118	44	1100	...	...	11.91	324.88
1118	44	1100	XS	...	12.70	346.18
1118	44	1100	...	...	14.27	388.42
1118	44	1100	...	...	15.88	431.62
1118	44	1100	...	...	17.48	474.42
1118	44	1100	...	...	19.05	516.29
1118	44	1100	...	...	20.62	558.04
1118	44	1100	...	...	22.23	600.73
1118	44	1100	...	...	23.83	643.03
1118	44	1100	...	...	25.40	684.41
1118	44	1100	...	...	26.97	725.67
1118	44	1100	...	...	28.58	767.85
1118	44	1100	...	...	30.18	809.65
1118	44	1100	...	...	31.75	850.54
1168	46	1150	...	...	8.74	249.87
1168	46	1150	STD	...	9.53	272.27
1168	46	1150	...	...	10.31	294.35
1168	46	1150	...	...	11.13	317.54
1168	46	1150	...	...	11.91	339.56
1168	46	1150	XS	...	12.70	361.84

Special conditions may apply, please contact our sales consultants

Welded and Seamless Steel Pipe

Tolerance : ASME B36.10M:2004
Dimension : ASME B36.10M:2004



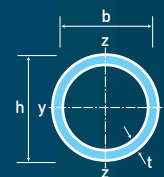
Outside Diameter	Nominal Pipe Size	Nominal Diameter	Identification Standard (STD), Extra-Strong (XS) or Double Extra Strong (XXS)	Sch. No (Class)	Thickness t	Mass / Unit Length
D	in	mm			mm	kg/m
1168	46	1150	...	...	14.27	406.02
1168	46	1150	...	...	15.88	451.20
1168	46	1150	...	...	17.48	495.97
1168	46	1150	...	...	19.05	539.78
1168	46	1150	...	...	20.62	583.47
1168	46	1150	...	...	22.23	628.14
1168	46	1150	...	...	23.83	672.41
1168	46	1150	...	...	25.40	715.73
1168	46	1150	...	...	26.97	758.92
1168	46	1150	...	...	28.58	803.09
1168	46	1150	...	...	30.18	846.86
1168	46	1150	...	...	31.75	889.69
1219	48	1200	...	...	8.74	260.86
1219	48	1200	...	...	9.53	284.25
1219	48	1200	...	...	10.31	307.32
1219	48	1200	...	...	11.13	331.54
1219	48	1200	...	...	11.91	354.54
1219	48	1200	XS	...	12.70	377.81
1219	48	1200	...	...	14.27	423.97
1219	48	1200	...	...	15.88	471.17
1219	48	1200	...	...	17.48	517.95
1219	48	1200	...	...	19.05	563.74
1219	48	1200	...	...	20.62	609.40
1219	48	1200	...	...	22.23	656.10
1219	48	1200	...	...	23.83	702.38
1219	48	1200	...	...	25.40	747.67
1219	48	1200	...	...	26.97	792.84
1219	48	1200	...	...	28.58	839.04

Outside Diameter	Nominal Pipe Size	Nominal Diameter	Identification Standard (STD), Extra-Strong (XS) or Double Extra Strong (XXS)	Sch. No (Class)	Thickness t	Mass / Unit Length
D	in	mm			mm	kg/m
1219	48	1200	...	...	30.18	884.82
1219	48	1200	...	...	31.75	929.62
1321	52	1300	...	...	9.53	308.23
1321	52	1300	...	...	10.31	333.26
1321	52	1300	...	...	11.13	359.54
1321	52	1300	...	...	11.91	384.5
1321	52	1300	...	...	12.70	409.76
1321	52	1300	...	...	14.27	459.86
1321	52	1300	...	...	15.88	511.12
1321	52	1300	...	...	17.48	561.93
1321	52	1300	...	...	19.05	611.66
1321	52	1300	...	...	20.62	661.27
1321	52	1300	...	...	22.23	712.02
1321	52	1300	...	...	23.83	762.33
1321	52	1300	...	...	25.40	811.57
1321	52	1300	...	...	26.97	860.69
1321	52	1300	...	...	28.58	910.93
1321	52	1300	...	...	30.18	960.74
1321	52	1300	...	...	31.75	1,009.49
1422	56	1400	...	...	9.53	331.96
1422	56	1400	...	...	10.31	358.94
1422	56	1400	...	...	11.13	387.26
1422	56	1400	...	...	11.91	414.17
1422	56	1400	...	...	12.70	441.39
1422	56	1400	...	...	14.27	495.41
1422	56	1400	...	...	15.88	550.67
1422	56	1400	...	...	17.48	605.46
1422	56	1400	...	...	19.05	659.11

Special conditions may apply, please contact our sales consultants

Welded and Seamless Steel Pipe

Tolerance : ASME B36.10M:2004
Dimension : ASME B36.10M:2004



Welded and Seamless Steel Pipe

Outside Diameter	Nominal Pipe Size	Nominal Diameter	Identification Standard (STD), Extra-Strong (XS) or Double Extra Strong (XXS)	Sch. No (Class)	Thickness t	Mass / Unit Length
D	in	mm			mm	kg/m
1422	56	1400	...	...	20.62	712.63
1422	56	1400	...	...	22.23	767.39
1422	56	1400	...	...	23.83	821.68
1422	56	1400	...	...	25.40	874.83
1422	56	1400	...	...	26.97	927.86
1422	56	1400	...	...	28.58	982.12
1422	56	1400	...	...	30.18	1,035.91
1422	56	1400	...	...	31.75	1,088.57
1524	60	1500	...	...	9.53	355.94
1524	60	1500	...	...	10.31	384.87
1524	60	1500	...	...	11.13	415.26
1524	60	1500	...	...	11.91	444.13
1524	60	1500	...	...	12.70	473.34
1524	60	1500	...	...	14.27	531.30
1524	60	1500	...	...	15.88	590.62
1524	60	1500	...	...	17.48	649.44
1524	60	1500	...	...	19.05	707.03
1524	60	1500	...	...	20.62	764.50
1524	60	1500	...	...	22.23	823.31
1524	60	1500	...	...	23.83	881.63
1524	60	1500	...	...	25.40	938.73
1524	60	1500	...	...	26.97	995.71
1524	60	1500	...	...	28.58	1,054.01
1524	60	1500	...	...	30.18	1,111.83
1524	60	1500	...	...	31.75	1,168.44
1626	64	1600	...	...	9.53	379.91
1626	64	1600	...	...	10.31	410.81
1626	64	1600	...	...	11.13	443.25

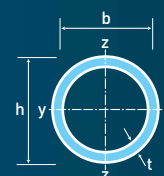
Outside Diameter	Nominal Pipe Size	Nominal Diameter	Identification Standard (STD), Extra-Strong (XS) or Double Extra Strong (XXS)	Sch. No (Class)	Thickness t	Mass / Unit Length
D	in	mm			mm	kg/m
1626	64	1600	...	...	11.91	474.09
1626	64	1600	...	...	12.70	505.29
1626	64	1600	...	...	14.27	567.20
1626	64	1600	...	...	15.88	630.56
1626	64	1600	...	...	17.48	693.41
1626	64	1600	...	...	19.05	754.95
1626	64	1600	...	...	20.62	816.37
1626	64	1600	...	...	22.23	879.23
1626	64	1600	...	...	23.83	941.57
1626	64	1600	...	...	25.40	1,002.62
1626	64	1600	...	...	26.97	1,063.55
1626	64	1600	...	...	28.58	1,125.90
1626	64	1600	...	...	30.18	1,187.74
1626	64	1600	...	...	31.75	1,248.30
1727	68	1700	...	...	11.91	503.75
1727	68	1700	...	...	12.70	536.92
1727	68	1700	...	...	14.27	602.74
1727	68	1700	...	...	15.88	670.12
1727	68	1700	...	...	17.48	736.95
1727	68	1700	...	...	19.05	802.40
1727	68	1700	...	...	20.62	867.73
1727	68	1700	...	...	22.23	934.60
1727	68	1700	...	...	23.83	1,000.92
1727	68	1700	...	...	25.40	1,065.89
1727	68	1700	...	...	26.97	1,130.73
1727	68	1700	...	...	28.58	1,197.09
1727	68	1700	...	...	30.18	1,262.92
1727	68	1700	...	...	31.75	1,327.39

Welded and Seamless Steel Pipe

Special conditions may apply, please contact our sales consultants

Welded and Seamless Steel Pipe

Tolerance : ASME B36.10M:2004
Dimension : ASME B36.10M:2004



Welded and Seamless Steel Pipe

Outside Diameter	Nominal Pipe Size	Nominal Diameter	Identification Standard (STD), Extra-Strong (XS) or Double Extra Strong (XXS)	Sch. No (Class)	Thickness t	Mass / Unit Length
D	in	mm			mm	kg/m
1829	72	1800	...	...	12.70	568.87
1829	72	1800	...	...	14.27	638.64
1829	72	1800	...	...	15.88	710.06
1829	72	1800	...	...	17.48	780.92
1829	72	1800	...	...	19.05	850.32
1829	72	1800	...	...	20.62	919.60
1829	72	1800	...	...	22.23	990.52
1829	72	1800	...	...	23.83	1,060.87
1829	72	1800	...	...	25.40	1,129.78
1829	72	1800	...	...	26.97	1,198.57
1829	72	1800	...	...	28.58	1,268.98
1829	72	1800	...	...	30.18	1,338.83
1829	72	1800	...	...	31.75	1,407.25
1930	76	1900	...	...	12.70	600.50
1930	76	1900	...	...	14.27	674.18
1930	76	1900	...	...	15.88	749.62
1930	76	1900	...	...	17.48	824.45
1930	76	1900	...	...	19.05	897.77
1930	76	1900	...	...	20.62	970.96
1930	76	1900	...	...	22.23	1,045.89
1930	76	1900	...	...	23.83	1,120.22
1930	76	1900	...	...	25.40	1,193.05
1930	76	1900	...	...	26.97	1,265.74
1930	76	1900	...	...	28.58	1,340.17
1930	76	1900	...	...	30.18	1,414.01
1930	76	1900	...	...	31.75	1,486.33
2032	80	2000	...	...	14.27	710.08
2032	80	2000	...	...	15.88	789.56

Outside Diameter	Nominal Pipe Size	Nominal Diameter	Identification Standard (STD), Extra-Strong (XS) or Double Extra Strong (XXS)	Sch. No (Class)	Thickness t	Mass / Unit Length
D	in	mm			mm	kg/m
2032	80	2000	...	...	17.48	868.43
2032	80	2000	...	...	19.05	945.69
2032	80	2000	...	...	20.62	1,022.83
2032	80	2000	...	...	22.23	1,101.81
2032	80	2000	...	...	23.83	1,180.17
2032	80	2000	...	...	25.40	1,256.94
2032	80	2000	...	...	26.97	1,333.59
2032	80	2000	...	...	28.58	1,412.06
2032	80	2000	...	...	30.18	1,489.92
2032	80	2000	...	...	31.75	1,566.20

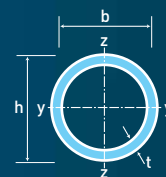
Welded and Seamless Steel Pipe

Special conditions may apply, please contact our sales consultants

Black Pipes / Non Alloy Steel Tube

Dimension : BS EN 10255:2004 (Replaced BS 1387:1985)

Tolerance : BS EN 10255:2004



Outside Diameter	Nominal Pipe Size	Nominal Diameter	Outside Diameter	
D			Max.	Min.
mm	mm	in	mm	mm
Type: Light				
13.5	1/4	8	13.9	13.2
17.2	3/8	10	17.4	16.7
21.3	1/2	15	21.7	21.0
26.9	3/4	20	27.1	26.4
33.7	1	25	34.0	33.2
42.4	1 1/4	32	42.7	41.9
48.3	1 1/2	40	48.6	47.8
60.3	2	50	60.7	59.6
76.1	2 1/2	65	76.0	75.2
88.9	3	80	88.7	87.9
101.6	3 1/2	-	101.2	100.3
114.3	4	100	113.9	113.0
139.7	5	125	140.8	138.5
165.1	6	150	166.5	163.9

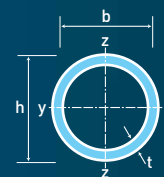
Thickness	Mass / Unit Length of Bare Tube	
t	Plain End	Threaded and Socketed
mm	kg/m	kg/m
2.0	0.567	0.571
2.0	0.750	0.756
2.3	1.080	1.090
2.3	1.400	1.410
2.9	2.200	2.220
2.9	2.820	2.850
2.9	3.250	3.290
3.2	4.510	4.580
3.2	5.750	5.870
3.2	6.760	6.930
3.6	8.700	8.880
3.6	9.830	10.100
4.5	15.000	15.500
4.5	17.800	18.400

Yield Strength : 195 N/mm²
Tensile Strength : 320 to 460 N/mm²
Suitable for welding and threading

Black Pipes / Non Alloy Steel Tube

Dimension : BS EN 10255:2004 (Replaced BS 1387:1985)

Tolerance : BS EN 10255:2004



Outside Diameter	Nominal Pipe Size	Nominal Diameter	Outside Diameter	
D			Max.	Min.
mm	mm	in	mm	mm
Type: Light 1				
13.5	1/4	8	13.9	13.2
17.2	3/8	10	17.4	16.7
21.3	1/2	15	21.7	21.0
26.9	3/4	20	27.1	26.4
33.7	1	25	34.0	33.2
42.4	1 1/4	32	42.7	41.9
48.3	1 1/2	40	48.6	47.8
60.3	2	50	60.7	59.6
76.1	2 1/2	65	76.3	75.2
88.9	3	80	89.4	87.9
114.3	4	100	114.9	113.0

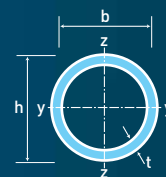
Thickness	Mass / Unit Length of Bare Tube	
t	Plain End	Threaded and Socketed
mm	kg/m	kg/m
2.0	0.570	0.574
2.0	0.742	0.748
2.3	1.080	1.090
2.3	1.390	1.400
2.9	2.200	2.220
2.9	2.820	2.850
2.9	3.240	3.280
3.2	4.490	4.560
3.2	5.730	5.850
3.6	7.550	7.720
4.0	10.800	11.100

Yield Strength : 195 N/mm²
Tensile Strength : 320 to 460 N/mm²
Suitable for welding and threading

Black Pipes / Non Alloy Steel Tube

Dimension : BS EN 10255:2004 (Replaced BS 1387:1985)

Tolerance : BS EN 10255:2004



Outside Diameter	Nominal Pipe Size	Nominal Diameter	Outside Diameter	
D			Max.	Min.
mm	mm	in	mm	mm

Type: Light 2 (replace BS 1389:1985, Light category)

13.5	1/4	8	13.6	13.2
17.2	3/8	10	17.1	16.7
21.3	1/2	15	21.4	21.0
26.9	3/4	20	26.9	26.4
33.7	1	25	33.8	33.2
42.4	1 1/4	32	42.5	41.9
48.3	1 1/2	40	48.4	47.8
60.3	2	50	60.2	59.6
76.1	2 1/2	65	76.0	75.2
88.9	3	80	88.7	87.9
114.3	4	100	113.9	113.0

Thickness	Mass / Unit Length of Bare Tube	
t	Plain End	Threaded and Socketed
mm	kg/m	kg/m

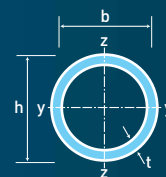
1.8	0.515	0.519
1.8	0.670	0.676
2.0	0.947	0.956
2.3	1.380	1.390
2.6	1.980	2.000
2.6	2.540	2.570
2.9	3.230	3.270
2.9	4.080	4.150
3.2	5.710	5.830
3.2	6.720	6.890
3.6	9.750	10.000

Yield Strength : 195 N/mm²
Tensile Strength : 320 to 460 N/mm²
Suitable for welding and threading

Black Pipes / Non Alloy Steel Tube

Dimension : BS EN 10255:2004 (Replaced BS 1387:1985)

Tolerance : BS EN 10255:2004



Outside Diameter	Nominal Pipe Size	Nominal Diameter	Outside Diameter	
D			Max.	Min.
mm	mm	in	mm	mm

Type: Medium

			BS EN 10255	BS 1387	BS EN 10255	BS 1387
10.2	1/8	6	10.6	-	9.8	-
13.5	1/4	8	14.0	13.9	13.2	13.3
17.2	3/8	10	17.5	17.4	16.7	16.8
21.3	1/2	15	21.8	21.7	21.0	21.1
26.9	3/4	20	27.3	27.2	26.5	26.6
33.7	1	25	34.2	34.2	33.3	33.4
42.4	1 1/4	32	42.9	42.9	42.0	42.1
48.3	1 1/2	40	48.8	48.8	47.9	48.0
60.3	2	50	60.8	60.8	59.7	59.8
76.1	2 1/2	65	76.6	76.6	75.3	75.4
88.9	3	80	89.5	89.5	88.0	88.1
114.3	4	100	115.0	114.9	113.1	113.3
139.7	5	125	140.8	140.6	138.5	138.7
165.1	6	150	166.5	166.1	163.9	164.1

Thickness	Mass / Unit Length of Bare Tube	
t	Plain End	Threaded and Socketed
mm	kg/m	kg/m

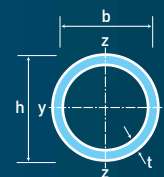
BS EN 10255	BS 1387	BS EN 10255	BS 1387	BS EN 10255	BS 1387
2.0		0.404	-	0.407	-
2.3	2.3	0.641	0.641	0.645	0.645
2.3	2.3	0.839	0.839	0.845	0.845
2.6	2.6	1.210	1.210	1.220	1.220
2.6	2.6	1.560	1.560	1.570	1.570
3.2	3.2	2.410	2.410	2.430	2.430
3.2	3.2	3.100	3.100	3.130	3.130
3.2	3.2	3.560	3.570	3.600	3.610
3.6	3.6	5.030	5.030	5.100	5.100
3.6	3.6	6.420	6.430	6.540	6.550
4.0	4.0	8.360	8.370	8.530	8.540
4.5	4.5	12.200	12.200	12.500	12.500
5.0	5.0	16.600	16.600	17.100	17.100
5.0	5.0	19.800	19.700	20.400	20.300

Yield Strength : 195 N/mm²
Tensile Strength : 320 to 460 N/mm²
Suitable for welding and threading

Black Pipes / Non Alloy Steel Tube

Dimension : BS EN 10255:2004 (Replaced BS 1387:1985)

Tolerance : BS EN 10255:2004



Outside Diameter	Nominal Pipe Size	Nominal Diameter	Outside Diameter	
D			Max.	Min.
mm	mm	in	mm	mm

Type: Heavy

			BS EN 10255	BS 1387	BS EN 10255	BS 1387
10.2	1/8	6	10.6	-	9.8	-
13.5	1/4	8	14.0	13.9	13.2	13.3
17.2	3/8	10	17.5	17.4	16.7	16.8
21.3	1/2	15	21.8	21.7	21.0	21.1
26.9	3/4	20	27.3	27.2	26.5	26.6
33.7	1	25	34.2	34.2	33.3	33.4
42.4	1 1/4	32	42.9	42.9	42.0	42.1
48.3	1 1/2	40	48.8	48.8	47.9	48.0
60.3	2	50	60.8	60.8	59.7	59.8
76.1	2 1/2	65	76.6	76.6	75.3	75.4
88.9	3	80	89.5	89.5	88.0	88.1
114.3	4	100	115.0	114.9	113.1	113.3
139.7	5	125	140.8	140.6	138.5	138.7
165.1	6	150	166.5	166.1	163.9	164.1

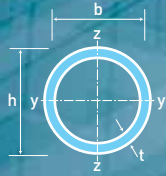
Thickness	Mass / Unit Length of Bare Tube	
t	Plain End	Threaded and Socketed
mm	kg/m	kg/m

BS EN 10255	BS 1387	BS EN 10255	BS 1387	BS EN 10255	BS 1387
2.6	-	0.487	-	0.490	-
2.9	2.9	0.765	0.765	0.769	0.769
2.9	2.9	1.020	1.020	1.030	1.030
3.2	3.2	1.440	1.440	1.450	1.450
3.2	3.2	1.870	1.370	1.880	1.880
4.0	4.0	2.930	2.940	2.950	2.960
4.0	4.0	3.790	3.800	3.820	3.830
4.0	4.0	4.370	4.380	4.410	4.420
4.5	4.5	6.190	6.190	6.260	6.260
4.5	4.5	7.930	7.930	8.050	8.050
5.0	5.0	10.300	10.300	10.500	10.500
5.4	5.4	14.500	14.500	14.800	14.800
5.4	5.4	17.900	17.900	18.400	18.400
5.4	5.4	21.300	21.300	21.900	21.900

Yield Strength : 195 N/mm²
Tensile Strength : 320 to 460 N/mm²
Suitable for welding and threading

Carbon Steel Pipe

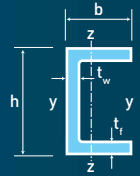
Dimension : JIS G 3452:2010
Tolerance : JIS G 3452:2010



Outside Diameter		Nominal Pipe Size		Nominal Diameter		Thickness		Mass / Unit Length	
mm	in	mm	in	mm	in	mm	in	lb/ft	kg/m
10.5	0.413	1/8	6	2.0	0.079	0.282	0.419		
13.8	0.543	1/4	8	2.3	0.091	0.438	0.652		
17.3	0.681	3/8	10	2.3	0.091	0.572	0.851		
21.7	0.854	1/2	15	2.8	0.110	0.880	1.310		
27.2	1.070	3/4	20	2.8	0.110	1.130	1.680		
34.0	1.340	1	25	3.2	0.126	1.630	2.430		
42.7	1.680	1 1/4	32	3.5	0.138	2.270	3.380		
48.6	1.910	1 1/2	40	3.5	0.138	2.610	3.890		
60.5	2.380	2	50	3.8	0.150	3.570	5.310		
76.3	3.000	2 1/2	65	4.2	0.165	5.020	7.470		
89.1	3.510	3	80	4.2	0.165	5.910	8.790		
101.6	4.000	3 1/2	90	4.2	0.165	6.790	10.100		
114.3	4.500	4	100	4.5	0.177	8.200	12.200		
139.8	5.500	5	125	4.5	0.177	10.100	15.000		
165.2	6.500	6	150	5.0	0.197	13.300	19.800		
190.7	7.510	7	175	5.3	0.209	16.300	24.200		
216.3	8.520	8	200	5.8	0.228	20.200	30.100		
241.8	9.520	9	225	6.2	0.244	24.200	36.000		
267.4	10.500	10	250	6.6	0.260	28.500	42.400		
318.5	12.500	12	300	6.9	0.272	35.600	53.000		
355.6	14.000	14	350	7.9	0.311	45.500	67.700		
406.4	16.000	16	400	7.9	0.311	52.100	77.600		
457.2	18.000	18	450	7.9	0.311	58.800	87.500		
508.0	20.000	20	500	7.9	0.311	65.500	97.400		

Parallel Flange Channel (BS/AS)

Dimension : BS 4-1:2005 & AS3679.1:2010
Tolerance : EN 10034 & AS3679.1:2010



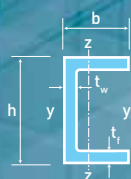
Designation	Mass / Unit Length	Depth Width		Thickness		Radius
		h	b	t _w	t _f	
	kg/m	mm	mm	mm	mm	mm
75 x 40 x 6 AS3679 c	5.92	75	40	3.8	6.1	8
100 x 50 x 8 AS3679 c	8.33	100	50	4.2	6.7	8
100 x 50 x 10 BS4-1 c	10.20	100	50	5.0	8.5	9
125 x 65 x 12 AS3679	11.90	125	65	4.7	7.5	8
125 x 65 x 15 BS4-1	14.80	125	65	5.5	9.5	12
150 x 75 x 18 AS3679	17.70	150	75	6.0	9.5	10
150 x 75 x 18 BS4-1	17.90	150	75	5.5	10.0	12
150 x 90 x 24 BS4-1	23.90	150	90	6.5	12.0	12
180 x 75 x 20 BS4-1	20.30	180	75	6.0	10.5	12
180 x 75 x 21 AS3679	20.90	180	75	6.0	11.0	12
180 x 90 x 26 BS4-1	26.10	180	90	6.5	12.5	12
200 x 75 x 23 AS3679	22.90	200	75	6.0	12.0	12
200 x 75 x 23 BS4-1	23.40	200	75	6.0	12.5	12
200 x 90 x 30 BS4-1	29.70	200	90	7.0	14.0	12
230 x 75 x 25 AS3679	25.10	230	75	6.5	12.0	12
230 x 75 x 26 BS4-1	25.70	230	75	6.5	12.5	12
230 x 90 x 32 BS4-1	32.20	230	90	7.5	14.0	12
250 x 90 x 36 AS3679	35.50	250	90	8.0	15.0	12
260 x 75 x 28 BS4-1	27.60	260	75	7.0	12.0	12
260 x 90 x 35 BS4-1	34.80	260	90	8.0	14.0	12
300 x 90 x 40 AS3679	40.10	300	90	8.0	16.0	14
300 x 90 x 41 BS4-1	41.40	300	90	9.0	15.5	12
300 x 100 x 46 BS4-1	45.50	300	100	9.0	16.5	15
380 x 100 x 54 BS4-1	54.00	380	100	9.5	17.5	15
380 x 100 x 55 AS3679	55.20	380	100	10.0	17.5	14
430 x 100 x 64 BS4-1 c	64.40	430	100	11.0	19.0	15

Special conditions may apply, please contact our sales consultants
Tensile Strength : 290N/mm²

Special conditions may apply, please contact our sales consultants

Parallel Flange Channel (UPE)

Dimension : DIN 1026-2:2000
Tolerance : EN 10279:2000



Designation	Mass / Unit Length	Depth h	Width b	Radius r ₁	Sectional Area A
	kg/m	mm	mm	mm	cm ²
UPE 80	7.90	80	50	10	10.1
UPE 100	9.82	100	55	10	12.5
UPE 120	12.10	120	60	12	15.4
UPE 140	14.50	140	65	12	18.4
UPE 160	17.00	160	70	12	21.7
UPE 180	19.70	180	75	12	25.1
UPE 200	22.60	200	80	13	29.0
UPE 220	26.60	220	85	13	33.9
UPE 240	30.20	240	90	15	38.5
UPE 270	35.20	270	95	15	44.8
UPE 300	44.40	300	100	15	56.6
UPE 330	53.20	330	105	18	67.8
UPE 360	61.20	360	110	18	77.9
UPE 400	72.20	400	115	18	91.9

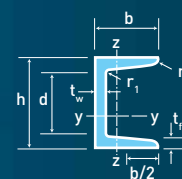
Parallel Flange Channel (UPE)



Special conditions may apply, please contact our sales consultants

Tapered Flange Channel (JIS)

Dimension : JIS 3192:2008
Tolerance : JIS 3192:2008



Designation	Mass / Unit Length	Depth h	Width b	Thickness t _w	Thickness t _f	Radius r ₁	Radius r ₂	Sectional Area A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
75 x 40 x 7	6.92	75	40	5.0	7.0	8	4.0	8.818
100 x 50 x 9	9.36	100	50	5.0	7.5	8	4.0	11.920
125 x 65 x 13	13.4	125	65	6.0	8.0	8	4.0	17.110
150 x 75 x 19	18.6	150	75	6.5	10.0	10	5.0	23.710
150 x 75 x 24	24.0	150	75	9.0	12.5	15	7.5	30.590
180 x 75 x 21	21.4	180	75	7.0	10.5	11	5.5	27.200
200 x 80 x 25	24.6	200	80	7.5	11.0	12	6.0	31.330
200 x 90 x 30	30.3	200	90	8.0	13.5	14	7.0	38.650
250 x 90 x 35	34.6	250	90	9.0	13.0	14	7.0	44.070
250 x 90 x 40	40.2	250	90	11.0	14.5	17	8.5	51.170
300 x 90 x 38	38.1	300	90	9.0	13.0	14	7.0	48.570
300 x 90 x 44	43.8	300	90	10.0	15.5	19	9.5	55.740
300 x 90 x 49	48.6	300	90	12.0	16.0	19	9.5	61.900
380 x 100 x 55 ^c	54.5	380	100	10.5	16.0	18	9.0	69.390
380 x 100 x 62 ^c	62.0	380	100	13.0	16.5	18	9.0	78.960
380 x 100 x 67 ^c	67.3	380	100	13.0	20.0	24	12.0	85.710

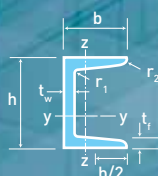
Tapered Flange Channel (JIS)



^c Special conditions may apply, please contact our sales consultants
Note : The flange thickness is measured at the centre of the flange

Tapered Flange Channel (UPN)

Dimension : DIN 1026-1:2000
Tolerance : DIN EN 10279:2000



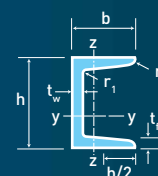
Parallel Flange Channel (UPN)

Designation	Mass / Unit Length	Depth h	Width b	Thickness t _f	Radius		Sectional Area A
					Root	Toe	
					r ₁	r ₂	
	kg/m	mm	mm	mm	mm	mm	cm ²
UPN 30 x 15	1.74	30	15	4.5	4.5	2.00	2.21
UPN 30	4.27	30	33	7.0	7.0	3.50	5.44
UPN 40x20	2.87	40	20	5.5	5.5	2.50	3.66
UPN 40	4.87	40	35	7.0	7.0	3.50	6.21
UPN 50 x 25	3.86	50	25	6.0	6.0	3.00	4.92
UPN 50	5.59	50	38	7.0	7.0	3.50	7.12
UPN 60	5.07	60	30	6.0	6.0	3.00	6.46
UPN 65	7.09	65	42	7.5	7.5	4.00	9.03
UPN 80	8.64	80	45	8.0	8.0	4.00	11.00
UPN 100	10.60	100	50	8.5	8.5	4.50	13.50
UPN 120	13.40	120	55	9.0	9.0	4.50	17.00
UPN 140	16.00	140	60	10.0	10.0	5.00	20.40
UPN 160	18.80	160	65	10.5	10.5	5.50	24.00
UPN 180	22.00	180	70	11.0	11.0	5.50	28.00
UPN 200	25.30	200	75	11.5	11.5	6.00	32.20
UPN 220	29.40	220	80	12.5	12.5	6.50	37.40
UPN 240	33.20	240	85	13.0	13.0	6.50	42.30
UPN 260	37.90	260	90	14.0	14.0	7.00	48.30
UPN 280	41.80	280	95	15.0	15.0	7.50	53.30
UPN 300	46.20	300	100	16.0	16.0	8.00	58.80
UPN 320	59.50	320	100	17.5	17.5	8.75	75.80
UPN 350	60.60	350	100	16.0	16.0	8.00	77.30
UPN 380	63.10	380	102	16.0	16.0	8.00	80.40
UPN 400	71.80	400	110	18.0	18.0	9.00	91.50

Special conditions may apply, please contact our sales consultants

Tapered Flange Channel (C)

Dimension : ASTM A6/A6M-09
Tolerance : ASTM A6/A6M-09



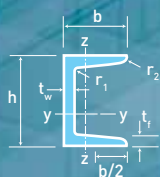
Tapered Flange Channel (C)

Designation	Mass / Unit Length	Depth h	Width b	Thickness t _w	t _f	Sectional Area A
	kg/m	mm	mm	mm	mm	mm ²
75 x 5.2 C 3 x 3.50	5.2	76	35	3.4	6.9	665
75 x 6.1 C 3 x 4.10	6.1	76	35	4.3	6.9	781
75 x 7.4 C 3 x 5.00	7.4	76	37	6.6	6.9	948
75 x 8.9 C 3 x 6.00	8.9	76	40	9.0	6.9	1130
100 x 6.7 C 4 x 4.50	6.7	102	40	3.2	7.5	852
100 x 8.0 C 4 x 5.40	8.0	102	40	4.7	7.5	1030
100 x 9.3 C 4 x 6.25	9.3	102	42	6.3	6.9	1187
100 x 10.8 C 4 x 7.25	10.8	102	43	8.2	7.5	1370
130 x 10.4 C 5 x 6.70	10.4	127	44	4.8	8.1	1270
130 x 13.0 C 5 x 9.00	13.0	127	47	8.3	8.1	1700
150 x 12.2 C 6 x 8.20	12.2	152	48	5.1	8.7	1550
150 x 15.6 C 6 x 10.50	15.6	152	51	8.0	8.7	1990
150 x 19.3 C 6 x 13.0	19.3	152	54	11.1	8.7	2470
180 x 14.6 C 7 x 9.80	14.6	178	53	5.3	9.3	1850
180 x 18.2 C 7 x 12.25	18.2	178	55	8.0	9.3	2320
180 x 22.0 C 7 x 14.75	22.0	178	58	10.6	9.3	2790
200 x 17.1 C 8 x 11.50	17.1	203	57	5.6	9.9	2180
200 x 20.5 C 8 x 13.75	20.5	203	59	7.7	9.9	2610
200 x 27.9 C 8 x 18.75	27.9	203	64	12.4	9.9	3550
230 x 19.9 C 9 x 13.40	19.9	229	61	5.9	10.5	2540
230 x 22.0 C 9 x 15.00	22.0	229	63	7.2	10.5	2850
230 x 30.0 C 9 x 20.00	30.0	229	67	11.4	10.5	3790
250 x 22.8 C 10 x 15.30	22.8	254	65	6.1	11.1	2900
250 x 30.0 C 10 x 20.00	30.0	254	69	9.6	11.1	3790
250 x 37.0 C 10 x 25.00	37.0	254	73	13.4	11.1	4740
250 x 45.0 C 10 x 30.00	45.0	254	76	17.1	11.1	5690

Special conditions may apply, please contact our sales consultants

Tapered Flange Channel (C)

Dimension : ASTM A6/A6M-09
Tolerance : ASTM A6/A6M-09



Designation	Mass / Unit Length	Depth h	Width b	Thickness t _w	Thickness t _f	Sectional Area A
310 x 30.8 C 12 x 20.7	30.8	305	74	7.2	12.7	3930
310 x 37.0 C 12 x 25.0	37.0	305	77	9.8	12.7	4740
310 x 45.0 C 12 x 30.0	45.0	305	80	13.0	12.7	5690
380 x 50.4 C 15 x 33.9	50.4	381	86	10.2	16.5	6430
380 x 60.0 C 15 x 40.0	60.0	381	89	13.2	16.5	7610
380 x 74.0 C 15 x 50.0	74.0	381	94	18.2	16.5	9480

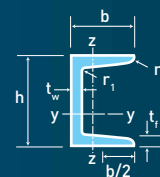
Tapered Flange Channel (C)



Special conditions may apply, please contact our sales consultants

Tapered Flange Channel (MC)

Dimension : ASTM A6/A6M-09
Tolerance : ASTM A6/A6M-09



Designation	Mass / Unit Length	Depth h	Width b	Thickness t _w	Thickness t _f
150 x 17.9 MC 6 x 12.0	17.9	152	63	7.9	9.5
150 x 22.5 MC 6 x 15.1	22.5	152	74	8.0	12.1
150 x 24.3 MC 6 x 16.3	24.3	152	76	9.5	12.1
150 x 22.8 MC 6 x 15.3	22.8	152	88	8.6	9.8
150 x 26.8 MC 6 x 18.0	26.8	152	88	9.6	12.1
180 x 28.4 MC 7 x 19.1	28.4	178	87	8.9	12.7
180 x 33.8 MC 7 x 22.7	33.8	178	91	12.8	12.7
200 x 12.6 MC 8 x 8.5	12.6	203	47	4.5	7.9
200 x 27.8 MC 8 x 18.7	27.8	203	75	9.0	12.7
200 x 29.8 MC 8 x 20.0	29.8	203	76	10.2	12.7
200 x 31.8 MC 8 x 21.4	31.8	203	87	9.5	13.3
200 x 33.9 MC 8 x 22.8	33.9	203	88	10.8	13.3
230 x 35.6 MC 9 x 23.9	35.6	229	87	10.2	14.0
230 x 37.8 MC 9 x 25.4	37.8	229	88	11.4	14.0
250 x 9.7 MC 10 x 6.5	9.7	254	28	3.9	5.1
250 x 12.5 MC 10 x 8.4	12.5	254	38	4.3	7.1
250 x 33.0 MC 10 x 22.0	33.0	254	84	7.4	14.6
250 x 37.0 MC 10 x 25.0	37.0	254	86	9.7	14.6
250 x 42.4 MC 10 x 28.5	42.4	254	100	10.8	14.6
250 x 50.0 MC 10 x 33.6	50.0	254	104	14.6	14.6
250 x 61.2 MC 10 x 41.1	61.2	254	110	20.2	14.6
310 x 15.8 MC 12 x 10.6	15.8	305	38	4.8	7.8
310 x 21.3 MC 12 x 14.3	21.3	305	54	6.4	8.0
310 x 46.0 MC 12 x 31.0	46.0	305	93	9.4	17.8
310 x 52.0 MC 12 x 35.0	52.0	305	96	11.8	17.8
310 x 60.0 MC 12 x 40.0	60.0	305	98	15.0	17.8
310 x 67.0 MC 12 x 45.0	67.0	305	102	18.0	17.8
310 x 74.0 MC 12 x 50.0	74.0	305	105	21.2	17.8

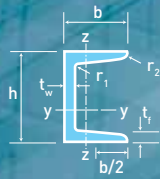
Tapered Flange Channel (MC)



Special conditions may apply, please contact our sales consultants

Tapered Flange Channel (MC)

Dimension : ASTM A6/A6M-09
Tolerance : ASTM A6/A6M-09



Designation				Mass / Unit Length	Depth h	Width b	Thickness	
				kg/m	mm	mm	t _w	t _f
330	x	47.3	MC 13 x 31.8	47.3	330	102	9.5	15.5
330	x	52	MC 13 x 35	52.0	330	103	11.4	15.5
330	x	60	MC 13 x 40	60.0	330	106	14.2	15.5
330	x	74	MC 13 x 50	74.0	330	112	20.0	15.5
460	x	63.5	MC 18 x 42.7	63.5	457	100	11.4	15.9
460	x	68.2	MC 18 x 45.8	68.2	457	102	12.7	15.9
460	x	77.2	MC 18 x 51.9	77.2	457	104	15.2	15.9
460	x	86	MC 18 x 58	86.0	457	107	17.8	15.9

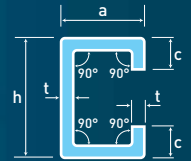
Tapered Flange Channel (MC)



Special conditions may apply, please contact our sales consultants

Lipped Channel

Dimension : JIS G 3350:2005
Tolerance : JIS G 3350:2005



Designation		Mass / Unit Length	Thickness t	Sectional Area A
		kg/m	mm	cm ²
60	x 30 x 10	1.63	1.6	2.072
60	x 30 x 10	1.99	2.0	2.537
60	x 30 x 10	2.25	2.3	2.872
70	x 40 x 25	2.38	1.6	3.032
75	x 35 x 15	2.89	2.3	3.677
75	x 45 x 15	2.32	1.6	2.952
75	x 45 x 15	2.86	2.0	3.637
75	x 45 x 15	3.25	2.3	4.137
90	x 45 x 20	2.63	1.6	3.352
90	x 45 x 20	3.70	2.3	4.712
90	x 45 x 20	5.00	3.2	6.367
100	x 50 x 20	2.88	1.6	3.672
100	x 50 x 20	3.56	2.0	4.537
100	x 50 x 20	4.06	2.3	5.172
100	x 50 x 20	4.87	2.8	6.205
100	x 50 x 20 *	5.19	3.0	6.608
100	x 50 x 20	5.50	3.2	7.007
100	x 50 x 20	6.71	4.0	8.548
100	x 50 x 20	7.43	4.5	9.469
120	x 40 x 20	5.50	3.2	7.007
120	x 60 x 20	4.78	2.3	6.092
120	x 60 x 20 *	5.77	3.0	7.358
120	x 60 x 20	6.51	3.2	8.287
120	x 60 x 25	9.20	4.5	11.720
125	x 50 x 20	4.51	2.3	5.747
125	x 50 x 20 *	5.78	3.0	7.360
125	x 50 x 20	6.13	3.2	7.807
125	x 50 x 20	7.50	4.0	9.548

Lipped Channel

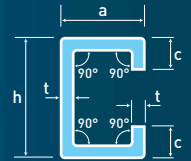


Special conditions may apply, please contact our sales consultants

* Based on other specification

Lipped Channel

Dimension : JIS G 3350:2005
Tolerance : JIS G 3350:2005



Lipped Channel



Designation	Mass / Unit Length	Thickness t	Sectional Area A
	kg/m	mm	cm ²
125 x 50 x 20	8.32	4.5	10.590
150 x 50 x 20	4.96	2.3	6.322
150 x 50 x 20	6.76	3.2	8.607
150 x 50 x 20	9.20	4.5	11.720
150 x 65 x 20	5.50	2.3	7.012
150 x 65 x 20 *	7.07	3.0	9.008
150 x 65 x 20	7.51	3.2	9.567
150 x 65 x 20	9.22	4.0	11.750
150 x 65 x 20 *	10.25	4.5	13.068
150 x 75 x 20	8.01	3.2	10.210
150 x 75 x 20	9.85	4.0	12.550
150 x 75 x 20	11.0	4.5	13.970
150 x 75 x 25	8.27	3.2	10.530
150 x 75 x 25	10.20	4.0	12.950
150 x 75 x 25	11.30	4.5	14.420
175 x 75 x 20 *	6.31	2.3	8.047
175 x 75 x 20 *	8.13	3.0	10.350
175 x 75 x 20 *	8.63	3.2	11.000
175 x 75 x 20 *	10.63	4.0	13.548
175 x 75 x 20 *	11.84	4.5	15.093
200 x 75 x 20 *	6.76	2.3	8.622
200 x 75 x 20 *	8.71	3.0	11.108
200 x 75 x 20	9.27	3.2	11.810
200 x 75 x 20	11.40	4.0	14.550
200 x 75 x 20	12.70	4.5	16.220
200 x 75 x 25 *	6.95	2.3	8.850
200 x 75 x 25 *	8.98	3.0	11.410
200 x 75 x 25	9.52	3.2	12.130

Designation	Mass / Unit Length	Thickness t	Sectional Area A
	kg/m	mm	cm ²
200 x 75 x 25	11.70	4.0	14.950
200 x 75 x 25	13.10	4.5	16.670
225 x 75 x 20 *	7.21	2.3	9.197
225 x 75 x 20 *	9.30	3.0	11.850
225 x 75 x 20 *	9.90	3.2	12.610
225 x 75 x 20 *	12.19	4.0	15.530
225 x 75 x 20 *	13.60	4.5	17.340
225 x 75 x 25 *	7.40	2.3	9.427
225 x 75 x 25 *	9.54	3.0	12.150
225 x 75 x 25 *	10.15	3.2	12.930
225 x 75 x 25 *	12.50	4.0	15.920
225 x 75 x 25 *	14.00	4.5	17.790
250 x 75 x 20 *	9.89	3.0	12.600
250 x 75 x 20 *	10.52	3.2	13.410
250 x 75 x 20 *	12.96	4.0	16.510
250 x 75 x 20 *	14.50	4.5	18.460
250 x 75 x 25 *	10.10	3.0	12.900
250 x 75 x 25 *	10.96	3.2	13.960
250 x 75 x 25 *	13.00	4.0	16.900
250 x 75 x 25	14.90	4.5	18.920

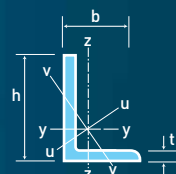
Lipped Channel



Special conditions may apply, please contact our sales consultants
* Based on other specification

Equal & Unequal Angle (JIS)

Dimension : JIS 3192:2008
Tolerance : JIS 3192:2008



Equal & Unequal Angle (JIS)

Dimension		Thickness		Mass / Unit Length	Radius		Sectional Area
h	b	t			Root r ₁	Toe r ₂	
mm	mm	mm		kg/m	mm	mm	cm ²
25	x	25	3	1.12	4.0	2.0	1.427
30	x	30	3	c	1.36	4.0	1.727
40	x	40	3	1.83	4.5	2.0	2.336
40	x	40	5	2.95	4.5	3.0	3.755
45	x	45	4	c	2.74	6.5	3.492
45	x	45	5	c	3.38	6.5	4.302
50	x	50	4	3.06	6.5	3.0	3.892
50	x	50	5	3.77	6.5	3.0	4.802
50	x	50	6	4.43	6.5	4.5	5.644
60	x	60	4	c	3.68	6.5	4.692
60	x	60	5	4.55	6.5	3.0	5.802
65	x	65	5	5.00	8.5	3.0	6.367
65	x	65	6	5.91	8.5	4.0	7.527
65	x	65	8	c	7.66	8.5	9.761
70	x	70	6	6.38	8.5	4.0	8.127
75	x	75	6	6.85	8.5	4.0	8.727
75	x	75	9	9.96	8.5	6.0	12.690
75	x	75	12	c	13.00	8.5	16.560
80	x	80	6	7.32	8.5	4.0	9.327
90	x	75	9	c	11.00	8.5	14.040
90	x	90	6	c	8.28	10.0	10.550
90	x	90	7	c	9.59	10.0	12.220
90	x	90	10	13.30	10.0	7.0	17.000
90	x	90	13	c	17.00	10.0	21.710
100	x	75	7	9.32	10.0	5.0	11.870
100	x	75	10	13.00	10.0	7.0	16.500

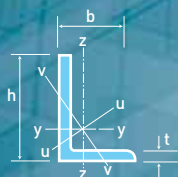
Dimension		Thickness		Mass / Unit Length	Radius		Sectional Area
h	b	t			Root r ₁	Toe r ₂	
mm	mm	mm		kg/m	mm	mm	cm ²
100	x	100	7	10.7	10	5.0	13.62
100	x	100	10	14.9	10	7.0	19.00
100	x	100	13	19.1	10	7.0	24.31
120	x	120	8	c	14.7	5.0	18.76
125	x	75	7	10.7	10	5.0	13.62
125	x	75	10	14.9	10	7.0	19.00
125	x	75	13	19.1	10	7.0	24.31
125	x	90	10	c	16.1	10	20.50
125	x	90	13	c	20.6	10	26.26
130	x	130	9	c	17.9	6.0	22.74
130	x	130	12	c	23.4	12	29.76
130	x	130	15	c	28.8	12	36.75
150	x	90	9	c	16.4	12	20.94
150	x	90	12	c	21.5	12	27.36
150	x	100	9	17.1	12	6.0	21.84
150	x	100	12	22.4	12	8.5	28.56
150	x	100	15	c	27.7	12	35.25
150	x	150	12	27.3	14	7.0	34.77
150	x	150	15	c	33.6	14	42.74
150	x	150	19	c	41.9	14	53.38
175	x	175	12	c	31.8	15	40.52
175	x	175	15	c	39.4	15	50.21
200	x	90	9	c	23.3	14	29.66
200	x	200	15	45.3	17	12.0	57.75
200	x	200	20	59.7	17	12.0	76.00
200	x	200	25	c	73.6	17	93.75

Equal & Unequal Angle (JIS)

^c Special conditions may apply, please contact our sales consultants

Equal & Unequal Angle (JIS)

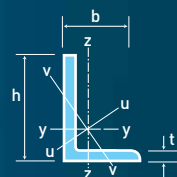
Dimension : JIS 3192:2008
Tolerance : JIS 3192:2008



Dimension		Thickness		Mass / Unit Length	Radius		Sectional Area
h	b	t			Root r ₁	Toe r ₂	
mm	mm	mm		kg/m	mm	mm	cm ²
250	x 90	10	c	29.4	15	8.5	37.47
250	x 90	12	c	33.7	16	8.5	42.95
250	x 250	25	c	93.7	24	12.0	119.40
250	x 250	35	c	128.0	24	18.0	162.60
300	x 90	11	c	36.3	16	9.5	46.22
300	x 90	13	c	41.3	17	9.5	52.67
350	x 100	12	c	45.3	17	11.0	57.74
400	x 100	13	c	53.8	18	12.0	68.59

Equal & Unequal Angle (EN)

Dimension : EN 10056-1:1999
Tolerance : BS EN 10056-2:1993



Dimension		Thickness		Mass / Unit Length	Radius		Sectional Area
h	b	t			Root r ₁	Toe r ₂	
mm	mm	mm		kg/m	mm	mm	cm ²
20	x 20	3	c	0.882	3.5	1.75	1.12
25	x 25	3		1.120	3.5	1.75	1.42
25	x 25	4		1.450	3.5	1.75	1.85
30	x 20	3	c	1.120	4.0	2.00	1.43
30	x 20	4	c	1.460	4.0	2.00	1.86
30	x 30	3	c	1.360	5.0	2.50	1.74
30	x 30	4	c	1.780	5.0	2.50	2.27
35	x 35	4	c	2.090	5.0	2.50	2.67
40	x 20	4	c	1.770	4.0	2.00	2.26
40	x 25	4	c	1.930	4.0	2.00	2.46
40	x 40	4		2.420	6.0	3.00	3.08
40	x 40	5		2.970	6.0	3.00	3.79
45	x 30	4		2.250	4.5	2.25	2.87
45	x 45	4	c*	2.740	7.0	3.50	3.49
45	x 45	4.5	c	3.060	7.0	3.50	3.90
45	x 45	5	c*	3.380	7.0	3.50	4.30
50	x 30	5	c	2.960	5.0	2.50	3.78
50	x 50	4		3.060	7.0	3.50	3.89
50	x 50	5		3.770	7.0	3.50	4.80
50	x 50	6		4.470	7.0	3.50	5.69
50	x 50	7	c*	5.150	7.0	3.50	6.56
55	x 55	5	c*	4.180	8.0	4.00	5.32
55	x 55	6	c*	4.950	8.0	4.00	6.31
60	x 30	5	c	3.360	5.0	2.50	4.28
60	x 40	5	c	3.760	6.0	3.00	4.79
60	x 40	6	c	4.460	6.0	3.00	5.68

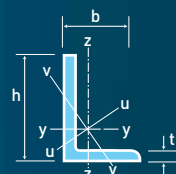
^c Special conditions may apply, please contact our sales consultants

^c Special conditions may apply, please contact our sales consultants

* Based on other specification

Equal & Unequal Angle (EN)

Dimension : EN 10056-1:1999
Tolerance : BS EN 10056-2:1993



Equal & Unequal Angle (EN)

Dimension		Thickness		Mass / Unit Length	Radius		Sectional Area
h	b	t			Root r ₁	Toe r ₂	
mm	mm	mm		kg/m	mm	mm	cm ²
60	x 60	4	c*	3.70	8	4.0	4.71
60	x 60	5	c	4.57	8	4.0	5.82
60	x 60	6		5.42	8	4.0	6.91
60	x 60	8	c	7.09	8	4.0	9.03
65	x 50	5		4.35	6	3.0	5.54
65	x 65	6	*	5.91	9	4.5	7.53
65	x 65	7	c	6.83	9	4.5	8.70
65	x 65	8	*	7.73	9	4.5	9.85
70	x 50	6	c	5.41	7	3.5	6.89
70	x 70	6		6.38	9	4.5	8.13
70	x 70	7	c	7.38	9	4.5	9.40
70	x 70	8	c*	8.37	10	5.0	10.70
70	x 70	9	c*	9.32	9	4.5	11.90
75	x 50	6		5.65	7	3.5	7.19
75	x 50	8	c	7.39	7	3.5	9.41
75	x 75	4	c*	4.65	9	4.5	5.93
75	x 75	5	*	5.76	9	4.5	7.34
75	x 75	6		6.85	9	4.5	8.73
75	x 75	7	c*	7.93	9	4.5	10.10
75	x 75	8		8.99	9	4.5	11.40
75	x 75	10	*	11.1	9	4.5	14.10
80	x 40	6		5.41	7	3.5	6.89
80	x 40	8		7.07	7	3.5	9.01
80	x 60	7		7.36	8	4.0	9.38
80	x 80	5	c*	6.17	10	5.0	7.86
80	x 80	6	*	7.34	10	5.0	9.35

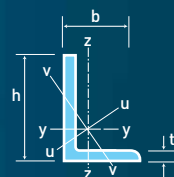
Dimension		Thickness		Mass / Unit Length	Radius		Sectional Area
h	b	t			Root r ₁	Toe r ₂	
mm	mm	mm		kg/m	mm	mm	cm ²
80	x 80	7	c*	8.49	10	5.0	10.8
80	x 80	8		9.63	10	5.0	12.3
80	x 80	10		11.90	10	5.0	15.1
90	x 90	6	c*	8.28	10	5.0	10.5
90	x 90	7	c	9.61	11	5.5	12.2
90	x 90	8		10.90	11	5.5	13.9
90	x 90	9		12.20	11	5.5	15.5
90	x 90	10		13.40	11	5.5	17.1
90	x 90	11	c*	14.70	11	5.5	18.7
100	x 50	6	c	6.84	8	4.0	8.71
100	x 50	8	c	8.97	8	4.0	11.4
100	x 65	7	c	8.77	10	5.0	11.2
100	x 65	8	c	9.44	10	5.0	12.7
100	x 65	9	c*	11.10	10	5.0	14.1
100	x 65	10	c	12.30	10	5.0	15.6
100	x 65	12	c*	14.50	10	5.0	18.5
100	x 75	8		10.60	10	5.0	13.5
100	x 75	10		13.00	10	5.0	16.6
100	x 75	12		15.40	10	5.0	19.7
100	x 100	6	c*	9.26	12	6.0	11.8
100	x 100	7	*	10.70	12	6.0	13.7
100	x 100	8		12.20	12	6.0	15.5
100	x 100	10		15.00	12	6.0	19.2
100	x 100	12		17.80	12	6.0	22.7
110	x 110	8	c*	13.40	12	6.0	17.1
110	x 110	10	c*	16.60	13	6.5	21.2

Equal & Unequal Angle (EN)

^c Special conditions may apply, please contact our sales consultants
^{*} Based on other specification

Equal & Unequal Angle (EN)

Dimension : EN 10056-1:1999
Tolerance : BS EN 10056-2:1993



Equal & Unequal Angle (EN)

Dimension		Thickness		Mass / Unit Length	Radius		Sectional Area
h	b	t			Root r ₁	Toe r ₂	
mm	mm	mm		kg/m	mm	mm	cm ²
110	x 110	12	c*	19.7	13	6.5	25.1
120	x 80	8	c	12.2	11	5.5	15.5
120	x 80	10	c	15.0	11	5.5	19.1
120	x 80	12	c	17.8	11	5.5	22.7
120	x 120	8	c*	14.7	13	6.5	18.7
120	x 120	10	c	18.2	13	6.5	23.2
120	x 120	11	c*	19.9	13	6.5	25.4
120	x 120	12	c	21.6	13	6.5	27.5
120	x 120	13	c*	23.3	13	6.5	29.7
120	x 120	15	c*	26.6	13	6.5	33.9
120	X 120	16	c*	28.3	13	6.5	36.0
125	x 75	8		12.2	11	5.5	15.5
125	x 75	9	*	13.6	11	5.5	17.3
125	x 75	10		15.0	11	5.5	19.1
125	x 75	12		17.8	11	5.5	22.7
130	x 90	12	c*	19.7	12	6	19.7
130	x 130	10	c*	19.8	14	7.0	25.2
130	x 130	12	c	23.6	14	7.0	30.0
130	x 130	13	c*	25.4	14	7.0	32.3
130	x 130	14	c*	27.2	14	7.0	34.7
130	x 130	16	c*	30.8	14	7.0	39.3
135	x 65	8	c	12.2	11	5.5	15.5
135	x 65	10	c	15.0	11	5.5	19.1
140	x 90	8	c*	14.0	11	5.5	17.9
140	x 90	10	c*	17.4	11	5.5	22.1
140	x 90	12	c*	20.6	11	5.5	26.3

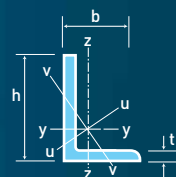
Dimension		Thickness		Mass / Unit Length	Radius		Sectional Area
h	b	t			Root r ₁	Toe r ₂	
mm	mm	mm		kg/m	mm	mm	cm ²
140	x 90	14	c*	23.8	11	5.5	30.4
150	x 75	9	c	15.4	12	6.0	19.6
150	x 75	10		17.0	12	6.0	21.7
150	x 75	12		20.2	12	6.0	25.7
150	x 75	15		24.8	12	6.0	31.7
150	x 90	10	c	18.2	12	6.0	23.2
150	x 90	12	c	21.6	12	6.0	27.5
150	x 90	15	c	26.6	12	6.0	33.9
150	x 100	10		19.0	12	6.0	24.2
150	x 100	12		22.5	12	6.0	28.7
150	x 100	14	c*	26.1	12	6.0	33.2
150	x 150	10		23.0	16	8.0	29.3
150	x 150	12		27.3	16	8.0	34.8
150	x 150	13	c*	29.5	16	8.0	37.6
150	x 150	14	c*	31.6	16	8.0	40.3
150	x 150	15	c	33.8	16	8.0	43.0
150	x 150	16	c*	35.9	16	8.0	45.7
150	x 150	18	c*	40.1	16	8.0	51.0
150	x 150	20	c*	44.2	16	8.0	56.3
160	x 160	14	c*	33.9	17	8.5	43.2
160	x 160	15	c	36.2	17	8.5	46.1
160	x 160	16	c*	38.4	17	8.5	49.0
160	x 160	17	c*	40.7	17	8.5	51.8
180	x 180	13	c*	35.7	18	9.0	45.5
180	x 180	14	c*	38.3	18	9.0	48.8
180	x 180	15	c*	40.9	18	9.0	52.1

Equal & Unequal Angle (EN)

^c Special conditions may apply, please contact our sales consultants
^{*} Based on other specification

Equal & Unequal Angle (EN)

Dimension : EN 10056-1:1999
Tolerance : BS EN 10056-2:1993



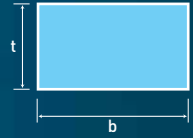
Dimension		Thickness		Mass / Unit Length	Radius		Sectional Area
h	b	t			Root r ₁	Toe r ₂	
mm	mm	mm		kg/m	mm	mm	cm ²
180	x 180	16	c	43.5	18	9.0	55.4
180	x 180	17	c*	46.0	18	9.0	58.7
180	x 180	18	c	48.6	18	9.0	61.9
180	x 180	19	c*	51.1	18	9.0	65.1
180	x 180	20	c*	53.7	18	9.0	68.3
200	x 100	10		23.0	15	7.5	29.2
200	x 100	12		27.3	15	7.5	34.8
200	x 100	14	c*	31.6	15	7.5	40.3
200	x 100	15	c	33.75	15	7.5	43.0
200	x 150	12	c	32.0	15	7.5	40.8
200	x 150	15	c	39.6	15	7.5	50.5
200	x 200	15	*	45.6	18	9.0	58.1
200	x 200	16		48.5	18	9.0	61.8
200	x 200	17	c*	51.4	18	9.0	65.5
200	x 200	18		54.3	18	9.0	69.1
200	x 200	19	c*	57.1	18	9.0	72.7
200	x 200	20		59.9	18	9.0	76.3
200	x 200	21	c*	62.8	18	9.0	79.9
200	x 200	22	c*	65.6	18	9.0	83.5
200	x 200	23	c*	68.3	18	9.0	87.1
200	x 200	24	c	71.1	18	9.0	90.6
200	x 200	25	c*	73.9	18	9.0	94.1
200	x 200	26	c*	76.6	18	9.0	97.6
250	x 250	20	c*	75.6	18	9.0	96.3
250	x 250	21	c*	79.2	18	9.0	101.0
250	x 250	22	c*	82.8	18	9.0	106.0

Dimension		Thickness		Mass / Unit Length	Radius		Sectional Area
h	b	t			Root r ₁	Toe r ₂	
mm	mm	mm		kg/m	mm	mm	cm ²
250	x 250	23	c*	86.4	18	9	110
250	x 250	24	c*	90.0	18	9	115
250	x 250	25	c*	93.5	18	9	119
250	x 250	26	c*	97.0	18	9	124
250	x 250	27	c*	101.0	18	9	128
250	x 250	28	c	104.0	18	9	133
250	x 250	35	c	128.0	18	9	163

^c Special conditions may apply, please contact our sales consultants
* Based on other specification

Plate

Metric units 7.85kg/mm m² - 0.7293 kg/mm ft²



Thickness	Mass / Unit Area	Width x Length				
		ft	4 x 8	5 x 10	5 x 20	6 x 20
		mm	1219 x 2438	1524 x 3048	1524 x 6096	1829 x 6096
t						
mm	kg/m ²	Weight / pc	Weight / pc	Weight / pc	Weight / pc	Weight / pc
1.20	9.420	28.0	43.8	87.5	105.0	
1.50	11.775	35.0	54.7	109.4	131.3	
1.60	12.560	37.3	58.3	116.7	140.0	
1.90	14.915	44.3	69.3	138.6	166.3	
2.30	18.055	53.7	83.9	167.7	201.3	
2.60	20.410	60.7	94.8	189.6	227.6	
3.00	23.550	70.0	109.4	218.8	262.6	
3.18	24.963	74.2	116.0	231.9	278.3	
4.00	31.400	93.3	145.9	291.7	350.1	
4.50	35.325	105.0	164.1	328.2	393.9	
5.00	39.250	116.6	182.3	364.6	437.6	
6.00	47.100	140.0	218.8	437.6	525.1	
6.35	49.848	148.1	231.5	463.1	555.8	
8.00	62.800	186.6	291.7	583.4	700.2	
9.00	70.650	210.0	328.2	656.4	787.7	
9.53	74.811	222.3	347.5	695.0	834.1	
10.00	78.500	233.3	364.6	729.3	875.2	
11.00	86.350	256.6	401.1	802.2	962.8	
12.00	94.200	280.0	437.6	875.1	1050.3	
12.70	99.695	296.3	463.1	926.2	1111.6	
13.00	102.050	303.3	474.0	948.1	1137.8	
14.00	109.900	326.6	510.5	1021.0	1225.3	
15.00	117.750	349.9	547.0	1093.9	1312.9	
15.88	124.658	370.5	579.1	1158.1	1389.9	
16.00	125.600	373.3	583.4	1166.9	1400.4	
17.00	133.450	396.6	619.9	1239.8	1487.9	
18.00	141.300	419.9	656.4	1312.7	1575.4	
19.00	149.150	443.3	692.8	1385.6	1663.0	

Thickness	Mass / Unit Area	Width x Length				
		ft	8 x 20	8 x30	10 x 30	10 x 40
		mm	2438 x 6096	2438 x 9144	3048 x 9144	3048 x 12192
t						
mm	kg/m ²	Weight / pc	Weight / pc	Weight / pc	Weight / pc	Weight / pc
1.20	9.420	140.0	210.0	262.5	350.1	
1.50	11.775	175.0	262.5	328.2	437.6	
1.60	12.560	186.7	280.0	350.1	466.7	
1.90	14.915	221.7	332.5	415.7	554.3	
2.30	18.055	268.4	402.5	503.2	670.9	
2.60	20.410	303.4	455.0	568.8	758.5	
3.00	23.550	350.1	525.0	656.4	875.1	
3.18	24.963	371.1	556.5	695.7	927.7	
4.00	31.400	466.7	700.0	875.1	1166.9	
4.50	35.325	525.1	787.5	984.5	1312.7	
5.00	39.250	583.4	875.0	1093.9	1458.6	
6.00	47.100	700.1	1050.0	1312.7	1750.3	
6.35	49.848	741.0	1111.3	1389.3	1852.4	
8.00	62.800	933.5	1400.0	1750.3	2333.7	
9.00	70.650	1050.2	1575.0	1969.1	2625.4	
9.53	74.811	1112.0	1667.8	2085.0	2780.0	
10.00	78.500	1166.9	1750.0	2187.9	2917.2	
11.00	86.350	1283.5	1925.0	2406.7	3208.9	
12.00	94.200	1400.2	2100.0	2625.4	3500.6	
12.70	99.695	1481.9	2222.5	2778.6	3704.8	
13.00	102.050	1516.9	2275.0	2844.2	3792.3	
14.00	109.900	1633.6	2450.0	3063.0	4084.0	
15.00	117.750	1750.3	2625.0	3281.8	4375.7	
15.88	124.658	1853.0	2779.0	3474.3	4632.4	
16.00	125.600	1867.0	2800.0	3500.6	4667.4	
17.00	133.450	1983.7	2975.0	3719.4	4959.2	
18.00	141.300	2100.4	3150.0	3938.2	5250.9	
19.00	149.150	2217.0	3325.0	4156.9	5542.6	

Plate

Metric units 7.85kg/mm m² - 0.7293 kg/mm ft²



Thickness	Mass / Unit Area	Width x Length				
		ft	4 x 8	5 x 10	5 x 20	6 x 20
t	mm	1219 x 2438	1524 x 3048	1524 x 6096	1829 x 6096	
mm	kg/m ²	Weight / pc	Weight / pc	Weight / pc	Weight / pc	
19.05	149.543	444.4	694.6	1389.3	1667.3	
20.00	157.000	466.6	729.3	1458.6	1750.5	
21.00	164.850	489.9	765.8	1531.5	1838.0	
22.00	172.700	513.3	802.2	1604.4	1925.5	
22.23	174.506	518.6	810.6	1621.2	1945.7	
23.00	180.550	536.6	838.7	1677.4	2013.1	
24.00	188.400	559.9	875.1	1750.3	2100.6	
25.00	196.250	583.2	911.6	1823.2	2188.1	
25.40	199.390	592.6	926.2	1852.4	2223.1	
26.00	204.100	606.6	948.1	1896.2	2275.6	
27.00	211.950	629.9	984.5	1969.1	2363.2	
28.00	219.800	653.2	1021.0	2042.0	2450.7	
28.58	224.353	666.8	1042.2	2084.3	2501.4	
29.00	227.650	676.6	1057.5	2114.9	2538.2	
30.00	235.500	699.9	1093.9	2187.9	2625.7	
31.75	249.238	740.7	1157.7	2315.5	2778.9	
32.00	251.200	746.5	1166.9	2333.7	2800.8	
34.00	266.900	793.2	1239.8	2479.6	2975.8	
34.93	274.201	814.9	1273.7	2547.4	3057.2	
36.00	282.600	839.9	1312.7	2625.4	3150.9	
38.00	298.300	886.5	1385.6	2771.3	3325.9	
38.10	299.085	888.9	1389.3	2778.6	3334.7	
40.00	314.000	933.2	1458.6	2917.2	3501.0	
44.45	348.933	1037.0	1620.8	3241.7	3890.5	
45.00	353.250	1049.8	1640.9	3281.8	3938.6	
50.00	392.500	1166.5	1823.2	3646.4	4376.2	
50.80	398.780	1185.1	1852.4	3704.8	4446.2	
55.00	431.750	1283.1	2005.5	4011.1	4813.8	

Thickness	Mass / Unit Area	Width x Length				
		ft	8 x 20	8 x30	10 x 30	10 x 40
t	mm	2438 x 6096	2438 x 9144	3048 x 9144	3048 x 12192	
mm	kg/m ²	Weight / pc	Weight / pc	Weight / pc	Weight / pc	
19.05	149.543		2222.9	3333.8	4167.9	5557.2
20.00	157.000		2333.7	3500.0	4375.7	5834.3
21.00	164.850		2450.4	3675.0	4594.5	6126.0
22.00	172.700		2567.1	3850.0	4813.3	6417.7
22.23	174.506		2593.9	3890.3	4863.6	6484.8
23.00	180.550		2683.8	4025.0	5032.1	6709.5
24.00	188.400		2800.5	4200.0	5250.9	7001.2
25.00	196.250		2917.2	4375.0	5469.7	7292.9
25.40	199.390		2963.8	4445.0	5557.2	7409.6
26.00	204.100		3033.8	4550.0	5688.5	7584.6
27.00	211.950		3150.5	4725.0	5907.2	7876.3
28.00	219.800		3267.2	4900.0	6126.0	8168.0
28.58	224.353		3334.9	5001.5	6252.9	8337.2
29.00	227.650		3383.9	5075.0	6344.8	8459.8
30.00	235.500		3500.6	5250.0	6563.6	8751.5
31.75	249.238		3704.8	5556.3	6946.5	9262.0
32.00	251.200		3734.0	5600.0	7001.2	9334.9
34.00	266.900		3967.3	5950.0	7438.7	9918.3
34.93	274.201		4075.8	6112.8	7642.2	10190.0
36.00	282.600		4200.7	6300.0	7876.3	10502.0
38.00	298.300		4434.1	6650.0	8313.9	11085.0
38.10	299.085		4445.7	6667.5	8335.8	11114.0
40.00	314.000		4667.4	7000.0	8751.5	11669.0
44.45	348.933		5186.7	7778.8	9725.1	12967.0
45.00	353.250		5250.9	7875.0	9845.4	13127.0
50.00	392.500		5834.3	8750.0	10939.0	14586.0
50.80	398.780		5927.7	8890.0	11114.0	14819.0
55.00	431.750		6417.7	9625.0	12033.0	16044.0

Plate

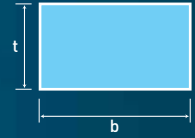
Metric units 7.85kg/mm m² - 0.7293 kg/mm ft²



Thickness t	Mass / Unit Area	Width x Length			
		ft	4 x 8	5 x 10	5 x 20
		mm	1219 x 2438	1524 x 3048	1524 x 6096
mm	kg/m ²	Weight / pc	Weight / pc	Weight / pc	Weight / pc
57.15	448.628	1333.3	2083.9	4167.9	5002.0
60.00	471.000	1399.8	2187.9	4375.7	5251.5
63.50	498.475	1481.4	2315.5	4631.0	5557.8
65.00	510.250	1516.4	2370.2	4740.4	5689.1
69.85	548.323	1629.6	2547.0	5094.1	6113.6
70.00	549.500	1633.1	2552.5	5105.0	6126.7
75.00	588.750	1749.7	2734.8	5469.7	6564.3
76.20	598.170	1777.7	2778.6	5557.2	6669.3
80.00	628.000	1866.4	2917.2	5834.3	7001.9
88.55	695.118	2065.8	3228.9	6457.9	7750.3
88.90	697.865	2074.0	3241.7	6483.4	7780.9
90.00	706.500	2099.7	3281.8	6563.6	7877.2
95.25	747.713	2222.1	3473.2	6946.5	8336.7
100.00	785.000	2333.0	3646.4	7292.9	8752.4
110.00	863.500	2566.3	4011.1	8022.2	9627.7
120.00	942.000	2799.6	4375.7	8751.5	10503.0
125.00	981.250	2916.2	4558.1	9116.1	10941.0
130.00	1020.500	3032.8	4740.4	9480.8	11378.0
140.00	1099.000	3266.1	5105.0	10210.0	12253.0
150.00	1177.500	3499.4	5469.7	10939.0	13129.0

Thickness t	Mass / Unit Area	Width x Length			
		ft	8 x 20	8 x 30	10 x 30
		mm	2438 x 6096	2438 x 9144	3048 x 9144
mm	kg/m ²	Weight / pc	Weight / pc	Weight / pc	Weight / pc
57.15	448.628	6668.6	10001	12504	16672
60.00	471.000	7001.2	10500	13127	17503
63.50	498.475	7409.6	11113	13893	18524
65.00	510.250	7584.6	11375	14221	18962
69.85	548.323	8150.5	12224	15282	20376
70.00	549.500	8168.0	12250	15315	20420
75.00	588.750	8751.5	13125	16409	21879
76.20	598.170	8891.5	13335	16672	22229
80.00	628.000	9334.9	14000	17503	23337
88.55	695.118	10333.0	15496	19374	25831
88.90	697.865	10373.0	15558	19450	25934
90.00	706.500	10502.0	15750	19691	26254
95.25	747.713	11114.0	16669	20839	27786
100.00	785.000	11669.0	17500	21879	29172
110.00	863.500	12835.0	19250	24067	32089
120.00	942.000	14002.0	21000	26254	35006
125.00	981.250	14586.0	21875	27348	36464
130.00	1020.500	15169.0	22750	28442	37923
140.00	1099.000	16336.0	24500	30630	40840
150.00	1177.500	17503.0	26250	32818	43757

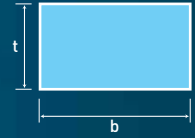
Flat Bar



Thickness	Width	Mass / Unit Length	Sectional Area
t	b		A
mm	mm	kg/m	cm ²
3.0	12	0.283	0.36
3.0	16	0.377	0.48
3.0	19	0.447	0.57
3.0	25	0.589	0.75
3.0	32	0.754	0.96
3.0	38	0.895	1.14
3.0	50	1.180	1.50
3.0	65	1.530	1.95
3.0	75	1.770	2.25
3.0	100	2.360	3.00
4.0	25	0.785	1.00
4.0	32	1.000	1.28
4.0	35	1.100	1.40
4.0	38	1.190	1.52
4.0	44	1.380	1.76
4.0	50	1.570	2.00
4.0	65	2.040	2.60
4.0	75	2.360	3.00
4.0	100	3.140	4.00
4.5	25	0.883	1.13
4.5	32	1.130	1.44
4.5	35	1.240	1.58
4.5	38	1.340	1.71
4.5	44	1.550	1.98
4.5	50	1.770	2.25
4.5	65	2.300	2.93
4.5	75	2.650	3.38
4.5	100	3.530	4.50

Thickness	Width	Mass / Unit Length	Sectional Area
t	b		A
mm	mm	kg/m	cm ²
5	25	0.981	1.25
5	32	1.260	1.60
5	35	1.370	1.75
5	38	1.490	1.90
5	44	1.730	2.20
5	50	1.960	2.50
5	65	2.550	3.25
5	75	2.940	3.75
5	100	3.930	5.00
6	25	1.180	1.50
6	32	1.510	1.92
6	35	1.650	2.10
6	38	1.790	2.28
6	40	1.880	2.40
6	44	2.070	2.64
6	50	2.360	3.00
6	65	3.060	3.90
6	75	3.530	4.50
6	90	4.240	5.40
6	100	4.710	6.00
6	125	5.890	7.50
6	150	7.070	9.00
6	175	8.240	10.5
6	200	9.420	12.0
8	25	1.570	2.00
8	32	2.010	2.56
8	38	2.390	3.04
8	44	2.760	3.52

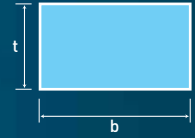
Flat Bar



Thickness	Width	Mass / Unit Length	Sectional Area
t	b		A
mm	mm	kg/m	cm ²
8	50	3.14	4.00
8	65	4.08	5.20
8	75	4.71	6.00
8	90	5.65	7.20
8	100	6.28	8.00
8	125	7.85	10.00
8	150	9.42	12.00
8	200	12.56	16.00
9	25	1.77	2.25
9	32	2.26	2.88
9	38	2.68	3.42
9	44	3.11	3.96
9	50	3.53	4.50
9	65	4.59	5.85
9	75	5.30	6.75
9	90	6.36	8.10
9	100	7.07	9.00
9	125	8.83	11.30
9	150	10.60	13.50
9	200	14.13	18.00
9	250	17.66	22.50
9	300	21.20	27.00
10	25	1.96	2.50
10	32	2.51	3.20
10	38	2.98	3.80
10	44	3.45	4.40
10	50	3.93	5.00
10	65	5.10	6.50

Thickness	Width	Mass / Unit Length	Sectional Area
t	b		A
mm	mm	kg/m	cm ²
10	75	5.89	7.50
10	90	7.07	9.00
10	100	7.85	10.00
10	125	9.81	12.50
10	150	11.78	15.00
10	200	15.70	20.00
10	250	19.63	25.00
10	300	23.55	30.00
12	25	2.36	3.00
12	32	3.01	3.84
12	38	3.58	4.56
12	40	3.77	4.80
12	44	4.14	5.28
12	50	4.71	6.00
12	65	6.12	7.80
12	75	7.07	9.00
12	90	8.48	10.80
12	100	9.42	12.00
12	125	11.78	15.00
12	150	14.13	18.00
12	200	18.84	24.00
12	250	23.55	30.00
12	300	28.26	36.00
16	25	3.14	4.00
16	32	4.02	5.12
16	38	4.77	6.08
16	50	6.28	8.00
16	65	8.16	10.40

Flat Bar



Flat Bar



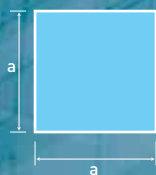
Thickness	Width	Mass / Unit Length	Sectional Area
t	b		A
mm	mm	kg/m	cm ²
16	75	9.42	12.0
16	90	11.30	14.4
16	100	12.56	16.0
16	125	15.70	20.0
16	150	18.84	24.0
16	200	25.12	32.0
16	250	31.40	40.0
16	300	37.68	48.0
19	38	5.67	7.2
19	50	7.46	9.5
19	65	9.69	12.4
19	75	11.19	14.3
19	90	13.42	17.1
19	100	14.92	19.0
19	125	18.64	23.8
19	150	22.37	28.5
19	200	29.83	38.0
19	250	37.29	47.5
19	300	44.75	57.0
20	38	5.97	7.6
20	50	7.85	10.0
20	65	10.21	13.0
20	75	11.78	15.0
20	90	14.13	18.0
20	100	15.70	20.0
20	125	19.63	25.0
20	150	23.55	30.0
20	200	31.40	40.0

Thickness	Width	Mass / Unit Length	Sectional Area
t	b		A
mm	mm	kg/m	cm ²
20	250	39.25	50.0
20	300	47.10	60.0
25	50	9.81	12.5
25	65	12.76	16.3
25	75	14.72	18.8
25	90	17.66	22.5
25	100	19.63	25.0
25	125	24.53	31.3
25	150	29.44	37.5
25	200	39.25	50.0
25	250	49.06	62.5
25	300	58.88	75.0
32	100	25.12	32.0
32	125	31.40	40.0
32	150	37.68	48.0
32	200	50.24	64.0
32	230	57.78	73.6
32	250	62.80	80.0
32	300	75.36	96.0
36	100	28.26	36.0
36	125	35.33	45.0
36	150	42.39	54.0
36	200	56.52	72.0
36	230	65.00	82.8
36	250	70.65	90.0
36	300	84.78	108.0

Flat Bar



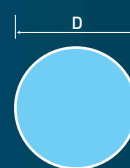
Square Bar



Dimension		Mass / Unit Length		Sectional Area
mm		kg/m	lb/ft	mm ²
9	c	0.64	0.43	81
10		0.79	0.53	100
12		1.13	0.76	144
13		1.33	0.89	169
16		2.01	1.35	256
18		2.54	1.71	324
19		2.83	1.90	361
22		3.80	2.55	484
25		4.91	3.30	625
28		6.15	4.14	784
30		7.07	4.75	900
32		8.04	5.40	1024
36		10.17	6.84	1296
38		11.34	7.62	1444
40		12.56	8.44	1600
44		15.20	10.21	1936
45		15.90	10.68	2025
50		19.63	13.19	2500
55		23.75	15.96	3025
60		28.26	18.99	3600
65		33.17	22.29	4225
75	c	44.16	29.67	5625
80	c	50.24	33.76	6400
85	c	56.72	38.11	7225
90	c	63.59	42.73	8100
95	c	70.85	47.61	9025
100	c	78.50	52.75	10000

^c Special conditions may apply, please contact our sales consultants

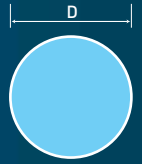
Round Bar



Outside Diameter	Mass / Unit Length	Sectional Area
D mm	kg/m	A cm ²
6	0.22	0.28
8	0.39	0.50
9	0.50	0.64
10	0.62	0.79
12	0.89	1.13
13	1.04	1.33
14	1.21	1.54
16	1.58	2.01
18	2.00	2.54
19	2.23	2.84
20	2.47	3.14
21	2.72	3.46
22	2.98	3.80
24	3.55	4.52
25	3.85	4.91
26	4.17	5.31
28	4.83	6.16
29	5.19	6.61
30	5.55	7.07
31	5.92	7.55
32	6.31	8.04
35	7.55	9.62
38	8.90	11.30
40	9.86	12.60
42	10.90	13.90
44	11.90	15.20

^c Special conditions may apply, please contact our sales consultants

Round Bar



Outside Diameter		Mass / Unit Length	Sectional Area
D			A
mm		kg/m	cm ²
45		12.5	15.9
50		15.4	19.6
55		18.7	23.8
60	c	22.2	28.3
65	c	26.0	33.2
70	c	30.2	38.5
75	c	34.7	44.2
80	c	39.5	50.3
85	c	44.5	56.7
90	c	49.9	63.6
95	c	55.6	70.9
100	c	61.7	78.5
105	c	68.0	86.6
110	c	74.6	95.0
115	c	81.5	103.9
120	c	88.8	113.1
125	c	96.3	122.7
130	c	104.2	132.7
135	c	112.4	143.1
140	c	120.8	153.9
145	c	129.6	165.1
150	c	138.7	176.7
160	c	157.8	201.1
170	c	178.2	227.0
180	c	199.8	254.5
190	c	222.6	283.5

Outside Diameter		Mass / Unit Length	Sectional Area
D			A
mm		kg/m	cm ²
200	c	246.6	314.2
210	c	271.9	346.4
220	c	298.4	380.1
230	c	326.1	415.5
240	c	355.1	452.0
250	c	385.0	491.0
260	c	417.0	531.0
270	c	449.0	573.0
280	c	483.0	616.0
290	c	519.0	661.0
300	c	555.0	707.0
320	c	631.0	804.0

^c Special conditions may apply, please contact our sales consultants

Deformed Bar



Outside Diameter		Mass / Unit Length	Sectional Area
D		kg/m	A
mm			cm ²
6		0.222	0.283
8		0.395	0.503
10		0.617	0.785
12	c	0.888	1.130
13		1.040	1.330
16		1.580	2.010
18	c	2.000	2.540
19	c	2.230	2.840
20		2.470	3.140
22	c	2.980	3.800
25		3.850	4.910
28	c	4.830	6.160
30		5.550	7.070
32		6.310	8.040
38		8.900	11.300
40	c	9.860	12.600
50	c	15.400	19.600

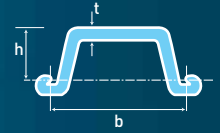
Square Bar



^c Special conditions may apply, please contact our sales consultants

Sheet Piles

Tolerance : JIS A 5528:2006



Designation	Depth	Width	Thickness	Sectional Area	Mass / Unit Length	Sectional Area	Mass / Unit Length
	h	b	t	Per sheet pile		Per sheet pile	
	mm	mm	mm	x 10 ⁴ [m ²]	kg/m	x 10 ⁴ [m ²]	kg/m
SP - II	100	400	10.5	61.18	48.0	152.0	120
SP - II W	130	600	10.3	78.70	61.8	131.2	103
SP - III	125	400	13.0	76.42	60.0	191.0	150
SP - III A	150	400	13.1	74.40	58.4	186.0	146
SP - III W	180	600	13.4	103.90	81.6	173.2	136
SP - IV	170	400	15.5	96.99	76.1	242.5	190
SP - IV W	210	600	18.0	135.30	106.0	225.5	177
SP - V L	200	500	24.3	133.80	105.0	267.6	210
SP - VI L	225	500	27.6	153.00	120.0	306.0	240

Others



