

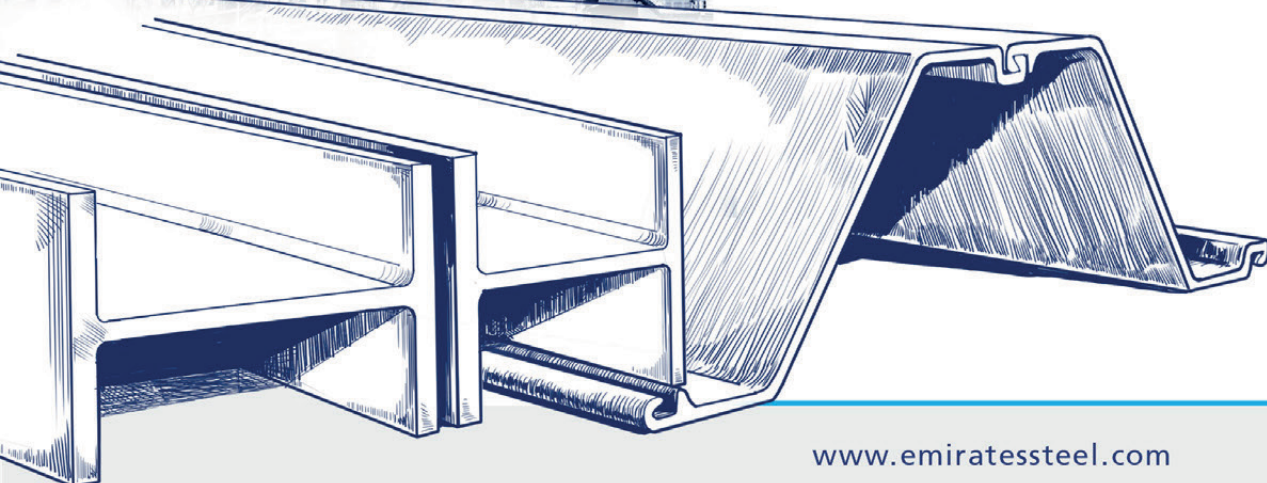


حديد الإمارات
emirates steel

PRODUCT CATALOGUE



HEAVY SECTION & SHEET PILES



www.emiratessteel.com



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ABOUT EMIRATES STEEL

Established in 1998, Emirates Steel is UAE's first and only integrated steel plant and a regional industry leader. Equipped with the latest technology, we produce a wide range of heavy sections, wire rods, rebar and sheet piles of the highest quality. Our customers span a range of sectors including energy, construction and transportation, and we export to more than 40 markets across the Middle East, Africa, Europe, North America, Asia and Australia.

Emirates Steel expanded in a relatively short period of time from a simple re-roller of imported steel billets to a complex integrated manufacturing plant. Emirates Steel utilizes the latest rolling mill technology to deliver tailored products, services and solutions that meet the unique needs of its customers.



OUR VISION

To be a world class steel manufacturer providing the highest quality products, services and solutions to our customers and maximizing returns to our shareholders.



OUR MISSION

- To provide the construction, manufacturing and industrial sectors with their requirements of high quality steel products.
- Maintain safe and environmentally friendly work practices across our operations.
- Create employment opportunities and inspire our workforce to excel.
- Contribute to the industrialization and diversification of the UAE economy in line with Abu Dhabi's Vision 2030.



REINFORCING BARS

Used exclusively in Civil Engineering, rebars are designed to provide tensile strength to concrete. We have an annual rebar production capacity of 2.5 million tones, making us the leading producer of rebars in the region and are also available in the Far East.



WIRE RODS

Wire rods are designed for a host of product applications such as fasteners, screws, automotive, welding & electrode, construction, engineering, springs, fences, nails, pins, etc.. We are recognized as one of the leading wire rod producers in the GCC, with strong presence in Europe as well as Far East with an annual production capacity of 500,000 metric tons.



HEAVY SECTIONS

Heavy sections are long steel products used as structures and foundations for buildings. We produce a wide range of heavy sections from 200 to 1,036 millimeters in depth, making us the largest manufacturer of this product in the Middle East.

Sections are used in the construction sector and in the production of structures for industrial and engineering applications. Emirates Steel has the capacity to produce a wide range of structural sections and is the largest producer of jumbo and heavy sections in the Middle East.

STEEL BILLETS

Continuous casting is used to manufacture uniform billets quickly and efficiently. Billets are processed into rebar, rebar in coil, wire rod and heavy section in the Company's rolling mills.



IPE - Parallel Flange I Sections

EN Sizes

Beams Sizes / Designation	Unit weight [kg/m]											
	IPEA	IPE	IPEO	IPEP	IPEV	Δ	Δ	Δ	Δ	Δ	Δ	Δ
IPE 750						134	147	161	173	185	196	220
IPE 600	108	122	155		184							
IPE 550	92.1	106	123		159							
IPE 500	79.4	90.7	107		129							
IPE 450	67.2	77.6	92.4	95.2	107							
IPE 400	57.4	66.3	75.7	81.5	84.0							
IPE 360	50.2	57.1	66.0	70.3								
IPE 330	43.0	49.1	57.0	60.3								
IPE 300	36.5	42.2	49.3	51.7								
IPE 270	30.7	36.1	42.3	44.0								

HE - Wide Flange Beams

EN Sizes

Beams Sizes / Designation	Unit weight [kg/m]										
	HEAA	Δ	HEA	HEB	HEC	HEM	Δ	Δ	Δ	Δ	Δ
HE 1000	222	249	272	314		349	393	415	438	494	584
HE 900	198		252	291		333	391 *	466 *			
HE 800	172		224	262		317	373 *	444 *			
HE 700	150		204	241		301	352 *	418 *			
HE 650	138		190	225		293	343 *	407 *			
HE 600	129		178	212		285	337 *	399 *			
HE 550	120		166	199		278					
HE 500	107		155	187		270					
HE 450	99.7		140	171		263					
HE 400	92.4		125	155		256					
HE 360	83.7		112	142		250					
HE 340	78.9		105	134		248					
HE 320	74.2		97.6	127	186	245					
HE 300	69.8		88.3	117	177	238					
HE 280	61.2		76.4	103	145	189					
HE 260	54.1		68.2	93.0	132	172					
HE 240	47.4		60.3	83.2	119	157					
HE 220	40.4		50.5	71.5	94.1	117					
HE 200	34.6		42.3	61.3	81.9	103					

* On agreement subject to minimum quantity and delivery condition.

Additional sections / section families to the list of EN10365 European sections.

HL - Extra Wide Flange Beams

EN Sizes

Beams Sizes / Designation	Unit weight [kg/m]										
	HLLA	HLLA	HLLB	HLLM	Δ	Δ	Δ	Δ	Δ	Δ	Δ
HL 1000	296	321	371	412	443	483	539	554	591	642 *	
HL 920	342	365	387	417	446	488	534	585	653 *	722 *	784 *
HL 920	344	368	390	420	449	491	537	588	656 *	725 *	787 *

HD - Wide Flange Columns

EN Sizes

Beams Sizes / Designation	Unit weight [kg/m]																	
	HD400	HD400	HD400	HD400	HD400	HD400	HD400	HD400	HD400	HD400	HD400	HD400	HD400	HD400	HD400	HD400		
HD 400	187	216	237	262	287	314	347	382	421	463	509	551	592	634	677 *	744 *	818 *	900 *
HD 360	134	147	162	179	196													
HD 320	74.2	97.6	127	158	198	245	300 *											
HD 260	54.1	68.2	93.0	114	142	172	225	299 *										

HP - Wide Flange Bearing Piles

EN Sizes

Beams Sizes / Designation	Unit weight [kg/m]									
	HP400	HP400	HP400	HP400	HP400	HP400	HP400	HP400	HP400	HP400
HP 400	122	140	158	176	194	213	231			
HP 360	109	133	152	174	180					
HP 320	88.5	103	117	147	184					
HP 305	78.9	88.5	94.9	110	126	149	180	186	223	
HP 260	75.0	87.3								
HP 220	57.2									
HP 200	42.5	53.5								

* On agreement subject to minimum quantity and delivery condition.

Additional sections / section families to the list of EN10365 European sections

UB - Universal Beams

EN Sizes

Beams Sizes / Designation	Unit weight [kg/m]														
	296	321	371	412	443	483	539	554	591	642*					
UB 1016 x 400	296	321	371	412	443	483	539	554	591	642*					
UB 1016 x 305	222	249	272	314	349	393	415	438	494	584					
UB 914 x 420	344	368	390	420	449	491	537	588	656*	725*	787*				
UB 914 x 420	342	365	387	417	446	488	534	585	653*	722*	784				
UB 914 x 419	343	388													
UB 914 x 305	201	224	238	253	271	289	313	345	381	425*	474*	521*	576*		
UB 838 x 400	299*	329*	359*	392*	433*	473*	528*	576*							
UB 838 x 292	176	194	210*	226	251*										
UB 762 x 381	257	284	314	350	389	434	484	531	582						
UB 762 x 267	134	147	161*	173	185*	197	220*								
UB 686 x 360	217	240	265	289	323	350	384	419	457	500	548				
UB 686 x 254	125	140	152	170	192*										
UB 610 x 324	155	174	195	217	241	262	285	307	341	372	415	455	498	551	
UB 610 x 305	149	179	238												
UB 610 x 229	101	113	125	140	153*	171*	191*								
UB 610 x 180	82.0	92.0	100*												
UB 533 x 310	151	166	182	197	219	247	273	300							
UB 533 x 210	82.2	92.1	101	109	122	138*									
UB 533 x 165	66.0	74.0	85.0												
UB 457 x 280	113	128	144	158	177	193	213	235	260	286*	315*	349*	384*	421*	464*
UB 457 x 191	67.1	74.3	82.0	89.3	98.3	106*	133*	161*							
UB 457 x 152	52.3	59.8	67.2	74.2	82.1										
UB 406 x 260	100	114	132	149											
UB 406 x 178	54.1	60.1	67.1	74.2	85.0*										
UB 406 x 140	39.0	46.0													
UB 356 x 250	91.0	101	110	122											
UB 356 x 200	64.0	72.0	79.0												
UB 356 x 171	45.0	51.0	57.0	67.1											
UB 356 x 127	33.1	39.1													
UB 305 x 250	79.0	86.0													
UB 305 x 200	60.0	67.0	74.0												
UB 305 x 165	40.3	46.1	54.0												
UB 305 x 127	37.0	41.9	48.1												
UB 254 x 200	49.1	58.0	67.0												
UB 254 x 146	31.1	37.0	43.0												

* On agreement subject to minimum quantity and delivery condition.
Additional sections / section families to the list of EN10365 sections.

UC - Universal Columns

EN Sizes

Beams Sizes / Designation	Unit weight [kg/m]													
	235	287	340	393	467	509	551	592	634	677*	744*	818*	900*	
UC 356 x 406	235	287	340	393	467	509	551	592	634	677*	744*	818*	900*	
UC 356 x 368	129	153	177	202										
UC 305 x 305	96.9	118	137	158	198	240	283	313	342	375*	415*	454*	500*	
UC 254 x 254	73.1	88.9	107	132	167									
UC 203 x 203	46.1	52.0	60.0	71.0	86.1	100*	114*	128*						

UBP - Wide Flange Bearing Piles

EN Sizes

Beams Sizes / Designation	Unit weight [kg/m]							
	109	133	152	174				
UBP 356 x 368	109	133	152	174				
UBP 305 x 305	78.9	88.0	94.9	110	126	149	186	223
UBP 254 x 254	63.0	71.0	85.1					
UBP 203 x 203	44.9	53.9						

PFC - Parallel Flange Channels

EN Sizes

Beams Sizes / Designation	Unit weight [kg/m]
PFC 430 x 100	64.4
PFC 380 x 100	54.0
PFC 300 x 100	45.5

* On agreement subject to minimum quantity and delivery condition.
Additional sections / section families to the list of EN10365 sections.

W - Wide Flange Beams

Imperial Sizes

Beams Sizes / Designation (Imperial)	Unit weight [lbs/ft]																
	199	215	249	277	297	324	362	372	397	431*							
W 40 x 16	199	215	249	277	297	324	362	372	397	431*							
W 40 x 12	149	167	183	211	235	264	278	294	327	331	392						
W 36 x 16.5 *	231	247	262	282	302	330	361	395	441 *	487 *	529 *						
W 36 x 16.5	230	245	260	280	300	328	391	395	439 *	485 *	527 *						
W 36 x 12	135	150	160	170	182	194	210	232	256	286 *	318 *	350 *	387 *				
W 33 x 15.75 *	201 *	221 *	241 *	263 *	291 *	318 *	354 *	387 *									
W 33 x 11.5	118	130	141	152	169												
W 30 x 15	173	191	211	235	261	292	326	357	391								
W 30 x 10.5	90.0	99.0	108	116	124	132	148										
W 27 x 14	146	161	178	194	217	235	258	281	307	336	368						
W 27 x 10	84.0	94.0	102	114	129												
W 24 x 12.75	104	117	131	146	162	176	192	207	229	250	279	306	335	370			
W 24 x 9	68.0	76.0	84.0	94.0	103	114*	128*										
W 24 x 7	55.0	62.0															
W 21 x 12.25	101	111	122	132	147	166	182	201									
W 21 x 8.25	48.0	55.0	62.0	68.0	73.0	83.0	93.0										
W 21 x 6.5	44.0	50.0	57.0														
W 18 x 11	76.0	86.0	97.0	106	119	130	143	158	175	192 *	211 *	234 *	258 *	283 *	311 *		
W 18 x 7.5	50.0	55.0	60.0	65.0	71.0												
W 18 x 6	35.0	40.0	46.0														
W 16 x 10.25	67.0	77.0	89.0	100													
W 16 x 7	36.0	40.0	45.0	50.0	57.0												
W 16 x 5.5	26.0	31.0															
W 14 x 16	145	159	176	193	211	233	257	283	311	342	370	398	426	455 *	500 *	550 *	605 *
W 14 x 14.5	90.0	99.0	109	120	132												
W 14 x 10	61.0	68.0	74.0	82.0													
W 14 x 8	43.0	48.0	53.0														
W 14 x 6.75	30.0	34.0	38.0														
W 14 x 5	22.0	26.0															
W 12 x 12	65.0	72.0	79.0	87.0	96.0	106	120	136	152	170	190	210	230	252 *	279 *	305 *	336 *
W 12 x 10	53.0	58.0															
W 12 x 8	40.0	45.0	50.0														
W 12 x 6.5	26.0	30.0	35.0														
W 10 x 10	49.0	54.0	60.0	68.0	77.0	88.0	100	112									
W 10 x 8	33.0	39.0	45.0														
W 10 x 5.75	22.0	26.0	30.0														
W 8 x 8	31.0	35.0	40.0	48.0	58.0	67.0	76.0*	86.0*									

* On agreement subject to minimum quantity and delivery condition.

Additional sections / section families to the list of American sections with dimensions as per ES standard.

HP - Wide Flange Bearing Piles

Imperial Sizes

Beams Sizes / Designation (Imperial)	Unit weight [lbs/ft]					
	135 *	157 *	181 *	204 *		
HP 18 x 18 *	135 *	157 *	181 *	204 *		
HP 16 x 16	88.0	101	121	141	162	183
HP 14 x 14.5	73.0	89.0	102	117		
HP 12 x 12	53.0	63.0	74.0	84.0	89.0	
HP 10 x 10	42.0	57.0				
HP 8 x 8	29.0	36.0				

* On agreement subject to minimum quantity and delivery condition.

W - Wide Flange Beams

Metric Sizes

Beams Sizes / Designation (Metric)	Unit weight [kg/m]																
W 1000 x 400	296	321	371	412	443	483	539	554	591	642*							
W 1000 x 300	222	249	272	314	350	393	415	438	486	494	584						
W 920 x 420*	344	368	390	420	449	491	537	588	656*	725*	787*						
W 920 x 420	342	365	387	417	446	488	534	585	653*	722*	784*						
W 920 x 310	201	223	238	253	271	289	313	345	381	425*	474*	521*	576*				
W 840 x 400	299*	329*	359*	392*	433*	473*	528*	576*									
W 840 x 295	176	193	210	226	251												
W 760 x 381	257	284	314	350	389	434	484	531	582								
W 760 x 265	134	147	161	173	185	196	220										
W 690 x 360	217	240	265	289	323	350	384	419	457	500	548						
W 690 x 250	125	140	152	170	192												
W 610 x 324	155	174	195	217	241	262	285	307	341	372	415	455	498	551			
W 610 x 230	101	113	125	140	153	171*	191*										
W 610 x 180	82.0	92.0	100*														
W 530 x 310	150	165	182	196	219	248	272	300									
W 530 x 210	72.0	82.0	92.0	101	109	123	138										
W 530 x 165	66.0	74.0	85.0														
W 460 x 280	113	128	144	158	177	193	213	235	260	286*	315*	349*	384*	421*	464*		
W 460 x 190	74.0	82.0	89.0	97.0	106*	133*	161*										
W 460 x 150	52.0	60.0	68.0														
W 410 x 260	100	114	132	149													
W 410 x 180	53.0	60.0	67.0	75.0	85.0												
W 410 x 140	38.8	46.1															
W 360 x 410	216	237	262	287	314	347	382	421	463	509	551	592	634	677*	744*	818*	900*
W 360 x 370	134	147	162	179	196												
W 360 x 250	91.0	101	110	122													
W 360 x 200	64.0	72.0	79.0														
W 360 x 170	44.6	51.0	58.0														
W 360 x 130	32.9	39.0															
W 310 x 310	97.0	107	117	129	143	158	179	202	226	253	283	313	342*	375*	415*	454*	500*
W 310 x 250	79.0	86.0															
W 310 x 200	60.0	67.0	74.0														
W 310 x 165	38.7	44.5	52.0														
W 250 x 250	73.0	80.0	89.0	101	115	131	149	167									
W 250 x 200	49.1	58.0	67.0														
W 250 x 145	32.7	38.5	44.8														
W 200 x 200	46.1	52.0	59.0	71.0	86.0	100	114*	128*									

* On agreement subject to minimum quantity and delivery condition.

Additional sections / section families to the list of American sections with dimensions as per ES standard.

HP - Wide Flange Bearing Piles

Metric Sizes

Beams Sizes / Designation (Metric)	Unit weight [kg/m]					
HP 460 x 460*	202*	234	269*	304*		
HP 410 x 410	131	151	181	211	242	272
HP 360 x 370	108	132	152	174		
HP 310 x 310	79.0	93.0	110.0	125.0	132.0	
HP 250 x 250	62.0	85.0				
HP 200 x 200	43.0	53.0				

* On agreement subject to minimum quantity and delivery condition

AUSTRALIAN / NEW ZEALAND SIZES

Universal Beams

AUS NZ Sizes

Beams Sizes / Designation	Unit weight [kg/m]		
760 UB *	147	173	197
690 UB *	125	140	
610 UB	101	113	125
530 UB	82.0	92.4	
460 UB	67.1	74.6	82.1
410 UB	53.7	59.7	
360 UB	44.7	50.7	56.7
310 UB	40.4	46.2	
250 UB	31.4	37.3	

Universal Columns

AUS NZ Sizes

Beams Sizes / Designation	Unit weight [kg/m]			
310 UC	96.8	118	137	158
250 UC	72.9	89.5		
200 UC	46.2	52.2	59.5	

* On agreement subject to minimum quantity and delivery condition.

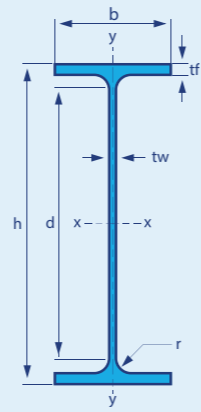
Additional sections / section families to the list of AS/NZS 3679.1.

European I Beams

EN Sizes

Dimensions: EN 10365:2017

Tolerances: EN 10034:1993



PRODUCT		DIMENSIONS						
Designation Section size	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
IPE 750 x 220	220	779	266	16.5	30.0	24.0	671.0	283.2
IPE 750 x 196	196	770	268	15.6	25.4	24.0	671.2	253.3
IPE 750 x 185	185	766	267	14.9	23.6	24.0	670.8	238.1
IPE 750 x 173	173	762	267	14.4	21.6	24.0	670.8	223.8
IPE 750 x 161	161	758	266	13.8	19.3	24.0	671.4	206.9
IPE 750 x 147	147	753	265	13.2	17.0	24.0	671.0	190.0
IPE 750 x 134	134	750	264	12.0	15.5	24.0	671.0	173.1
IPE V 600	184	618	228	18.0	28.0	24.0	514.0	233.8
IPE O 600	154	610	224	15.0	24.0	24.0	514.0	196.8
IPE 600	122	600	220	12.0	19.0	24.0	514.0	156.0
IPE A 600	108	597	220	9.8	17.5	24.0	514.0	137.0
IPE V 550	159	566	216	17.1	25.2	24.0	467.6	202.0
IPE O 550	123	556	212	12.7	20.2	24.0	467.6	156.1
IPE 550	106	550	210	11.1	17.2	24.0	467.6	134.4
IPE A 550	92.1	547	210	9.0	15.7	24.0	467.6	117.3
IPE V 500	129	514	204	14.2	23.0	24.0	420.0	165.2
IPE O 500	107	506	202	12.0	19.0	24.0	420.0	137.9
IPE 500	90.7	500	200	10.2	16.0	24.0	420.0	116.7
IPE A 500	79.4	497	200	8.4	14.5	24.0	420.0	102.3
IPE V 450	107	460	194	12.4	19.6	24.0	372.8	133.2
IPE R 450 *	95.2	458	188	11.3	18.6	24.0	372.8	122.4
IPE O 450	92.4	456	192	11.0	17.6	24.0	372.8	118.8
IPE 450	77.6	450	190	9.4	14.6	24.0	372.8	100.0
IPE A 450	67.2	447	190	7.6	13.1	24.0	372.8	86.7
IPE V 400	84.0	408	182	10.6	17.5	24.0	325.0	108.2
IPE R 400 *	81.5	407	178	10.6	17.0	24.0	325.0	105.0

* On agreement subject to minimum quantity and delivery condition.
Dimensions as per ESI standard.

IPE

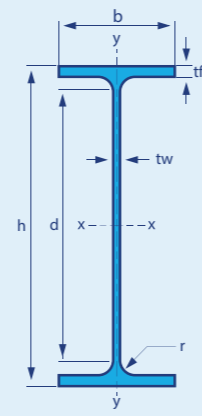
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x i _x	Axis y-y i _y	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl x}	Axis y-y W _{pl y}	H x 10 ⁹	J
	kg/m	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
IPE 750 x 220	220	281269	9448	31.52	5.78	7221	710.3	8285	1117	13198	639.7
IPE 750 x 196	196	243345	8181	31.00	5.68	6321	610.5	7261	962.4	11295	435.6
IPE 750 x 185	185	226018	7516	30.81	5.62	5901	563.0	6778	887.4	10316	361.2
IPE 750 x 173	173	208886	6879	30.55	5.54	5483	515.3	6305	813.4	9391	296.5
IPE 750 x 161	161	189127	6078	30.23	5.42	4990	457.0	5753	723.1	8259	233.1
IPE 750 x 147	147	169127	5295	29.84	5.28	4492	399.6	5197	634.1	7141	181.6
IPE 750 x 134	134	153768	4771	29.81	5.25	4100	361.4	4732	571.6	6411	140.5
IPE V 600	184	141580	5570	24.61	4.88	4582	488.6	5324	780.4	4813	512.3
IPE O 600	154	118302	4521	24.52	4.79	3879	403.6	4471	640.1	3860	318.1
IPE 600	122	92083	3387	24.30	4.66	3069	307.9	3512	485.6	2846	165.4
IPE A 600	108	82919	3116	24.60	4.77	2778	283.3	3141	442.1	2607	118.8
IPE V 550	159	102339	4265	22.51	4.60	3616	394.9	4205	632.4	3095	380.2
IPE O 550	123	79157	3224	22.52	4.55	2847	304.2	3263	480.5	2302	187.5
IPE 550	106	67116	2668	22.35	4.45	2441	254.1	2787	400.5	1884	123.2
IPE A 550	92.1	59979	2432	22.61	4.55	2193	231.6	2475	361.5	1710	86.53
IPE V 500	129	71314	3274	20.77	4.45	2775	321.0	3194	508.3	1961	253.8
IPE O 500	107	58372	2624	20.58	4.36	2307	259.8	2639	410.1	1548	151.8
IPE 500	90.7	48793	2144	20.45	4.29	1952	214.4	2220	337.3	1249	95.88
IPE A 500	79.4	43528	1941	20.63	4.36	1752	194.1	1972	303.0	1125	67.80
IPE V 450	107	46678	2399	18.72	4.24	2029	247.4	2325	390.7	1156	158.5
IPE R 450 *	95.2	42873	2072	18.71	4.11	1872	220.4	2138	347.6	994.2	129.9
IPE O 450	92.4	41401	2088	18.67	4.19	1816	217.5	2070	342.5	997.6	116.3
IPE 450	77.6	34220	1678	18.50	4.10	1521	176.6	1725	277.8	791.0	72.81
IPE A 450	67.2	30236	1504	18.67	4.17	1353	158.3	1518	247.1	704.9	50.14
IPE V 400	84.0	30508	1769	16.79	4.04	1495	194.4	1702	305.6	670.3	105.89
IPE R 400 *	81.5	29235	1608	16.69	3.91	1437	180.7	1638	285.1	607.6	99.32

European I Beams

EN Sizes

Dimensions: EN 10365:2017

Tolerances: EN 10034:1993



PRODUCT		DIMENSIONS						
Designation Section size	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
IPE O 400	75.7	404	182	9.7	15.5	24.0	325.0	97.5
IPE 400	66.3	400	180	8.6	13.5	24.0	325.0	85.6
IPE A 400	57.4	397	180	7.0	12.0	24.0	325.0	74.3
IPE R 360 *	70.3	366	168	9.9	16.0	18.0	298.0	89.6
IPE O 360	66.0	364	172	9.2	14.7	18.0	298.6	84.1
IPE 360	57.1	360	170	8.0	12.7	18.0	298.6	72.7
IPE A 360	50.2	358	170	6.6	11.5	18.0	298.6	64.0
IPE R 330 *	60.3	336	158	9.2	14.5	18.0	271.0	76.8
IPE O 330	57.0	334	162	8.5	13.5	18.0	271.0	72.6
IPE 330	49.1	330	160	7.5	11.5	18.0	271.0	62.6
IPE A 330	43.0	327	160	6.5	10.0	18.0	271.0	54.7
IPE R 300 *	51.7	306	147	8.5	13.7	18.0	242.6	66.7
IPE O 300	49.3	304	152	8.0	12.7	18.0	242.6	63.7
IPE 300	42.2	300	150	7.1	10.7	18.0	242.6	54.7
IPE A 300	36.5	297	150	6.1	9.2	18.0	242.6	47.4
IPE R 270 *	44.0	276	133	7.7	13.1	18.0	213.8	56.9
IPE O 270	42.3	274	136	7.5	12.2	18.0	213.6	54.7
IPE 270	36.1	270	135	6.6	10.2	18.0	213.6	46.8
IPE A 270	30.7	267	135	5.5	8.7	18.0	213.6	40.0

* On agreement subject to minimum quantity and delivery condition.

IPE

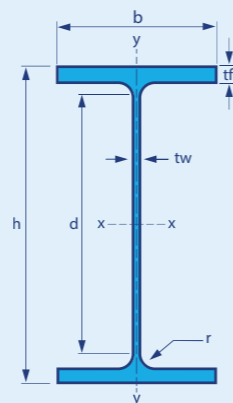
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x i _x	Axis y-y i _y	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl,x}	Axis y-y W _{pl,y}	H x 10 ⁹	J
	kg/m	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
IPE O 400	75.7	27118	1566	16.67	4.01	1342	172.1	1523	270.5	587.6	79.24
IPE 400	66.3	23500	1320	16.57	3.93	1175	146.6	1328	230.4	490.0	56.39
IPE A 400	57.4	20664	1172	16.68	3.97	1041	130.3	1165	203.4	432.2	38.88
IPE R 360 *	70.3	20288	1270	15.05	3.76	1109	151.2	1262	236.5	387.2	68.78
IPE O 360	66.0	19047	1251	15.05	3.86	1047	145.5	1186	226.9	380.3	55.76
IPE 360	57.1	16266	1043	14.95	3.79	903.6	122.8	1019	191.1	313.6	37.32
IPE A 360	50.2	14515	944	15.06	3.84	811.8	111.1	906.8	171.9	282.0	26.51
IPE R 330 *	60.3	14688	958	13.83	3.53	874.3	121.2	994.9	189.9	246.3	50.76
IPE O 330	57.0	13910	960	13.84	3.64	833.0	118.6	942.8	185.0	245.7	42.15
IPE 330	49.1	11767	788	13.71	3.55	713.1	98.5	804.3	153.7	199.1	28.15
IPE A 330	43.0	10231	685	13.67	3.54	625.7	85.6	701.9	133.3	171.5	19.57
IPE R 300 *	51.7	10651	729	12.63	3.30	696.1	99.2	791.2	155.4	154.9	40.17
IPE O 300	49.3	10146	747	12.62	3.42	667.5	98.2	755.2	153.4	157.7	33.91
IPE 300	42.2	8508	605	12.48	3.33	567.2	80.6	639.7	126.0	125.9	22.57
IPE A 300	36.5	7326	520	12.43	3.31	493.3	69.3	553.2	108.1	107.2	15.48
IPE R 270 *	44.0	7433	517	11.43	3.01	538.6	77.7	611.8	121.8	88.8	31.51
IPE O 270 *	42.3	7068	514	11.37	3.07	515.9	75.6	584.8	118.5	87.6	27.49
IPE 270	36.1	5911	421	11.24	3.00	437.8	62.3	494.1	97.7	70.6	18.17
IPE A 270	30.7	5038	359	11.22	2.99	377.4	53.1	422.6	83.0	59.5	12.10

European Wide Flange Beams

EN Sizes

Dimensions: EN 10365:2017

Tolerances: EN 10034:1993



PRODUCT		DIMENSIONS						
Designation Section size	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
HE 1000 x 584 *	584	1056	314	36.0	64.0	30.0	868.0	743.7
HE 1000 x 494	494	1036	309	31.0	54.0	30.0	868.0	629.1
HE 1000 x 438	438	1026	305	26.9	49.0	30.0	868.0	556.3
HE 1000 x 415	415	1020	304	26.0	46.0	30.0	868.0	528.7
HE 1000 x 393	393	1016	303	24.4	43.9	30.0	868.2	500.2
HE 1000 M	349	1008	302	21.0	40.0	30.0	868.0	444.2
HE 1000 B	314	1000	300	19.0	36.0	30.0	868.0	400.0
HE 1000 A	272	990	300	16.5	31.0	30.0	868.0	346.8
HE 1000 x 249	249	980	300	16.5	26.0	30.0	868.0	316.8
HE 1000 AA	222	970	300	16.0	21.0	30.0	868.0	282.2
HE 900 x 466 *	466	938	312	30.0	54.0	30.0	770.0	593.7
HE 900 x 391 *	391	922	307	25.0	46.0	30.0	770.0	497.7
HE 900 M	333	910	302	21.0	40.0	30.0	770.0	423.6
HE 900 B	291	900	300	18.5	35.0	30.0	770.0	371.3
HE 900 A	252	890	300	16.0	30.0	30.0	770.0	320.5
HE 900 AA	198	870	300	15.0	20.0	30.0	770.0	252.2
HE 800 x 444 *	444	842	313	30.0	54.0	30.0	674.0	566.0
HE 800 x 373 *	373	826	308	25.0	46.0	30.0	674.0	474.6
HE 800 M	317	814	303	21.0	40.0	30.0	674.0	404.3
HE 800 B	262	800	300	17.5	33.0	30.0	674.0	334.2
HE 800 A	224	790	300	15.0	28.0	30.0	674.0	285.8
HE 800 AA	172	770	300	14.0	18.0	30.0	674.0	218.5
HE 700 x 418 *	418	744	313	29.5	54.0	30.0	576.0	533.4
HE 700 x 352 *	352	728	308	25.0	46.0	30.0	576.0	450.1
HE 700 M	301	716	304	21.0	40.0	30.0	576.0	384.5
HE 700 B	241	700	300	17.0	32.0	30.0	576.0	307.8
HE 700 A	204	690	300	14.5	27.0	30.0	576.0	261.9
HE 700 AA	150	670	300	13.0	17.0	30.0	576.0	192.4

* On agreement subject to minimum quantity and delivery condition.

HE

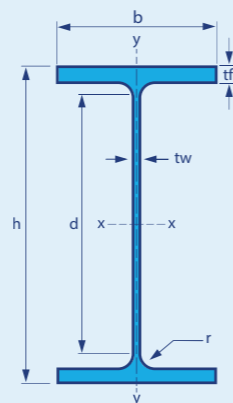
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x i _x	Axis y-y i _y	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl,x}	Axis y-y W _{pl,y}	H x10 ⁹	J
	kg/m	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
HE 1000 x 584 *	584	1246071	33433	40.93	6.70	23600	2130	28039	3475	81242	7230.0
HE 1000 x 494	494	1027959	26824	40.42	6.53	19845	1736	23413	2818	64015	4432.5
HE 1000 x 438	438	909177	23355	40.43	6.48	17723	1531	20746	2463	55293	3190.2
HE 1000 x 415	415	853121	21707	40.17	6.41	16728	1428	19571	2298	51084	2713.3
HE 1000 x 393	393	807688	20496	40.18	6.40	15899	1353	18539	2168	48084	2331.7
HE 1000 M	349	722299	18459	40.32	6.45	14331	1222	16568	1940	43015	1701.3
HE 1000 B	314	644748	16276	40.15	6.38	12895	1085	14855	1716	37636	1254.4
HE 1000 A	272	553846	14004	39.96	6.35	11189	933.6	12824	1470	32074	822.4
HE 1000 x 249	249	481079	11754	38.97	6.09	9818	783.6	11347	1245	26621	584.4
HE 1000 AA	222	406451	9501	37.95	5.80	8380	633.4	9777	1016	21277	403.4
HE 900 x 466 *	466	814946	27560	37.05	6.81	17376	1767	20376	2832	53401	4256.1
HE 900 x 391 *	391	674346	22322	36.81	6.70	14628	1454	16992	2312	42557	2597.2
HE 900 M	333	570434	18452	36.70	6.60	12537	1222	14442	1929	34746	1671.0
HE 900 B	291	494065	15816	36.48	6.53	10979	1054	12584	1658	29461	1137.5
HE 900 A	252	422075	13547	36.29	6.50	9485	903.2	10811	1414	24962	736.8
HE 900 AA	198	301145	9041	34.55	5.99	6923	602.8	7999	957.7	16256	334.9
HE 800 x 444 *	444	634474	27802	33.48	7.01	15071	1776	17638	2827	42842	4180.2
HE 800 x 373 *	373	523906	22527	33.23	6.89	12685	1463	14697	2311	34071	2553.7
HE 800 M	317	442598	18627	33.09	6.79	10875	1230	12488	1930	27775	1645.6
HE 800 B	262	359083	14904	32.78	6.68	8977	993.6	10229	1553	21840	946.0
HE 800 A	224	303442	12639	32.58	6.65	7682	842.6	8699	1312	18290	596.9
HE 800 AA	172	208882	8134	30.92	6.10	5426	542.2	6225	856.6	11451	256.8
HE 700 x 418 *	418	473906	27772	29.81	7.22	12739	1775	14886	2800	32848	4047.7
HE 700 x 352 *	352	391078	22514	29.48	7.07	10744	1462	12431	2296	26048	2502.7
HE 700 M	301	330675	18804	29.33	6.99	9237	1237	10584	1932	21397	1619.7
HE 700 B	241	258285	14446	28.97	6.85	7380	963.1	8372	1498	16064	851.4
HE 700 A	204	216698	12184	28.76	6.82	6281	812.2	7077	1259	13352	529.6
HE 700 AA	150	144118	7678	27.37	6.32	4302	511.8	4885	802.1	8155	209.4

European Wide Flange Beams

EN Sizes

Dimensions: EN 10365:2017

Tolerances: EN 10034:1993



PRODUCT		DIMENSIONS						
Designation Section size	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
HE 650 x 407 *	407	696	314	29.5	54.0	30.0	528.0	520.3
HE 650 x 343 *	343	680	309	25.0	46.0	30.0	528.0	439.0
HE 650 M	293	668	305	21.0	40.0	30.0	528.0	375.2
HE 650 B	225	650	300	16.0	31.0	30.0	528.0	287.8
HE 650 A	190	640	300	13.5	26.0	30.0	528.0	243.1
HE 650 AA	138	620	300	12.5	16.0	30.0	528.0	177.2
HE 600 x 399 *	399	648	315	30.0	54.0	30.0	480.0	509.9
HE 600 x 337 *	337	632	310	25.5	46.0	30.0	480.0	430.6
HE 600 M	285	620	305	21.0	40.0	30.0	480.0	365.1
HE 600 B	212	600	300	15.5	30.0	30.0	480.0	271.4
HE 600 A	178	590	300	13.0	25.0	30.0	480.0	227.9
HE 600 AA	129	571	300	12.0	15.5	30.0	480.0	165.5
HE 550 M	278	572	306	21.0	40.0	30.0	432.0	355.8
HE 550 B	199	550	300	15.0	29.0	30.0	432.0	255.5
HE 550 A	166	540	300	12.5	24.0	30.0	432.0	213.2
HE 550 AA	120	522	300	11.5	15.0	30.0	432.0	154.3
HE 500 M	270	524	306	21.0	40.0	30.0	384.0	345.8
HE 500 B	187	500	300	14.5	28.0	30.0	384.0	240.1
HE 500 A	155	490	300	12.0	23.0	30.0	384.0	199.0
HE 500 AA	107	472	300	10.5	14.0	30.0	384.0	138.3
HE 450 M	263	478	307	21.0	40.0	30.0	338.0	336.9
HE 450 B	171	450	300	14.0	26.0	30.0	338.0	219.4
HE 450 A	140	440	300	11.5	21.0	30.0	338.0	179.5
HE 450 AA	100	425	300	10.0	13.5	30.0	338.0	128.5
HE 400 M	256	432	307	21.0	40.0	30.0	292.0	327.2
HE 400 B	155	400	300	13.5	24.0	30.0	292.0	199.2

* On agreement subject to minimum quantity and delivery condition.

HE

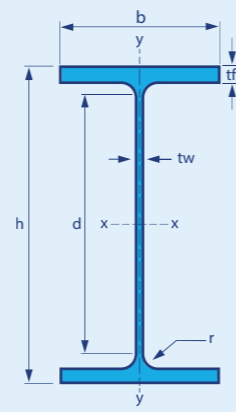
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x i _x	Axis y-y i _y	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl,x}	Axis y-y W _{pl,y}	H x10 ⁹	J
	kg/m	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
HE 650 x 407 *	407	406613	28027	27.96	7.34	11684	1785	13658	2807	28711	4017.1
HE 650 x 343 *	343	334904	22727	27.62	7.20	9850	1471	11395	2303	22730	2484.2
HE 650 M	293	282856	18986	27.46	7.11	8469	1245	9699	1939	18650	1609.1
HE 650 B	225	211804	13989	27.13	6.97	6517	932.6	7362	1444	13363	757.7
HE 650 A	190	176366	11728	26.93	6.95	5511	781.9	6178	1207	11027	462.3
HE 650 AA	138	115132	7225	25.49	6.38	3714	481.7	4202	753.0	6567	181.3
HE 600 x 399 *	399	345638	28291	26.03	7.45	10668	1796	12494	2817	24813	4026.6
HE 600 x 337 *	337	284164	22946	25.69	7.30	8993	1480	10419	2313	19608	2494.8
HE 600 M	285	238444	18982	25.55	7.21	7692	1245	8810	1933	15908	1594.3
HE 600 B	212	172037	13535	25.18	7.06	5735	902.4	6463	1394	10965	684.7
HE 600 A	178	142204	11276	24.98	7.03	4820	751.7	5389	1158	8978	411.1
HE 600 AA	129	92868	6998	23.69	6.50	3253	466.5	3661	726.8	5381	162.8
HE 550 M	278	198805	19165	23.64	7.34	6951	1253	7967	1940	13516	1583.7
HE 550 B	199	137512	13082	23.20	7.16	5000	872.1	5625	1344	8856	617.0
HE 550 A	166	112753	10823	23.00	7.12	4176	721.6	4657	1109	7189	364.0
HE 550 AA	120	73693	6771	21.85	6.62	2823	451.4	3162	700.9	4338	146.1
HE 500 M	270	162592	19161	21.68	7.44	6206	1252	7125	1935	11187	1568.9
HE 500 B	187	107839	12629	21.19	7.25	4314	841.9	4846	1294	7018	554.2
HE 500 A	155	87638	10371	20.99	7.22	3577	691.4	3980	1061	5643	321.1
HE 500 AA	107	55306	6318	19.99	6.76	2343	421.2	2607	651.5	3304	118.8
HE 450 M	263	132012	19346	19.79	7.58	5524	1260	6359	1942	9251	1559.0
HE 450 B	171	80415	11726	19.14	7.31	3574	781.7	4010	1200	5258	455.3
HE 450 A	140	64249	9469	18.92	7.26	2920	631.3	3244	967.8	4148	254.9
HE 450 AA	99.7	42415	6091	18.17	6.88	1996	406.1	2211	626.5	2572	106.13
HE 400 M	256	104526	19342	17.87	7.69	4839	1260	5595	1937	7410	1544.8
HE 400 B	155	58088	10824	17.07	7.37	2904	721.6	3256	1106	3817	369.8

European Wide Flange Beams

EN Sizes

Dimensions: EN 10365:2017

Tolerances: EN 10034:1993



PRODUCT		DIMENSIONS						
Designation Section size	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
HE 400 A	125	390	300	11.0	19.0	30.0	292.0	160.4
HE 400 AA	92.4	378	300	9.5	13.0	30.0	292.0	119.2
HE 360 M	250	395	308	21.0	40.0	30.0	255.0	320.3
HE 360 B	142	360	300	12.5	22.5	30.0	255.0	182.1
HE 360 A	112	350	300	10.0	17.5	30.0	255.0	144.2
HE 360 AA	83.7	339	300	9.0	12.0	30.0	255.0	108.1
HE 340 M	248	377	309	21.0	40.0	30.0	237.0	317.3
HE 340 B	134	340	300	12.0	21.5	30.0	237.0	172.4
HE 340 A	105	330	300	9.5	16.5	30.0	237.0	134.9
HE 340 AA	78.9	320	300	8.5	11.5	30.0	237.0	102.0
HE 320 M	245	359	309	21.0	40.0	30.0	219.0	313.5
HE 320 C	186	340	305	16.0	30.5	30.0	219.0	238.4
HE 320 B	127	320	300	11.5	20.5	30.0	219.0	162.8
HE 320 A	97.6	310	300	9.0	15.5	30.0	219.0	125.8
HE 320 AA	74.2	301	300	8.0	11.0	30.0	219.0	96.0
HE 300 M	238	340	310	21.0	39.0	30.0	202.0	304.5
HE 300 C	177	320	305	16.0	29.0	30.0	202.0	226.5
HE 300 B	117	300	300	11.0	19.0	30.0	202.0	150.5
HE 300 A	88.3	290	300	8.5	14.0	30.0	202.0	114.0
HE 300 AA	69.8	283	300	7.5	10.5	30.0	202.0	90.4
HE 280 M	189	310	288	18.5	33.0	24.0	196.0	240.2
HE 280 C	145	295	284	14.5	25.5	24.0	196.0	185.2
HE 280 B	103	280	280	10.5	18.0	24.0	196.0	131.4
HE 280 A	76.4	270	280	8.0	13.0	24.0	196.0	97.3
HE 280 AA	61.2	264	280	7.0	10.0	24.0	196.0	78.0
HE 260 M	172	290	268	18.0	32.5	24.0	177.0	219.6
HE 260 C	132	275	264	14.0	25.0	24.0	177.0	168.4

HE

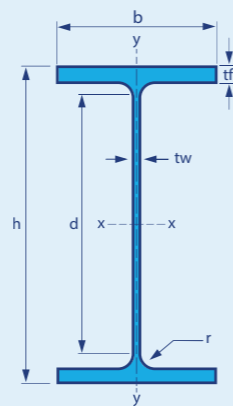
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x i _x	Axis y-y i _y	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl,x}	Axis y-y W _{pl,y}	H x10 ⁹	J
	kg/m	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
HE 400 A	125	45477	8568	16.84	7.31	2332	571.2	2586	875.1	2942	199.7
HE 400 AA	92.4	31659	5865	16.30	7.02	1675	391.0	1849	601.8	1948	94.63
HE 360 M	250	85189	19528	16.31	7.81	4313	1268	5011	1945	6137	1537.6
HE 360 B	142	43515	10146	15.46	7.46	2418	676.4	2705	1035	2883	305.0
HE 360 A	112	33412	7891	15.22	7.40	1909	526.0	2110	804.4	2177	158.3
HE 360 AA	83.7	23359	5414	14.70	7.08	1378	360.9	1517	555.0	1444	80.61
HE 340 M	248	76656	19717	15.54	7.88	4067	1276	4738	1956	5584	1536.3
HE 340 B	134	36940	9694	14.64	7.50	2173	646.3	2429	988.0	2454	269.1
HE 340 A	105	27977	7440	14.40	7.43	1696	496.0	1871	758.0	1824	136.1
HE 340 AA	78.9	19836	5188	13.95	7.13	1240	345.9	1361	531.3	1231	72.15
HE 320 M	245	68383	19716	14.77	7.93	3810	1276	4454	1954	5004	1530.8
HE 320 C	186	48959	14451	14.33	7.79	2880	947.6	3293	1448	3454	697.6
HE 320 B	127	31072	9243	13.81	7.53	1942	616.2	2168	941.3	2069	236.3
HE 320 A	97.6	23177	6989	13.57	7.45	1495	465.9	1647	711.8	1512	116.4
HE 320 AA	74.2	16696	4962	13.18	7.19	1109	330.8	1215	507.7	1041	64.43
HE 300 M	238	59418	19410	13.97	7.98	3495	1252	4096	1916	4386	1437.5
HE 300 C	177	41168	13742	13.48	7.79	2573	901.1	2945	1377	2903	616.7
HE 300 B	117	25383	8567	12.98	7.54	1692	571.1	1887	872.4	1688	195.7
HE 300 A	88.3	18481	6313	12.73	7.44	1275	420.9	1401	643.2	1200	93.28
HE 300 AA	69.8	14021	4737	12.46	7.24	990.9	315.8	1083	484.3	877.2	57.40
HE 280 M	189	39547	13163	12.83	7.40	2551	914.1	2966	1397	2520	807.3
HE 280 C	145	28807	9750	12.47	7.26	1953	686.6	2225	1047	1768	382.5
HE 280 B	103	19270	6595	12.11	7.09	1376	471.0	1534	717.6	1130	143.7
HE 280 A	76.4	13673	4763	11.86	7.00	1013	340.2	1112	518.1	785.4	62.10
HE 280 AA	61.2	10558	3664	11.63	6.85	799.8	261.7	873	399.4	590.1	36.22
HE 260 M	172	31307	10449	11.94	6.90	2159	779.7	2524	1192	1728	719.0
HE 260 C	132	22591	7680	11.58	6.75	1643	581.8	1880	888.3	1198	336.4

European Wide Flange Beams

EN Sizes

Dimensions: EN 10365:2017

Tolerances: EN 10034:1993



PRODUCT		DIMENSIONS						
Designation Section size	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
HE 260 B	93.0	260	260	10.0	17.5	24.0	177.0	118.4
HE 260 A	68.2	250	260	7.5	12.5	24.0	177.0	86.8
HE 260 AA	54.1	244	260	6.5	9.5	24.0	177.0	69.0
HE 240 M	157	270	248	18.0	32.0	24.0	158.0	200.7
HE 240 C	119	255	244	14.0	24.5	24.0	158.0	153.3
HE 240 B	83.2	240	240	10.0	17.0	24.0	158.0	107.1
HE 240 A	60.3	230	240	7.5	12.0	24.0	158.0	78.0
HE 240 AA	47.4	224	240	6.5	9.0	24.0	158.0	61.5
HE 220 M	117	240	226	15.5	26.0	18.0	152.0	149.4
HE 220 C	94.1	230	223	12.5	21.0	18.0	152.0	119.9
HE 220 B	71.5	220	220	9.5	16.0	18.0	152.0	91.0
HE 220 A	50.5	210	220	7.0	11.0	18.0	152.0	64.3
HE 220 AA	40.4	205	220	6.0	8.5	18.0	152.0	51.5
HE 200 M	103	220	206	15.0	25.0	18.0	134.0	131.3
HE 200 C	81.9	210	203	12.0	20.0	18.0	134.0	104.4
HE 200 B	61.3	200	200	9.0	15.0	18.0	134.0	78.1
HE 200 A	42.3	190	200	6.5	10.0	18.0	134.0	53.8
HE 200 AA	34.6	186	200	5.5	8.0	18.0	134.0	44.1

HE

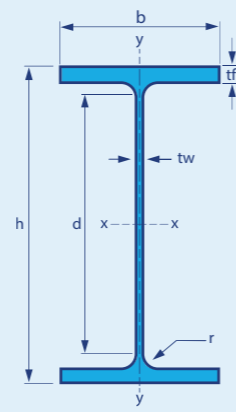
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x i _x	Axis y-y i _y	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl,x}	Axis y-y W _{pl,y}	H x10 ⁹	J
	kg/m	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
HE 260 B	93.0	14919	5135	11.22	6.58	1148	395.0	1283	602.2	753.7	123.8
HE 260 A	68.2	10455	3668	10.97	6.50	836.4	282.1	919.8	430.2	516.4	52.37
HE 260 AA	54.1	7981	2788	10.76	6.36	654.1	214.5	714.5	327.7	382.6	30.31
HE 240 M	157	24395	8156	11.02	6.37	1807	657.8	2128	1008	1152	644.9
HE 240 C	119	17433	5945	10.66	6.23	1367	487.3	1575	745.5	787.9	299.3
HE 240 B	83.2	11365	3925	10.30	6.05	947.1	327.1	1064	499.9	486.9	109.0
HE 240 A	60.3	7869	2771	10.04	5.96	684.3	230.9	755.7	353.0	328.5	46.08
HE 240 AA	47.4	5941	2079	9.83	5.81	530.5	173.2	581.6	265.6	239.6	27.27
HE 220 M	117	14605	5012	9.89	5.79	1217	443.5	1419	678.6	572.7	315.3
HE 220 C	94.1	11180	3888	9.65	5.69	972.2	348.7	1114	532.4	423.9	168.2
HE 220 B	71.5	8091	2843	9.43	5.59	735.5	258.5	827.0	393.9	295.4	76.57
HE 220 A	50.5	5410	1955	9.17	5.51	515.2	177.7	568.5	270.6	193.3	28.46
HE 220 AA	40.4	4170	1510	9.00	5.42	406.9	137.3	445.5	209.3	145.6	15.93
HE 200 M	103	10642	3651	9.00	5.27	967.4	354.5	1135	543.2	346.3	259.4
HE 200 C	81.9	8029	2794	8.77	5.17	764.7	275.3	880.6	421.0	251.7	135.1
HE 200 B	61.3	5696	2003	8.54	5.07	569.6	200.3	642.5	305.8	171.1	59.28
HE 200 A	42.3	3692	1336	8.28	4.98	388.6	133.6	429.5	203.8	108.0	20.98
HE 200 AA	34.6	2944	1068	8.17	4.92	316.6	106.8	347.1	163.2	84.5	12.69

European Extra Wide Flange Beams

EN Sizes

Dimensions: EN 10365:2017

Tolerances: EN 10034:1993



PRODUCT		DIMENSIONS						
Designation Section size	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
HL 1000 x 642 *	642	1048	412	34.0	60.0	30.0	868.0	817.6
HL 1000 x 591 *	591	1040	409	31.0	55.9	30.0	868.2	752.7
HL 1000 x 554	554	1032	408	29.5	52.0	30.0	868.0	705.8
HL 1000 x 539	539	1030	407	28.4	51.1	30.0	867.8	687.2
HL 1000 x 483	483	1020	404	25.4	46.0	30.0	868.0	615.1
HL 1000 x 443	443	1012	402	23.6	41.9	30.0	868.2	563.7
HL 1000 M	412	1008	402	21.1	40.0	30.0	868.0	525.1
HL 1000 B	371	1000	400	19.0	36.1	30.0	867.8	472.8
HL 1000 A	321	990	400	16.5	31.0	30.0	868.0	408.8
HL 1000 AA	296	982	400	16.5	27.1	30.0	867.8	377.6
HL 920 x 787 *	787	1011	437	40.9	73.9	30.0	803.2	1006.7
HL 920 x 725 *	725	999	434	38.1	68.1	30.0	802.8	927.6
HL 920 x 656 *	656	987	431	34.5	62.0	30.0	803.0	839.9
HL 920 x 588 *	588	975	427	31.0	55.9	30.0	803.2	752.7
HL 920 x 537 *	537	965	425	28.4	51.1	30.0	802.8	687.1
HL 920 x 491 *	491	957	422	25.9	47.0	30.0	803.0	627.9
HL 920 x 449 *	449	948	423	24.0	42.7	30.0	802.6	576.0
HL 920 x 420 *	420	943	422	22.5	39.9	30.0	803.2	538.7
HL 920 x 390 *	390	936	420	21.3	36.6	30.0	802.8	498.9
HL 920 x 368 *	368	931	419	20.3	34.3	30.0	802.4	470.2
HL 920 x 344 *	344	927	418	19.3	32.0	30.0	803.0	441.8
HL 920 x 784 *	784	996	437	40.9	73.9	30.0	787.8	1000.4
HL 920 x 722 *	722	984	434	38.1	68.1	30.0	787.8	921.8
HL 920 x 653 *	653	972	431	34.5	62.0	30.0	787.8	834.7
HL 920 x 585 *	585	960	427	31.0	55.9	30.0	787.8	747.9
HL 920 x 534	534	950	425	28.4	51.1	30.0	787.8	682.9
HL 920 x 488	488	942	422	25.9	47.0	30.0	787.8	624.0

* On agreement subject to minimum quantity and delivery condition.
Dimensions as per ESI standard.

HL

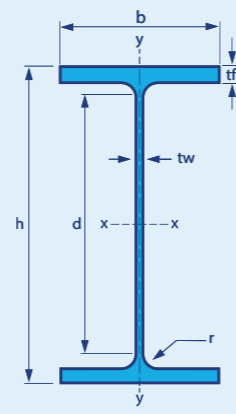
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x i _x	Axis y-y i _y	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl,x}	Axis y-y W _{pl,y}	H x 10 ⁹	J
	kg/m	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
HL 1000 x 642 *	642	1450589	70284	42.12	9.27	27683	3412	32097	5379	170665	7440
HL 1000 x 591 *	591	1331036	64014	42.05	9.22	25597	3130	29530	4916	154330	5927
HL 1000 x 554	554	1232372	59098	41.79	9.15	23883	2897	27496	4547	141327	4860
HL 1000 x 539	539	1202538	57632	41.83	9.16	23350	2832	26824	4436	137553	4546
HL 1000 x 483	483	1067483	50712	41.66	9.08	20931	2510	23923	3919	119897	3311
HL 1000 x 443	443	966512	45498	41.41	8.98	19101	2264	21777	3529	106737	2545
HL 1000 M	412	910477	43408	41.64	9.09	18065	2160	20461	3349	101456	2134
HL 1000 B	371	813732	38582	41.49	9.03	16275	1929	18361	2984	89442	1575
HL 1000 A	321	696446	33121	41.27	9.00	14070	1656	15797	2555	76027	1021
HL 1000 AA	296	620314	28961	40.53	8.76	12634	1448	14255	2243	65895	762.6
HL 920 x 787 *	787	1654080	103338	40.54	10.13	32722	4729	38210	7438	225657	14004
HL 920 x 725 *	725	1500746	93234	40.22	10.03	30045	4296	34932	6747	201007	11030
HL 920 x 656 *	656	1343643	83074	40.00	9.95	27227	3855	31470	6034	176968	8303
HL 920 x 588 *	588	1189522	72789	39.75	9.83	24400	3409	28041	5321	153183	6072
HL 920 x 537 *	537	1073828	65580	39.53	9.77	22255	3086	25461	4805	136513	4657
HL 920 x 491 *	491	974624	59026	39.40	9.70	20368	2797	23200	4345	121873	3608
HL 920 x 449 *	449	883004	53993	39.15	9.68	18629	2553	21144	3959	110363	2764
HL 920 x 420 *	420	821630	50085	39.05	9.64	17426	2374	19726	3676	101899	2269
HL 920 x 390 *	390	750023	45289	38.77	9.53	16026	2157	18118	3339	91395	1795
HL 920 x 368 *	368	700502	42136	38.60	9.47	15048	2011	16990	3113	84532	1502
HL 920 x 344 *	344	653271	39027	38.45	9.40	14094	1867	15893	2889	78003	1243
HL 920 x 784 *	784	1595832	103330	39.94	10.16	32058	4729	37437	7432	218301	13969
HL 920 x 722 *	722	1448869	93227	39.64	10.06	29449	4296	34238	6741	194581	11003
HL 920 x 653 *	653	1296293	83069	39.41	9.98	26678	3855	30833	6029	171200	8283
HL 920 x 585 *	585	1146784	72785	39.16	9.86	23901	3409	27463	5317	148092	6057
HL 920 x 534	534	1036022	65577	38.95	9.80	21811	3086	24947	4802	132068	4645
HL 920 x 488	488	939723	59024	38.81	9.73	19956	2797	22724	4342	117835	3599

European Extra Wide Flange Beams

EN Sizes

Dimensions: EN 10365:2017

Tolerances: EN 10034:1993



PRODUCT		DIMENSIONS						
Designation Section size	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
HL 920 x 446	446	933	423	24.0	42.7	30.0	787.8	572.4
HL 920 x 417	417	928	422	22.5	39.9	30.0	787.8	535.2
HL 920 x 387	387	921	420	21.3	36.6	30.0	787.8	495.7
HL 920 x 365	365	916	419	20.3	34.3	30.0	787.8	467.3
HL 920 x 342	342	912	418	19.3	32.0	30.0	787.8	438.9

Dimensions as per ESI standard.

HL

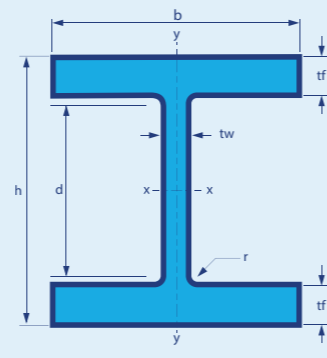
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x i _x	Axis y-y i _y	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl,x}	Axis y-y W _{pl,y}	H x10 ⁹	J
	kg/m	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
HL 920 x 446	446	852025	53991	38.58	9.71	18260	2553	20719	3957	106784	2758
HL 920 x 417	417	791571	50084	38.46	9.67	17067	2374	19312	3674	98454	2263
HL 920 x 387	387	723126	45288	38.19	9.56	15703	2157	17745	3338	88372	1790
HL 920 x 365	365	675947	42135	38.03	9.50	14752	2011	16647	3111	81801	1497
HL 920 x 342	342	629368	39026	37.87	9.43	13805	1867	15559	2887	75376	1239

European Wide Flange Columns

EN Sizes

Dimensions: EN 10365:2017

Tolerances: EN 10034:1993



PRODUCT		DIMENSIONS						
Designation Section size	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
HD 400 x 900 *	900	531	442	65.9	106	24.0	271.6	1149.9
HD 400 x 818 *	818	514	437	60.5	97.0	24.0	272.0	1046.3
HD 400 x 744 *	744	498	432	55.6	88.9	24.0	272.2	951.1
HD 400 x 677 *	677	483	428	51.2	81.5	24.0	272.0	866.4
HD 400 x 634	634	474	424	47.6	77.1	24.0	271.8	811.0
HD 400 x 592	592	465	421	45.0	72.3	24.0	272.4	757.9
HD 400 x 551	551	455	418	42.0	67.6	24.0	271.8	704.4
HD 400 x 509	509	446	416	39.1	62.7	24.0	272.6	652.0
HD 400 x 463	463	435	412	35.8	57.4	24.0	272.2	592.6
HD 400 x 421	421	425	409	32.8	52.6	24.0	271.8	540.1
HD 400 x 382	382	416	406	29.8	48.0	24.0	272.0	490.1
HD 400 x 347	347	407	404	27.2	43.7	24.0	271.6	445.0
HD 400 x 314	314	399	401	24.9	39.6	24.0	271.8	402.2
HD 400 x 287	287	393	399	22.6	36.6	24.0	271.8	369.3
HD 400 x 262	262	387	398	21.1	33.3	24.0	272.4	337.6
HD 400 x 237	237	380	395	18.9	30.2	24.0	271.6	303.9
HD 400 x 216	216	375	394	17.3	27.7	24.0	271.6	278.5
HD 400 x 187	187	368	391	15.0	24.0	24.0	272.0	240.6
HD 360 x 196	196	372	374	16.4	26.2	24.0	271.6	253.3
HD 360 x 179	179	368	373	15.0	23.9	24.0	272.2	231.3
HD 360 x 162	162	364	371	13.3	21.8	24.0	272.4	209.3
HD 360 x 147	147	360	370	12.3	19.8	24.0	272.4	190.9
HD 360 x 134	134	356	369	11.2	18.0	24.0	272.0	173.6
HD 320 x 300 *	300	375	313	27.0	48.0	30.0	219.0	383.5
HD 320 x 245	245	359	309	21.0	40.0	30.0	219.0	313.5
HD 320 x 198	198	343	306	18.0	32.0	30.0	219.0	253.8
HD 320 x 158	158	330	303	14.5	25.5	30.0	219.0	202.7
HD 320 x 127	127	320	300	11.5	20.5	30.0	219.0	162.8

* On agreement subject to minimum quantity and delivery condition.

HD

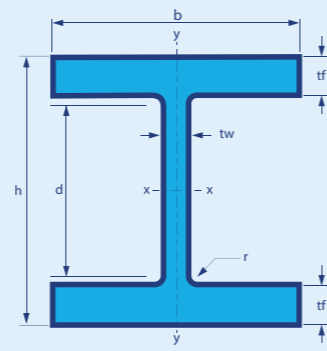
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x i _x	Axis y-y i _y	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl,x}	Axis y-y W _{pl,y}	H x10 ⁹	J
	kg/m	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
HD 400 x 900 *	900	450338	152957	19.79	11.53	16962	6921	21629	10691	68789	38011
HD 400 x 818 *	818	392900	135571	19.38	11.38	15288	6205	19301	9572	58651	29241
HD 400 x 744 *	744	342831	119968	18.99	11.23	13768	5554	17213	8559	49981	22427
HD 400 x 677 *	677	300179	106903	18.61	11.11	12430	4995	15392	7690	42919	17261
HD 400 x 634	634	274879	98280	18.41	11.01	11598	4636	14268	7126	38575	14419
HD 400 x 592	592	250872	90198	18.19	10.91	10790	4285	13185	6583	34665	11906
HD 400 x 551	551	226819	82518	17.94	10.82	9970	3948	12097	6060	30873	9698
HD 400 x 509	509	205240	75422	17.74	10.76	9204	3626	11079	5560	27632	7754
HD 400 x 463	463	180872	67054	17.47	10.64	8316	3255	9924	4986	23848	5929
HD 400 x 421	421	160289	60098	17.23	10.55	7543	2939	8927	4496	20795	4556
HD 400 x 382	382	142026	53631	17.02	10.46	6828	2642	8011	4037	18126	3453
HD 400 x 347	347	125652	48098	16.80	10.40	6175	2381	7185	3635	15847	2613
HD 400 x 314	314	110941	42615	16.61	10.29	5561	2125	6420	3242	13743	1954
HD 400 x 287	287	100414	38793	16.49	10.25	5110	1945	5859	2962	12304	1532
HD 400 x 262	262	90117	35028	16.34	10.19	4657	1760	5306	2681	10943	1174
HD 400 x 237	237	79485	31050	16.17	10.11	4183	1572	4732	2392	9489	872.6
HD 400 x 216	216	71846	28261	16.06	10.07	3832	1435	4308	2181	8515	676.9
HD 400 x 187	187	60893	23929	15.91	9.97	3309	1224	3689	1859	7074	444.8
HD 360 x 196	196	64340	22865	15.94	9.50	3459	1223	3884	1861	6829	552.8
HD 360 x 179	179	58151	20690	15.86	9.46	3160	1109	3529	1687	6119	424.0
HD 360 x 162	162	52250	18568	15.80	9.42	2871	1001	3186	1520	5432	320.0
HD 360 x 147	147	47000	16728	15.69	9.36	2611	904	2885	1373	4836	245.1
HD 360 x 134	134	42218	15084	15.59	9.32	2372	818	2608	1241	4305	187.2
HD 320 x 300 *	300	87153	24611	15.07	8.01	4648	1573	5541	2418	6558	2698
HD 320 x 245	245	68383	19716	14.77	7.93	3810	1276	4454	1954	5004	1531
HD 320 x 198	198	52144	15316	14.33	7.77	3040	1001	3498	1533	3695	827.7
HD 320 x 158	158	39893	11847	14.03	7.64	2418	782.0	2737	1196	2741	436.1
HD 320 x 127	127	31072	9243	13.81	7.53	1942	616.2	2168	941.3	2069	236.3

European Wide Flange Columns

EN Sizes

Dimensions: EN 10365:2017

Tolerances: EN 10034:1993



PRODUCT		DIMENSIONS						
Designation Section size	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
HD 320 x 97.6	97.6	310	300	9.0	15.5	30.0	219.0	125.8
HD 320 x 74.2	74.2	301	300	8.0	11.0	30.0	219.0	96.0
HD 260 x 299 *	299	335	278	31.0	55.0	24.0	177.0	380.5
HD 260 x 225 *	225	309	271	24.0	42.0	24.0	177.0	286.6
HD 260 x 172	172	290	268	18.0	32.5	24.0	177.0	219.6
HD 260 x 142	142	278	265	15.5	26.5	24.0	177.0	180.3
HD 260 x 114	114	268	262	12.5	21.5	24.0	177.0	145.7
HD 260 x 93.0	93.0	260	260	10.0	17.5	24.0	177.0	118.4
HD 260 x 68.2	68.2	250	260	7.5	12.5	24.0	177.0	86.8
HD 260 x 54.1	54.1	244	260	6.5	9.5	24.0	177.0	69.0

* On agreement subject to minimum quantity and delivery condition.

Dimensions as per ESI standard.

HD

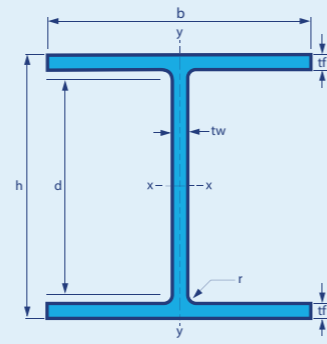
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x i _x	Axis y-y i _y	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl,x}	Axis y-y W _{pl,y}	H x10 ⁹	J
	kg/m	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
HD 320 x 97.6	97.6	23177	6989	13.57	7.45	1495	465.9	1647	711.8	1512	116.4
HD 320 x 74.2	74.2	16696	4962	13.18	7.19	1109	330.8	1215	507.7	1041	64.43
HD 260 x 299 *	299	64219	19773	12.99	7.21	3834	1423	4727	2190	3860	3437
HD 260 x 225 *	225	43752	13974	12.36	6.98	2832	1031	3396	1583	2483	1545
HD 260 x 172	172	31307	10449	11.94	6.90	2159	779.7	2524	1192	1728	719.0
HD 260 x 142	142	24331	8236	11.62	6.76	1750	621.6	2015	950.5	1300	406.8
HD 260 x 114	114	18912	6456	11.39	6.66	1411	492.8	1600	752.5	979.0	222.4
HD 260 x 93.0	93.0	14919	5135	11.22	6.58	1148	395.0	1283	602.2	753.7	123.8
HD 260 x 68.2	68.2	10455	3668	10.97	6.50	836.4	282.1	919.8	430.2	516.4	52.37
HD 260 x 54.1	54.1	7981	2788	10.76	6.36	654.1	214.5	714.5	327.7	382.6	30.31

European Wide Flange Bearing Piles

EN Sizes

Dimensions: EN 10365:2017

Tolerances: EN 10034:1993



PRODUCT		DIMENSIONS						
Designation Section size	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
HP 400 x 231 *	231	372.0	402.0	26.0	26.0	24.0	272.0	297.2
HP 400 x 213 *	213	368.0	400.0	24.0	24.0	24.0	272.0	273.7
HP 400 x 194 *	194	364.0	398.0	22.0	22.0	24.0	272.0	250.5
HP 400 x 176	176	360.0	396.0	20.0	20.0	24.0	272.0	227.3
HP 400 x 158	158	356.0	394.0	18.0	18.0	24.0	272.0	204.4
HP 400 x 140	140	352.0	392.0	16.0	16.0	24.0	272.0	181.6
HP 400 x 122	122	348.0	390.0	14.0	14.0	24.0	272.0	158.9
HP 360 x 180	180	362.9	378.8	21.1	21.1	24.0	272.7	232.5
HP 360 x 174	174	361.4	378.5	20.3	20.4	24.0	272.6	224.5
HP 360 x 152	152	356.4	376.0	17.8	17.9	24.0	272.6	196.6
HP 360 x 133	133	352.0	373.8	15.6	15.7	24.0	272.6	172.3
HP 360 x 109	109	346.4	371.0	12.8	12.9	24.0	272.6	141.7
HP 320 x 184	184	329.0	317.0	25.0	25.0	30.0	219.0	236.0
HP 320 x 147	147	319.0	312.0	20.0	20.0	30.0	219.0	188.3
HP 320 x 117	117	311.0	308.0	16.0	16.0	30.0	219.0	150.9
HP 320 x 103	103	307.0	306.0	14.0	14.0	30.0	219.0	132.5
HP 320 x 88	88.5	303.0	304.0	12.0	12.0	30.0	219.0	114.2
HP 305 x 223	223	337.9	325.7	30.3	30.4	18.0	241.1	284.8
HP 305 x 186	186	328.3	320.9	25.5	25.6	18.0	241.1	237.7
HP 305 x 180	180	326.7	319.7	24.8	24.8	18.0	241.1	230.1
HP 305 x 149	149	318.5	316.0	20.6	20.7	18.0	241.1	190.7
HP 305 x 126	126	312.3	312.9	17.5	17.6	18.0	241.1	161.4
HP 305 x 110	110	307.9	310.7	15.3	15.4	18.0	241.1	140.9
HP 305 x 95	94.9	303.7	308.7	13.3	13.3	18.0	241.1	121.7
HP 305 x 88	88.5	301.7	307.8	12.4	12.3	18.0	241.1	112.9
HP 305 x 79	78.9	299.3	306.4	11.0	11.1	18.0	241.1	101.3

* On agreement subject to minimum quantity and delivery condition.

HP

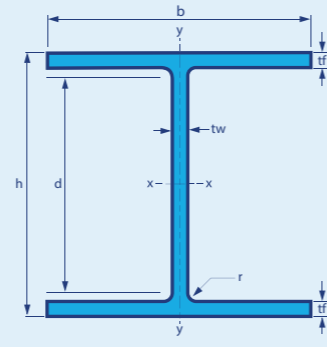
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x i _x	Axis y-y i _y	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl x}	Axis y-y W _{pl y}	H x10 ⁹	J
	kg/m	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
HP 400 x 231 *	231	70964	28216	15.45	9.74	3815	1404	4358	2164	8425	825.4
HP 400 x 213 *	213	64630	25653	15.37	9.68	3513	1283	3993	1975	7574	654.6
HP 400 x 194 *	194	58468	23159	15.28	9.62	3213	1164	3634	1789	6759	510.0
HP 400 x 176	176	52475	20734	15.19	9.55	2915	1047	3281	1608	5982	389.1
HP 400 x 158	158	46648	18376	15.11	9.48	2621	932.8	2934	1430	5241	289.8
HP 400 x 140	140	40983	16084	15.02	9.41	2329	820.6	2593	1256	4534	209.8
HP 400 x 122	122	35479	13857	14.94	9.34	2039	710.6	2259	1086	3860	146.9
HP 360 x 180	180	53719	19153	15.20	9.08	2961	1011	3350	1557	5581	441.5
HP 360 x 174	174	51709	18472	15.18	9.07	2862	976.0	3231	1502	5360	399.2
HP 360 x 152	152	44671	15885	15.07	8.99	2507	844.9	2812	1298	4543	276.8
HP 360 x 133	133	38682	13686	14.98	8.91	2198	732.3	2451	1123	3864	193.3
HP 360 x 109	109	31331	10992	14.87	8.81	1809	592.6	2002	906.7	3053	115.16
HP 320 x 184	184	42592	13340	13.43	7.52	2589	841.7	2998	1315	3067	701.6
HP 320 x 147	147	32919	10166	13.22	7.35	2064	651.7	2358	1014	2263	385.1
HP 320 x 117	117	25725	7820	13.06	7.20	1654	507.8	1868	788.1	1695	219.2
HP 320 x 103	103	22301	6709	12.98	7.12	1453	438.5	1630	679.7	1435	160.1
HP 320 x 88	88.5	18991	5638	12.90	7.03	1254	370.9	1398	574.4	1190	114.21
HP 305 x 223	223	52840	17580	13.62	7.86	3128	1080	3664	1681	4138	1028.9
HP 305 x 186	186	42751	14146	13.41	7.71	2604	881.6	3014	1368	3230	614.7
HP 305 x 180	180	41114	13549	13.37	7.67	2517	847.6	2907	1315	3077	561.5
HP 305 x 149	149	33208	10913	13.20	7.56	2085	690.7	2381	1067	2414	327.8
HP 305 x 126	126	27549	9003	13.06	7.47	1764	575.5	1996	886.3	1951	204.3
HP 305 x 110	110	23704	7711	12.97	7.40	1540	496.3	1731	762.8	1647	139.3
HP 305 x 95	94.9	20186	6530	12.88	7.32	1329	423.1	1485	648.9	1375	93.01
HP 305 x 88	88.5	18566	5986	12.83	7.28	1231	388.9	1371	596.2	1252	75.74
HP 305 x 79	78.9	16585	5327	12.80	7.25	1108	347.7	1229	532.1	1105	56.12

European Wide Flange Bearing Piles

EN Sizes

Dimensions: EN 10365:2017

Tolerances: EN 10034:1993



PRODUCT		DIMENSIONS						
Designation Section size	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
HP 260 x 87	87.3	253.0	267.0	14.0	14.0	24.0	177.0	111.2
HP 260 x 75	75.0	249.0	265.0	12.0	12.0	24.0	177.0	95.5
HP 220 x 57	57.2	210.0	224.5	11.0	11.0	18.0	152.0	72.9
HP 200 x 53	53.5	204.0	207.0	11.3	11.3	14.0	153.4	69.0
HP 200 x 43	42.5	200.0	205.0	9.0	9.0	14.0	154.0	55.0

HP

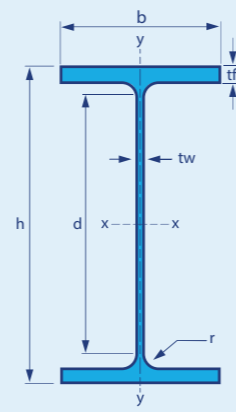
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x i _x	Axis y-y i _y	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl, x}	Axis y-y W _{pl, y}	H x10 ⁹	J
	kg/m	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
HP 260 x 87	87.3	12586	4455	10.64	6.33	994.9	333.7	1124	516.2	634.2	115.7
HP 260 x 75	75.0	10646	3733	10.56	6.25	855.1	281.7	958.5	435.1	522.6	79.29
HP 220 x 57	57.2	5729	2079	8.87	5.34	545.6	185.2	613.7	285.5	205.4	44.18
HP 200 x 53	53.5	5039	1674	8.55	4.93	494.0	161.7	558.4	249.4	155.1	38.66
HP 200 x 43	42.5	3950	1294	8.48	4.85	395.0	126.3	441.7	194.1	117.9	20.78

Universal Beams

EN Sizes

Dimensions: EN 10365:2017

Tolerances: EN 10034:1993



PRODUCT		DIMENSIONS						
Designation Section size	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
UB 1016 x 400 x 642 *	642	1048.0	412.0	34.0	60.0	30.0	868.0	817.6
UB 1016 x 400 x 591 *	591	1040.0	409.0	31.0	55.9	30.0	868.2	752.7
UB 1016 x 400 x 554	554	1032.0	408.0	29.5	52.0	30.0	868.0	705.8
UB 1016 x 400 x 539	539	1030.0	407.0	28.4	51.1	30.0	867.8	687.2
UB 1016 x 400 x 483	483	1020.0	404.0	25.4	46.0	30.0	868.0	615.1
UB 1016 x 400 x 443	443	1012.0	402.0	23.6	41.9	30.0	868.2	563.7
UB 1016 x 400 x 412	412	1008.0	402.0	21.1	40.0	30.0	868.0	525.1
UB 1016 x 400 x 371	371	1000.0	400.0	19.0	36.1	30.0	867.8	472.8
UB 1016 x 400 x 321	321	990.0	400.0	16.5	31.0	30.0	868.0	408.8
UB 1016 x 400 x 296	296	982.0	400.0	16.5	27.1	30.0	867.8	377.6
UB 1016 x 305 x 584 *	584	1056.0	314.0	36.0	64.0	30.0	868.0	743.7
UB 1016 x 305 x 494	494	1036.0	309.0	31.0	54.0	30.0	868.0	629.1
UB 1016 x 305 x 438	438	1026.0	305.0	26.9	49.0	30.0	868.0	556.3
UB 1016 x 305 x 415	415	1020.0	304.0	26.0	46.0	30.0	868.0	528.7
UB 1016 x 305 x 393	393	1016.0	303.0	24.4	43.9	30.0	868.2	500.2
UB 1016 x 305 x 350	350	1008.0	302.0	21.1	40.0	30.0	868.0	445.1
UB 1016 x 305 x 314	314	1000.0	300.0	19.1	35.9	30.0	868.2	400.4
UB 1016 x 305 x 272	272	990.0	300.0	16.5	31.0	30.0	868.0	346.8
UB 1016 x 305 x 249	249	980.0	300.0	16.5	26.0	30.0	868.0	316.8
UB 1016 x 305 x 222	222	970.0	300.0	16.0	21.1	30.0	867.8	282.8
UB 914 x 420 x 787 *	787	1011.0	437.0	40.9	73.9	30.0	803.2	1006.7
UB 914 x 420 x 725 *	725	999.0	434.0	38.1	68.1	30.0	802.8	927.6
UB 914 x 420 x 656 *	656	987.0	431.0	34.5	62.0	30.0	803.0	839.9
UB 914 x 420 x 588 *	588	975.0	427.0	31.0	55.9	30.0	803.2	752.7
UB 914 x 420 x 537 *	537	965.0	425.0	28.4	51.1	30.0	802.8	687.1
UB 914 x 420 x 491 *	491	957.0	422.0	25.9	47.0	30.0	803.0	627.9
UB 914 x 420 x 449 *	449	948.0	423.0	24.0	42.7	30.0	802.6	576.0
UB 914 x 420 x 420 *	420	943.0	422.0	22.5	39.9	30.0	803.2	538.7

* On agreement subject to minimum quantity and delivery condition.
Dimensions as per ESI standard.

UB

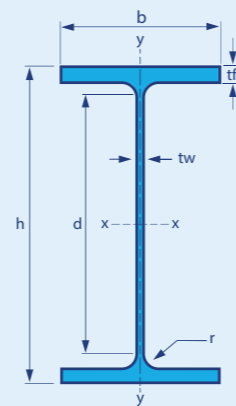
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x i _x	Axis y-y i _y	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl,x}	Axis y-y W _{pl,y}	H x10 ⁹	J
	kg/m	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
UB 1016 x 400 x 642 *	642	1450589	70284	42.12	9.27	27683	3412	32097	5379	170665	7440
UB 1016 x 400 x 591 *	591	1331036	64014	42.05	9.22	25597	3130	29530	4916	154330	5927
UB 1016 x 400 x 554	554	1232372	59098	41.79	9.15	23883	2897	27496	4547	141327	4860
UB 1016 x 400 x 539	539	1202538	57632	41.83	9.16	23350	2832	26824	4436	137553	4546
UB 1016 x 400 x 483	483	1067483	50712	41.66	9.08	20931	2510	23923	3919	119897	3311
UB 1016 x 400 x 443	443	966512	45498	41.41	8.98	19101	2264	21777	3529	106737	2545
UB 1016 x 400 x 412	412	910477	43408	41.64	9.09	18065	2160	20461	3349	101456	2134
UB 1016 x 400 x 371	371	813732	38582	41.49	9.03	16275	1929	18361	2984	89442	1575
UB 1016 x 400 x 321	321	696446	33121	41.27	9.00	14070	1656	15797	2555	76027	1021
UB 1016 x 400 x 296	296	620314	28961	40.53	8.76	12634	1448	14255	2243	65895	762.6
UB 1016 x 305 x 584 *	584	1246071	33433	40.93	6.70	23600	2130	28039	3475	81242	7230
UB 1016 x 305 x 494	494	1027959	26824	40.42	6.53	19845	1736	23413	2818	64015	4433
UB 1016 x 305 x 438	438	909177	23355	40.43	6.48	17723	1531	20746	2463	55293	3190
UB 1016 x 305 x 415	415	853121	21707	40.17	6.41	16728	1428	19571	2298	51084	2713
UB 1016 x 305 x 393	393	807688	20496	40.18	6.40	15899	1353	18539	2168	48084	2332
UB 1016 x 305 x 350	350	722965	18460	40.30	6.44	14345	1223	16589	1941	43015	1707
UB 1016 x 305 x 314	314	644211	16232	40.11	6.37	12884	1082	14851	1713	37540	1252
UB 1016 x 305 x 272	272	553846	14004	39.96	6.35	11189	933.6	12824	1470	32074	822.4
UB 1016 x 305 x 249	249	481079	11754	38.97	6.09	9818	783.6	11347	1245	26621	584.4
UB 1016 x 305 x 222	222	407667	9546	37.97	5.81	8405	636.4	9803	1020	21374	406.0
UB 914 x 420 x 787 *	787	1654080	103338	40.54	10.13	32722	4729	38210	7438	225657	14004
UB 914 x 420 x 725 *	725	1500746	93234	40.22	10.03	30045	4296	34932	6747	201007	11030
UB 914 x 420 x 656 *	656	1343643	83074	40.00	9.95	27227	3855	31470	6034	176968	8303
UB 914 x 420 x 588 *	588	1189522	72789	39.75	9.83	24400	3409	28041	5321	153183	6072
UB 914 x 420 x 537 *	537	1073828	65580	39.53	9.77	22255	3086	25461	4805	136513	4657
UB 914 x 420 x 491 *	491	974624	59026	39.40	9.70	20368	2797	23200	4345	121873	3608
UB 914 x 420 x 449 *	449	883004	53993	39.15	9.68	18629	2553	21144	3959	110363	2764
UB 914 x 420 x 420 *	420	821630	50085	39.05	9.64	17426	2374	19726	3676	101899	2269

Universal Beams

EN Sizes

Dimensions: EN 10365:2017

Tolerances: EN 10034:1993



PRODUCT		DIMENSIONS						
Designation Section size	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
UB 914 x 420 x 390 *	390	936.0	420.0	21.3	36.6	30.0	802.8	498.9
UB 914 x 420 x 368 *	368	931.0	419.0	20.3	34.3	30.0	802.4	470.2
UB 914 x 420 x 344 *	344	927.0	418.0	19.3	32.0	30.0	803.0	441.8
UB 914 x 420 x 784 *	784	996.0	437.0	40.9	73.9	30.0	788.2	1000.5
UB 914 x 420 x 722 *	722	984.0	434.0	38.1	68.1	30.0	787.8	921.8
UB 914 x 420 x 653 *	653	972.0	431.0	34.5	62.0	30.0	788.0	834.7
UB 914 x 420 x 585	585	960.0	427.0	31.0	55.9	30.0	788.2	748.1
UB 914 x 420 x 534	534	950.0	425.0	28.4	51.1	30.0	787.8	682.9
UB 914 x 420 x 488	488	942.0	422.0	25.9	47.0	30.0	788.0	624.0
UB 914 x 420 x 446	446	933.0	423.0	24.0	42.7	30.0	787.6	572.4
UB 914 x 420 x 417	417	928.0	422.0	22.5	39.9	30.0	788.2	535.3
UB 914 x 420 x 387	387	921.0	420.0	21.3	36.6	30.0	787.8	495.7
UB 914 x 420 x 365	365	916.0	419.0	20.3	34.3	30.0	787.4	467.2
UB 914 x 420 x 342	342	912.0	418.0	19.3	32.0	30.0	788.0	438.9
UB 914 x 419 x 388	388	921.0	420.5	21.4	36.6	30.0	787.8	497.0
UB 914 x 419 x 343	343	911.8	418.5	19.4	32.0	30.0	787.8	440.0
UB 914 x 305 x 576 *	576	993.0	322.0	36.1	65.0	30.0	803.0	737.9
UB 914 x 305 x 521 *	521	981.0	319.0	33.0	58.9	30.0	803.2	668.4
UB 914 x 305 x 474 *	474	971.0	316.0	30.0	54.1	30.0	802.8	608.5
UB 914 x 305 x 425 *	425	961.0	313.0	26.9	49.0	30.0	803.0	546.6
UB 914 x 305 x 381	381	951.0	310.0	24.4	43.9	30.0	803.2	490.5
UB 914 x 305 x 345	345	943.0	308.0	22.1	39.9	30.0	803.2	444.3
UB 914 x 305 x 313	313	932.0	309.0	21.1	34.5	30.0	803.0	403.0
UB 914 x 305 x 289	289	926.6	307.7	19.5	32.0	30.0	802.6	372.9
UB 914 x 305 x 271	271	923.0	307.0	18.4	30.0	30.0	803.0	350.7
UB 914 x 305 x 253	253	918.4	305.5	17.3	27.9	30.0	802.6	327.4
UB 914 x 305 x 238	238	915.0	305.0	16.5	25.9	30.0	803.2	308.1
UB 914 x 305 x 224	224	910.4	304.1	15.9	23.9	30.0	802.6	290.2

* On agreement subject to minimum quantity and delivery condition.
Dimensions as per ESI standard.

UB

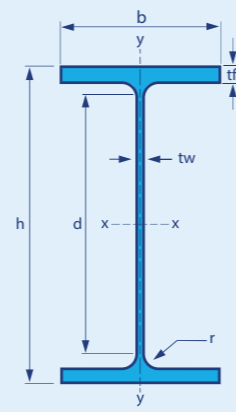
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x ix	Axis y-y iy	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl,x}	Axis y-y W _{pl,y}	H x10 ⁹	J
	kg/m	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
UB 914 x 420 x 390 *	390	750023	45289	38.77	9.53	16026	2157	18118	3339	91395	1795
UB 914 x 420 x 368 *	368	700502	42136	38.60	9.47	15048	2011	16990	3113	84532	1502
UB 914 x 420 x 344 *	344	653271	39027	38.45	9.40	14094	1867	15893	2889	78003	1243
UB 914 x 420 x 784 *	784	1597330	103330	39.96	10.16	32075	4729	37457	7432	218491	13970
UB 914 x 420 x 722 *	722	1448869	93227	39.64	10.06	29449	4296	34238	6741	194581	11003
UB 914 x 420 x 653 *	653	1296910	83069	39.42	9.98	26685	3855	30842	6029	171275	8283
UB 914 x 420 x 585	585	1147883	72786	39.17	9.86	23914	3409	27478	5317	148224	6057
UB 914 x 420 x 534	534	1036022	65577	38.95	9.80	21811	3086	24947	4802	132068	4645
UB 914 x 420 x 488	488	940178	59024	38.81	9.73	19961	2797	22730	4342	117888	3599
UB 914 x 420 x 446	446	851611	53991	38.57	9.71	18255	2553	20713	3957	106736	2757
UB 914 x 420 x 417	417	792344	50084	38.47	9.67	17076	2374	19323	3674	98542	2264
UB 914 x 420 x 387	387	723126	45288	38.19	9.56	15703	2157	17745	3338	88372	1790
UB 914 x 420 x 365	365	675281	42135	38.02	9.50	14744	2011	16638	3111	81727	1497
UB 914 x 420 x 342	342	629679	39026	37.88	9.43	13809	1867	15563	2887	75411	1240
UB 914 x 419 x 388	388	724350	45450	38.18	9.56	15730	2162	17779	3346	88688	1798
UB 914 x 419 x 343	343	630495	39167	37.85	9.43	13830	1872	15591	2895	75647	1245
UB 914 x 305 x 576 *	576	1110003	36557	38.79	7.04	22357	2271	26473	3670	77869	7530
UB 914 x 305 x 521 *	521	990701	32169	38.50	6.94	20198	2017	23801	3250	67738	5649
UB 914 x 305 x 474 *	474	893961	28685	38.33	6.87	18413	1815	21586	2912	59799	4345
UB 914 x 305 x 425 *	425	796460	25216	38.17	6.79	16576	1611	19324	2572	52072	3211
UB 914 x 305 x 381	381	705063	21932	37.91	6.69	14828	1415	17218	2252	44838	2340
UB 914 x 305 x 345	345	633876	19534	37.77	6.63	13444	1268	15543	2012	39617	1762
UB 914 x 305 x 313	313	556524	17058	37.16	6.51	11943	1104	13825	1756	34163	1263
UB 914 x 305 x 289	289	512406	15614	37.07	6.47	11060	1015	12764	1610	31087	1011.5
UB 914 x 305 x 271	271	479860	14534	36.99	6.44	10398	946.8	11979	1499	28842	845.4
UB 914 x 305 x 253	253	444524	13316	36.85	6.38	9680	871.8	11136	1378	26284	693.0
UB 914 x 305 x 238	238	414703	12300	36.69	6.32	9065	806.5	10425	1275	24204	576.5
UB 914 x 305 x 224	224	384633	11250	36.40	6.23	8450	739.9	9729	1171	22009	481.0

Universal Beams

EN Sizes

Dimensions: EN 10365:2017

Tolerances: EN 10034:1993



PRODUCT		DIMENSIONS						
Designation Section size	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
UB 914 x 305 x 201	201	903.0	303.3	15.1	20.2	30.0	802.6	260.5
UB 838 x 400 x 576	576	913.0	411.0	32	57.9	24.0	749.2	736.0
UB 838 x 400 x 527	527	903.0	409.0	29.5	53.1	24.0	748.8	674.4
UB 838 x 400 x 473	473	893.0	406.0	26.4	48.0	24.0	749.0	605.1
UB 838 x 400 x 433	433	885.0	404.0	24.4	43.9	24.0	749.2	554.2
UB 838 x 400 x 392	392	877.0	401.0	22.1	39.9	24.0	749.2	501.1
UB 838 x 400 x 359	359	868.0	403.0	21.1	35.6	24.0	748.8	460.0
UB 838 x 400 x 329	329	862.0	401.0	19.7	32.4	24.0	749.2	421.8
UB 838 x 400 x 299	299	855.0	400.0	18.2	29.2	24.0	748.6	383.5
UB 838 x 292 x 251	251	859.0	292.0	17.0	31.0	24.0	749.0	321.5
UB 838 x 292 x 226	226	850.9	293.8	16.1	26.8	24.0	749.3	290.8
UB 838 x 292 x 210	210	846.0	293.0	15.4	24.4	24.0	749.2	270.7
UB 838 x 292 x 194	194	840.7	292.4	14.7	21.7	24.0	749.3	249.0
UB 838 x 292 x 176	176	834.9	291.7	14.0	18.8	24.0	749.3	226.2
UB 762 x 381 x 582	582	843.0	396.0	34.5	62.0	24.0	671.0	744.0
UB 762 x 381 x 531	531	833.0	393.0	31.5	56.9	24.0	671.2	678.7
UB 762 x 381 x 484	484	823.0	390.0	29.0	52.1	24.0	670.8	619.8
UB 762 x 381 x 434	434	813.0	387.0	25.9	47.0	24.0	671.0	554.9
UB 762 x 381 x 389	389	803.0	385.0	23.6	41.9	24.0	671.2	497.3
UB 762 x 381 x 350	350	795.0	382.0	21.1	38.1	24.0	670.8	447.7
UB 762 x 381 x 314	314	786.0	384.0	19.7	33.4	24.0	671.2	403.1
UB 762 x 381 x 284	284	779.0	382.0	18.0	30.1	24.0	670.8	364.3
UB 762 x 381 x 257	257	773.0	381.0	16.6	27.1	24.0	670.8	330.8
UB 762 x 267 x 220	220	779.0	266.0	16.5	30.0	24.0	671.0	283.2
UB 762 x 267 x 197	197	769.8	268.0	15.6	25.4	24.0	671.0	253.3
UB 762 x 267 x 185	185	766.0	267.0	14.9	23.6	24.0	670.8	238.1
UB 762 x 267 x 173	173	762.2	266.7	14.3	21.6	24.0	671.0	223.0
UB 762 x 267 x 161	161	758.0	266.0	13.8	19.3	24.0	671.4	206.9

Dimensions as per ESI standard.

UB

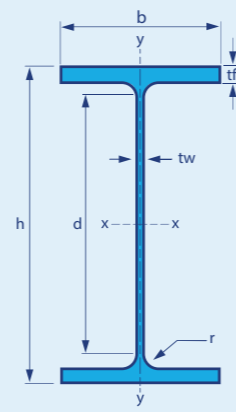
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size	Mass per meter G kg/m	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
		Axis x-x I _x	Axis y-y I _y	Axis x-x ix	Axis y-y iy	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl,x}	Axis y-y W _{pl,y}	H x10 ⁹	J
		cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
UB 914 x 305 x 201	201	333474	9436	35.78	6.02	7386	622.2	8546	989.3	18301	348.1
UB 838 x 400 x 576	576	1014091	67238	37.12	9.56	22214	3272	25627	5105	122469	6303
UB 838 x 400 x 527	527	917396	60741	36.88	9.49	20319	2970	23335	4625	109342	4881
UB 838 x 400 x 473	473	815515	53679	36.71	9.42	18265	2644	20854	4104	95570	3585
UB 838 x 400 x 433	433	738586	48358	36.51	9.34	16691	2394	18989	3710	85328	2763
UB 838 x 400 x 392	392	661964	42966	36.34	9.26	15096	2143	17099	3313	75119	2070
UB 838 x 400 x 359	359	593930	38910	35.93	9.20	13685	1931	15486	2987	67269	1550
UB 838 x 400 x 329	329	538140	34883	35.72	9.09	12486	1740	14103	2690	59911	1192
UB 838 x 400 x 299	299	482725	31198	35.48	9.02	11292	1560	12727	2409	53101	893.9
UB 838 x 292 x 251	251	389804	12907	34.82	6.34	9076	884.0	10389	1386	22048	766.2
UB 838 x 292 x 226	226	343115	11365	34.35	6.25	8065	773.7	9242	1215	19233	542.3
UB 838 x 292 x 210	210	314032	10263	34.06	6.16	7424	700.5	8515	1101	17262	431.9
UB 838 x 292 x 194	194	282587	9072	33.68	6.04	6723	620.5	7727	977.0	15162	331.2
UB 838 x 292 x 176	176	249433	7804	33.20	5.87	5975	535.1	6895	845.0	12949	246.2
UB 762 x 381 x 582	582	863425	64441	34.07	9.31	20485	3255	23809	5086	97852	7392
UB 762 x 381 x 531	531	778521	57773	33.87	9.23	18692	2940	21603	4583	86679	5691
UB 762 x 381 x 484	484	700635	51675	33.62	9.13	17026	2650	19585	4123	76527	4378
UB 762 x 381 x 434	434	620721	45524	33.44	9.06	15270	2353	17455	3649	66600	3197
UB 762 x 381 x 389	389	547066	39946	33.17	8.96	13626	2075	15505	3214	57712	2300
UB 762 x 381 x 350	350	488756	35467	33.04	8.90	12296	1857	13917	2868	50697	1713
UB 762 x 381 x 314	314	430740	31578	32.69	8.85	10960	1645	12375	2540	44633	1215
UB 762 x 381 x 284	284	384519	28011	32.49	8.77	9872	1467	11111	2261	39210	900.9
UB 762 x 381 x 257	257	344927	25018	32.29	8.70	8924	1313	10021	2023	34745	673.3
UB 762 x 267 x 220	220	281269	9448	31.52	5.78	7221	710.3	8285	1117	13198	639.7
UB 762 x 267 x 197	197	243200	8181	30.99	5.68	6319	610.5	7259	962.4	11289	435.6
UB 762 x 267 x 185	185	226018	7516	30.81	5.62	5901	563.0	6778	887.4	10316	361.2
UB 762 x 267 x 173	173	208525	6855	30.58	5.54	5472	514.1	6290	811.1	9364	294.2
UB 762 x 267 x 161	161	189127	6078	30.23	5.42	4990	457.0	5753	723.1	8259	233.1

Universal Beams

EN Sizes

Dimensions: EN 10365:2017

Tolerances: EN 10034:1993



PRODUCT		DIMENSIONS						
Designation Section size	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
UB 762 x 267 x 147	147	754.0	265.2	12.8	17.5	24.0	671.0	189.8
UB 762 x 267 x 134	134	750.0	264.4	12.0	15.5	24.0	671.0	173.2
UB 686 x 360 x 548	548	772.0	372.0	35.1	63.0	24.0	598.0	700.4
UB 686 x 360 x 500	500	762.0	369.0	32.0	57.9	24.0	598.2	639.0
UB 686 x 360 x 457	457	752.0	367.0	29.5	53.1	24.0	597.8	585.2
UB 686 x 360 x 419	419	744.0	364.0	26.9	49.0	24.0	598.0	535.4
UB 686 x 360 x 384	384	736.0	362.0	24.9	45.0	24.0	598.0	491.6
UB 686 x 360 x 350	350	728.0	360.0	23.1	40.9	24.0	598.2	448.7
UB 686 x 360 x 323	323	722.0	359.0	21.1	38.1	24.0	597.8	414.8
UB 686 x 360 x 289	289	714.0	356.0	19.0	34.0	24.0	598.0	369.8
UB 686 x 360 x 265	265	706.0	358.0	18.4	30.2	24.0	597.6	340.0
UB 686 x 360 x 240	240	701.0	356.0	16.8	27.4	24.0	598.2	308.6
UB 686 x 360 x 217	217	695.0	355.0	15.4	24.8	24.0	597.4	280.4
UB 686 x 254 x 192	192	702.0	254.0	15.5	27.9	24.0	598.2	246.8
UB 686 x 254 x 170	170	692.9	255.8	14.5	23.7	24.0	597.5	219.8
UB 686 x 254 x 152	152	687.5	254.5	13.2	21.0	24.0	597.5	197.0
UB 686 x 254 x 140	140	683.5	253.7	12.4	19.0	24.0	597.5	181.4
UB 686 x 254 x 125	125	677.9	253.0	11.7	16.2	24.0	597.5	162.4
UB 610 x 324 x 551	551	711	347	38.6	69.1	24.0	524.8	705.6
UB 610 x 324 x 498	498	699	343	35.1	63.0	24.0	525.0	638.2
UB 610 x 324 x 455	455	689	340	32.0	57.9	24.0	525.2	582.1
UB 610 x 324 x 415	415	679	338	29.5	53.1	24.0	524.8	532.9
UB 610 x 324 x 372	372	669	335	26.4	48.0	24.0	525.0	477.8
UB 610 x 324 x 341	341	661	333	24.4	43.9	24.0	525.2	437.2
UB 610 x 324 x 307	307	653	330	22.1	39.9	24.0	525.2	395.0
UB 610 x 324 x 285	285	647	329	20.6	37.1	24.0	524.8	367.1
UB 610 x 324 x 262	262	641	327	19.0	34.0	24.0	525.0	336.2
UB 610 x 324 x 241	241	635	329	17.9	31.0	24.0	525.0	311.5

Dimensions as per ESI standard.

UB

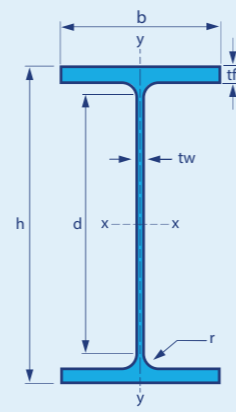
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x i _x	Axis y-y i _y	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl,x}	Axis y-y W _{pl,y}	H x10 ⁹	J
	kg/m	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
UB 762 x 267 x 147	147	171744	5461	30.08	5.36	4556	411.8	5247	650.7	7377	182.3
UB 762 x 267 x 134	134	153935	4793	29.81	5.26	4105	362.5	4736	573.3	6440	140.6
UB 686 x 360 x 548	548	674435	54313	31.03	8.81	17472	2920	20435	4569	67928	7248
UB 686 x 360 x 500	500	607738	48685	30.84	8.73	15951	2639	18541	4118	60092	5594
UB 686 x 360 x 457	457	548063	43905	30.60	8.66	14576	2393	16853	3726	53421	4332
UB 686 x 360 x 419	419	496897	39510	30.46	8.59	13357	2171	15360	3372	47562	3377
UB 686 x 360 x 384	384	450387	35678	30.27	8.52	12239	1971	14011	3057	42470	2631
UB 686 x 360 x 350	350	404912	31885	30.04	8.43	11124	1771	12685	2745	37537	2002
UB 686 x 360 x 323	323	372546	29444	29.97	8.43	10320	1640	11711	2535	34354	1605
UB 686 x 360 x 289	289	327752	25616	29.77	8.32	9181	1439	10370	2220	29555	1149
UB 686 x 360 x 265	265	293293	23139	29.37	8.25	8309	1293	9381	1997	26368	861.8
UB 686 x 360 x 240	240	264188	20640	29.26	8.18	7537	1160	8481	1789	23372	649.8
UB 686 x 360 x 217	217	237295	18521	29.09	8.13	6829	1043	7661	1607	20765	490.4
UB 686 x 254 x 192	192	200950	7650	28.53	5.57	5725	602.3	6552	945.3	8657	496.3
UB 686 x 254 x 170	170	173285	6637	28.08	5.50	5002	518.9	5724	815.6	7402	337.8
UB 686 x 254 x 152	152	153314	5790	27.89	5.42	4460	455.0	5094	714.1	6407	245.0
UB 686 x 254 x 140	140	139226	5189	27.70	5.35	4074	409.0	4652	642.0	5708	191.6
UB 686 x 254 x 125	125	120951	4388	27.29	5.20	3568	346.9	4088	546.1	4786	137.9
UB 610 x 324 x 551	551	560250	48424	28.18	8.28	15760	2791	18696	4386	49567	8827
UB 610 x 324 x 498	498	497405	42605	27.92	8.17	14232	2484	16763	3894	42848	6659
UB 610 x 324 x 455	455	447267	38108	27.72	8.09	12983	2242	15191	3504	37766	5139
UB 610 x 324 x 415	415	402504	34317	27.48	8.02	11856	2031	13792	3168	33469	3981
UB 610 x 324 x 372	372	355971	30182	27.29	7.95	10642	1802	12292	2802	28997	2924
UB 610 x 324 x 341	341	321024	27103	27.10	7.87	9713	1628	11164	2528	25722	2254
UB 610 x 324 x 307	307	286413	23964	26.93	7.79	8772	1452	10027	2251	22458	1689
UB 610 x 324 x 285	285	263465	22074	26.79	7.75	8144	1342	9273	2076	20477	1364
UB 610 x 324 x 262	262	238732	19859	26.65	7.69	7449	1215	8447	1877	18251	1056.3
UB 610 x 324 x 241	241	218173	18438	26.47	7.69	6872	1121	7768	1731	16781	827.1

Universal Beams

EN Sizes

Dimensions: EN 10365:2017

Tolerances: EN 10034:1993



PRODUCT		DIMENSIONS						
Designation Section size	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
UB 610 x 324 x 217	217	628	328	16.5	27.7	24.0	524.6	281.1
UB 610 x 324 x 195	195	622	327	15.4	24.4	24.0	525.2	252.8
UB 610 x 324 x 174	174	616	325	14.0	21.6	24.0	524.8	225.5
UB 610 x 324 x 155	155	611	324	12.7	19.0	24.0	525.0	200.8
UB 610 x 305 x 238	238	635.8	311.4	18.4	31.4	24.0	525.0	305.9
UB 610 x 305 x 179	179	620.2	307.1	14.1	23.6	24.0	525.0	230.7
UB 610 x 305 x 149	149	612.4	304.8	11.8	19.7	24.0	525.0	192.6
UB 610 x 229 x 191	191	635.0	231.5	17.0	30.9	24.0	525.2	245.5
UB 610 x 229 x 171	171	628.9	229.9	15.5	27.9	24.0	525.1	222.1
UB 610 x 229 x 153	153	623.0	229.0	14.0	24.9	24.0	525.2	199.2
UB 610 x 229 x 140	140	617.2	230.2	13.1	22.1	24.0	525.0	181.8
UB 610 x 229 x 125	125	612.2	229.0	11.9	19.6	24.0	525.0	162.9
UB 610 x 229 x 113	113	607.6	228.2	11.1	17.3	24.0	525.0	147.5
UB 610 x 229 x 101	101	602.6	227.6	10.5	14.8	24.0	525.0	132.5
UB 610 x 178 x 100 *	100	607.4	179.2	11.3	17.2	24.0	525.0	131.3
UB 610 x 178 x 92 *	92.0	603.0	179.0	10.9	15.0	24.0	525.0	121.1
UB 610 x 178 x 82 *	82.0	599.0	178.0	10.0	12.8	24.0	525.4	107.9
UB 533 x 310 x 300	300	585.0	319.0	23.1	41.4	18.0	466.2	382.9
UB 533 x 310 x 273	273	577.0	317.0	21.1	37.6	18.0	465.8	347.0
UB 533 x 310 x 248	248	571.0	315.0	19.0	34.5	18.0	466.0	315.5
UB 533 x 310 x 219	219	560.0	318.0	18.3	29.2	18.0	465.6	280.3
UB 533 x 310 x 196	196	554.0	316.0	16.5	26.3	18.0	465.4	251.7
UB 533 x 310 x 182	182	551.0	315.0	15.2	24.4	18.0	466.2	232.8
UB 533 x 310 x 165	165	546.0	313.0	14.0	22.2	18.0	465.6	212.0
UB 533 x 310 x 150	150	543.0	312.0	12.7	20.3	18.0	466.4	193.3
UB 533 x 165 x 85	85.0	535.0	166.0	10.3	16.5	18.0	466.0	109.3

* On agreement subject to minimum quantity and delivery condition.

Dimensions as per ESI standard.

UB

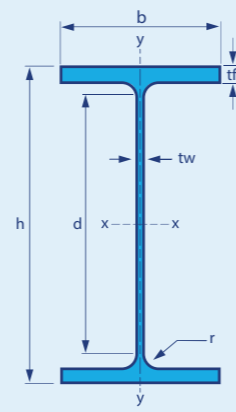
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x ix	Axis y-y iy	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl,x}	Axis y-y W _{pl,y}	H x10 ⁹	J
	kg/m	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
UB 610 x 324 x 217	217	193538	16323	26.24	7.62	6164	995	6945	1536	14677	607.1
UB 610 x 324 x 195	195	170632	14246	25.98	7.51	5487	871	6172	1345	12695	437.5
UB 610 x 324 x 174	174	149899	12380	25.78	7.41	4867	762	5460	1175	10916	313.8
UB 610 x 324 x 155	155	131730	10788	25.61	7.33	4312	666	4826	1026	9437	223.5
UB 610 x 305 x 238	238	211511	15844	26.29	7.20	6653	1018	7559	1578	14432	830.0
UB 610 x 305 x 179	179	155064	11414	25.93	7.03	5000	743.3	5620	1147	10137	365.3
UB 610 x 305 x 149	149	127916	9312	25.77	6.95	4178	611.1	4666	940.6	8165	217.9
UB 610 x 229 x 191	191	161232	6423	25.63	5.12	5078	554.9	5857	876.3	5829	605.2
UB 610 x 229 x 171	171	144148	5678	25.48	5.06	4584	493.9	5267	778.2	5102	452.4
UB 610 x 229 x 153	153	127931	5005	25.34	5.01	4107	437.2	4699	687.1	4457	329.1
UB 610 x 229 x 140	140	114572	4512	25.11	4.98	3713	392.0	4242	616.0	3978	245.9
UB 610 x 229 x 125	125	101405	3938	24.95	4.92	3313	344.0	3776	539.8	3444	178.8
UB 610 x 229 x 113	113	90113	3440	24.72	4.83	2966	301.5	3381	473.5	2985	133.4
UB 610 x 229 x 101	101	78575	2920	24.35	4.70	2608	256.6	2981	404.4	2512	97.73
UB 610 x 178 x 100 *	100	75323	1664	23.95	3.56	2480	185.7	2886	299.9	1437	117.81
UB 610 x 178 x 92 *	92.0	67424	1447	23.60	3.46	2236	161.7	2612	262.7	1239	93.24
UB 610 x 178 x 82 *	82.0	58778	1214	23.34	3.36	1963	136.4	2297	222.2	1034	69.01
UB 533 x 310 x 300	300	221585	22457	24.06	7.66	7576	1408	8704	2178	16547	1754
UB 533 x 310 x 273	273	197590	20008	23.86	7.59	6849	1262	7826	1949	14520	1318
UB 533 x 310 x 248	248	178343	18006	23.78	7.55	6247	1143	7096	1761	12932	1008.5
UB 533 x 310 x 219	219	151882	15681	23.28	7.48	5424	986.2	6149	1522	11023	669.5
UB 533 x 310 x 196	196	134835	13855	23.14	7.42	4868	876.9	5491	1351	9629	490.4
UB 533 x 310 x 182	182	124387	12729	23.11	7.39	4515	808.2	5075	1243	8812	391.0
UB 533 x 310 x 165	165	111798	11361	22.97	7.32	4095	725.9	4589	1115	7782	297.5
UB 533 x 310 x 150	150	101685	10288	22.94	7.30	3745	659.5	4181	1011	7019	227.6
UB 533 x 165 x 85	85.0	49386	1265	21.26	3.40	1846	152.4	2138	243.2	845.5	81.03

Universal Beams

EN Sizes

Dimensions: EN 10365:2017

Tolerances: EN 10034:1993



PRODUCT		DIMENSIONS						
Designation Section size	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
UB 533 x 165 x 74	74.0	529.0	166.0	9.7	13.6	18.0	465.8	96.6
UB 533 x 165 x 66	66.0	525.0	165.0	8.9	11.4	18.0	466.2	85.1
UB 457 x 280 x 464 *	464	567.0	305.0	38.6	69.6	14.0	399.8	591.4
UB 457 x 280 x 421 *	421	555.0	302.0	35.6	63.5	14.0	400.0	537.6
UB 457 x 280 x 384 *	384	545.0	299.0	32.5	58.4	14.0	400.2	490.1
UB 457 x 280 x 349 *	349	535.0	296.0	29.5	53.6	14.0	399.8	445.2
UB 457 x 280 x 315 *	315	525.0	293.0	26.9	48.5	14.0	400.0	401.0
UB 457 x 280 x 286 *	286	517.0	291.0	24.4	44.5	14.0	400.0	365.1
UB 457 x 280 x 260	260	509.0	289.0	22.6	40.4	14.0	400.2	332.0
UB 457 x 280 x 235	235	501.0	287.0	20.6	36.6	14.0	399.8	299.9
UB 457 x 280 x 213	213	495.0	285.0	18.5	33.5	14.0	400.0	271.8
UB 457 x 280 x 193	193	489.0	283.0	17.0	30.5	14.0	400.0	247.1
UB 457 x 280 x 177	177	482.0	286.0	16.6	26.9	14.0	400.2	226.6
UB 457 x 280 x 158	158	476.0	284.0	15.0	23.9	14.0	400.2	201.7
UB 457 x 280 x 144	144	472.0	283.0	13.6	22.1	14.0	399.8	184.9
UB 457 x 280 x 128	128	467.0	282.0	12.2	19.6	14.0	399.8	164.4
UB 457 x 280 x 113	113	463.0	280.0	10.8	17.3	14.0	400.4	144.8
UB 457 x 191 x 161	161	492.0	199.4	18.0	32.0	14.0	400.0	206.3
UB 457 x 191 x 133	133	480.6	196.7	15.3	26.3	14.0	400.0	170.6
UB 457 x 191 x 106	106	469.0	194.0	12.6	20.6	14.0	399.8	135.5
UB 457 x 191 x 98	98.3	467.2	192.8	11.4	19.6	14.0	400.0	126.1
UB 457 x 191 x 89	89.3	463.4	191.9	10.5	17.7	14.0	400.0	114.6
UB 457 x 191 x 82	82.0	460.0	191.3	9.9	16.0	14.0	400.0	105.3
UB 457 x 191 x 74	74.3	457.0	190.4	9.0	14.5	14.0	400.0	95.4
UB 457 x 191 x 67	67.1	453.4	189.9	8.5	12.7	14.0	400.0	86.3
UB 457 x 152 x 82	82.1	465.8	155.3	10.5	18.9	14.0	400.0	105.3
UB 457 x 152 x 74	74.2	462.0	154.4	9.6	17.0	14.0	400.0	95.3

* On agreement subject to minimum quantity and delivery condition.
Dimensions as per ESI standard.

UB

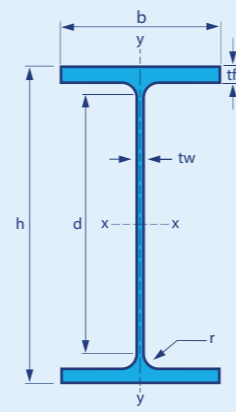
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x i _x	Axis y-y i _y	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl,x}	Axis y-y W _{pl,y}	H x10 ⁹	J
	kg/m	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
UB 533 x 165 x 74	74.0	41901	1043	20.83	3.29	1584	125.7	1843	201.7	688.6	55.07
UB 533 x 165 x 66	66.0	35905	859	20.54	3.18	1368	104.1	1596	167.5	562.9	38.53
UB 457 x 280 x 464 *	464	290243	33126	22.15	7.48	10238	2172	12360	3400	20357	7477
UB 457 x 280 x 421 *	421	256928	29319	21.86	7.38	9259	1942	11091	3035	17605	5695
UB 457 x 280 x 384 *	384	229733	26147	21.65	7.30	8431	1749	10022	2727	15401	4398
UB 457 x 280 x 349 *	349	204594	23265	21.44	7.23	7648	1572	9023	2444	13423	3369
UB 457 x 280 x 315 *	315	180207	20407	21.20	7.13	6865	1393	8039	2162	11541	2497
UB 457 x 280 x 286 *	286	161670	18332	21.04	7.09	6254	1260	7272	1950	10201	1916
UB 457 x 280 x 260	260	144043	16297	20.83	7.01	5660	1128	6543	1744	8922	1447
UB 457 x 280 x 235	235	127693	14455	20.63	6.94	5098	1007	5856	1555	7775	1078
UB 457 x 280 x 213	213	114686	12950	20.54	6.90	4634	908.8	5289	1399	6882	817.7
UB 457 x 280 x 193	193	102716	11541	20.39	6.83	4201	815.6	4772	1254	6055	619.1
UB 457 x 280 x 177	177	91374	10507	20.08	6.81	3791	734.7	4298	1132	5431	455.1
UB 457 x 280 x 158	158	79995	9138	19.92	6.73	3361	643.5	3792	989.7	4662	322.5
UB 457 x 280 x 144	144	72968	8359	19.86	6.72	3092	590.7	3472	906.4	4224	252.4
UB 457 x 280 x 128	128	64061	7334	19.74	6.68	2744	520.1	3067	796.8	3666	178.0
UB 457 x 280 x 113	113	55963	6335	19.66	6.61	2417	452.5	2690	692.1	3143	123.0
UB 457 x 191 x 161	161	80126	4252	19.71	4.54	3257	426.5	3795	672.9	2237	533.7
UB 457 x 191 x 133	133	64189	3351	19.40	4.43	2671	340.7	3086	535.6	1721	303.9
UB 457 x 191 x 106	106	49173	2516	19.05	4.31	2097	259.3	2404	406.2	1260	152.7
UB 457 x 191 x 98	98.3	46075	2348	19.12	4.32	1972	243.6	2249	379.7	1173	126.7
UB 457 x 191 x 89	89.3	41363	2090	19.00	4.27	1785	217.8	2030	339.1	1035	95.13
UB 457 x 191 x 82	82.0	37399	1872	18.85	4.22	1626	195.7	1848	304.6	920.1	73.13
UB 457 x 191 x 74	74.3	33667	1672	18.78	4.19	1473	175.6	1669	272.8	816.6	55.00
UB 457 x 191 x 67	67.1	29728	1453	18.56	4.10	1311	153.0	1488	238.0	703.8	40.10
UB 457 x 152 x 82	82.1	36937	1185	18.73	3.35	1586	152.6	1828	241.1	589.1	93.61
UB 457 x 152 x 74	74.2	33022	1047	18.62	3.32	1430	135.7	1643	213.8	516.3	69.48

Universal Beams

EN Sizes

Dimensions: EN 10365:2017

Tolerances: EN 10034:1993



PRODUCT		DIMENSIONS						
Designation Section size	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
UB 457 x 152 x 67	67.2	458.0	153.8	9.0	15.0	14.0	400.0	86.3
UB 457 x 152 x 60	59.8	454.6	152.9	8.1	13.3	14.0	400.0	77.0
UB 457 x 152 x 52	52.3	449.8	152.4	7.6	10.9	14.0	400.0	67.4
UB 406 x 260 x 149	149	431.0	265.0	14.9	25.0	14.0	353.0	191.0
UB 406 x 260 x 132	132	425.0	263.0	13.3	22.2	14.0	352.6	169.1
UB 406 x 260 x 114	114	420.0	261.0	11.6	19.3	14.0	353.4	146.7
UB 406 x 260 x 100	100	415.0	260.0	10.0	16.9	14.0	353.2	127.7
UB 406 x 178 x 85	85.0	417.0	181.0	10.9	18.2	14.0	352.6	109.1
UB 406 x 178 x 74	74.2	412.8	179.5	9.5	16.0	14.0	352.8	95.3
UB 406 x 178 x 67	67.1	409.4	178.8	8.8	14.3	14.0	352.8	86.3
UB 406 x 178 x 60	60.1	406.4	177.9	7.9	12.8	14.0	352.8	77.3
UB 406 x 178 x 54	54.1	402.6	177.7	7.7	10.9	14.0	352.8	69.7
UB 406 x 140 x 53	53.3	406.6	143.3	7.9	12.9	14.0	352.8	68.7
UB 406 x 140 x 46	46.0	403.2	142.2	6.8	11.2	14.0	352.8	59.4
UB 406 x 140 x 39	39.0	398.0	141.8	6.4	8.6	14.0	352.8	50.4
UB 356 x 250 x 122	122	363.0	257.0	13.0	21.7	24.0	271.6	158.0
UB 356 x 250 x 110	110	360.0	256.0	11.4	19.9	24.0	272.2	143.3
UB 356 x 250 x 101	101	357.0	255.0	10.5	18.3	24.0	272.4	131.9
UB 356 x 250 x 91	91.0	353.0	254.0	9.5	16.4	24.0	272.2	118.7
UB 356 x 200 x 79	79.0	354.0	205.0	9.4	16.8	24.0	272.4	103.9
UB 356 x 200 x 72	72.0	350.0	204.0	8.6	15.1	24.0	271.8	94.1
UB 356 x 200 x 64	64.0	347.0	203.0	7.7	13.5	24.0	272.0	84.4
UB 356 x 171 x 67	67.1	363.4	173.2	9.1	15.7	14.0	304.0	86.3
UB 356 x 171 x 57	57.0	358.0	172.2	8.1	13.0	14.0	304.0	73.3
UB 356 x 171 x 51	51.0	355.0	171.5	7.4	11.5	14.0	304.0	65.7
UB 356 x 171 x 45	45.0	351.4	171.1	7.0	9.7	14.0	304.0	58.1

Dimensions as per ESI standard.

UB

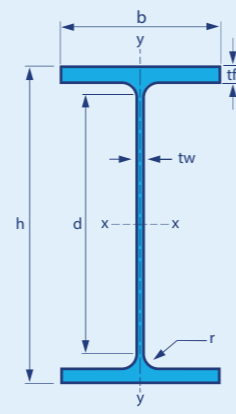
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x i _x	Axis y-y i _y	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl,x}	Axis y-y W _{pl,y}	H x10 ⁹	J
	kg/m	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
UB 457 x 152 x 67	67.2	29274	913	18.41	3.25	1278	118.8	1470	187.4	446.2	50.83
UB 457 x 152 x 60	59.8	25848	795	18.32	3.21	1137	104.0	1304	163.7	385.8	36.39
UB 457 x 152 x 52	52.3	21717	646	17.95	3.09	965.6	84.7	1113	133.9	309.7	23.84
UB 406 x 260 x 149	149	62129	7767	18.04	6.38	2883	586.2	3262	900.7	3195	332.5
UB 406 x 260 x 132	132	54113	6740	17.89	6.31	2546	512.5	2865	786.3	2730	233.6
UB 406 x 260 x 114	114	46426	5726	17.79	6.25	2211	438.7	2472	671.7	2296	154.3
UB 406 x 260 x 100	100	40047	4955	17.71	6.23	1930	381.2	2144	582.1	1961	103.38
UB 406 x 178 x 85	85.0	31811	1804	17.08	4.07	1526	199.4	1740	310.9	715.2	97.46
UB 406 x 178 x 74	74.2	27584	1546	17.01	4.03	1336	172.3	1516	267.7	607.1	66.29
UB 406 x 178 x 67	67.1	24605	1366	16.88	3.98	1202	152.7	1361	237.2	531.7	49.15
UB 406 x 178 x 60	60.1	21870	1204	16.82	3.95	1076	135.3	1214	209.7	465.2	35.76
UB 406 x 178 x 54	54.1	18996	1022	16.50	3.83	943.7	115.0	1069	178.9	391.0	25.68
UB 406 x 140 x 53	53.3	18557	635	16.43	3.04	912.8	88.7	1046	139.6	245.2	31.39
UB 406 x 140 x 46	46.0	15959	539	16.39	3.01	791.6	75.7	902.3	118.7	206.2	20.85
UB 406 x 140 x 39	39.0	12782	410	15.92	2.85	642.3	57.9	738.4	91.4	154.9	12.66
UB 356 x 250 x 122	122	37242	6153	15.35	6.24	2052	478.8	2312	736.0	1788	235.4
UB 356 x 250 x 110	110	33800	5575	15.36	6.24	1878	435.6	2101	668.0	1609	179.3
UB 356 x 250 x 101	101	30857	5067	15.29	6.20	1729	397.4	1927	609.1	1450	141.9
UB 356 x 250 x 91	91.0	27401	4487	15.19	6.15	1552	353.3	1722	541.3	1269	105.46
UB 356 x 200 x 79	79.0	23359	2420	14.99	4.83	1320	236.1	1479	365.1	686	94.76
UB 356 x 200 x 72	72.0	20812	2144	14.88	4.77	1189	210.2	1328	324.9	599	72.08
UB 356 x 200 x 64	64.0	18535	1889	14.82	4.73	1068	186.1	1188	287.5	523	53.89
UB 356 x 171 x 67	67.1	19670	1363	15.10	3.97	1083	157.4	1224	243.7	410.9	58.86
UB 356 x 171 x 57	57.0	16245	1109	14.88	3.89	907.6	128.8	1023	199.4	329.2	35.97
UB 356 x 171 x 51	51.0	14343	969	14.78	3.84	808.1	113.0	908.8	174.8	285.2	26.03
UB 356 x 171 x 45	45.0	12273	812	14.53	3.74	698.5	94.9	787.4	147.2	236.4	18.05

Universal Beams

EN Sizes

Dimensions: EN 10365:2017

Tolerances: EN 10034:1993



PRODUCT		DIMENSIONS						
Designation Section size	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
UB 356 x 127 x 39	39.1	353.4	126.0	6.6	10.7	14.0	304.0	50.6
UB 356 x 127 x 33	33.1	349.0	125.4	6.0	8.5	14.0	304.0	42.9
UB 305 x 250 x 86	86.0	310.0	254.0	9.1	16.3	18.0	241.4	110.8
UB 305 x 250 x 79	79.0	306.0	254.0	8.8	14.6	18.0	240.8	101.3
UB 305 x 200 x 74	74.0	310.0	205.0	9.4	16.3	18.0	241.4	95.7
UB 305 x 200 x 67	67.0	306.0	204.0	8.5	14.6	18.0	240.8	85.9
UB 305 x 200 x 60	60.0	303.0	203.0	7.5	13.1	18.0	240.8	76.7
UB 305 x 165 x 54	54.0	310.4	166.9	7.9	13.7	10.0	263.0	68.9
UB 305 x 165 x 46	46.1	306.6	165.7	6.7	11.8	10.0	263.0	58.9
UB 305 x 165 x 40	40.3	303.4	165.0	6.0	10.2	10.0	263.0	51.5
UB 305 x 127 x 48	48.1	311.0	125.3	9.0	14.0	10.0	263.0	61.4
UB 305 x 127 x 42	41.9	307.2	124.3	8.0	12.1	10.0	263.0	53.6
UB 305 x 127 x 37	37.0	304.4	123.4	7.1	10.7	10.0	263.0	47.4
UB 254 x 200 x 67	67.0	257	204	8.9	15.7	18.0	189.6	86.9
UB 254 x 200 x 58	58.0	252	203	8.0	13.5	18.0	189.0	75.6
UB 254 x 200 x 49.1	49.1	247	202	7.4	11.0	18.0	189.0	63.9
UB 254 x 146 x 43	43.0	259.6	147.3	7.2	12.7	10.0	214.2	55.1
UB 254 x 146 x 37	37.0	256.0	146.4	6.3	10.9	10.0	214.2	47.5
UB 254 x 146 x 31	31.1	251.4	146.1	6.0	8.6	10.0	214.2	40.0

Dimensions as per ESI standard.

UB

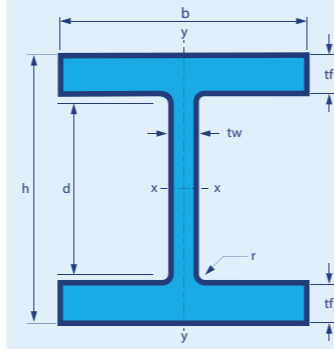
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x i _x	Axis y-y i _y	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl,x}	Axis y-y W _{pl,y}	H x 10 ⁹	J
	kg/m	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
UB 356 x 127 x 39	39.1	10379	358	14.33	2.66	587.4	56.9	671.3	89.6	104.7	16.85
UB 356 x 127 x 33	33.1	8456	281	14.04	2.56	484.6	44.8	555.7	70.9	81.0	10.48
UB 305 x 250 x 86	86.0	19998	4456	13.43	6.34	1290	350.9	1428	533.9	960	90.42
UB 305 x 250 x 79	79.0	17816	3991	13.26	6.28	1164	314.3	1287	478.7	846	68.76
UB 305 x 200 x 74	74.0	16604	2345	13.17	4.95	1071	228.8	1200	351.1	505	77.68
UB 305 x 200 x 67	67.0	14661	2069	13.07	4.91	958.2	202.9	1068	311.1	439	57.13
UB 305 x 200 x 60	60.0	13010	1829	13.02	4.88	858.8	180.2	952.0	276.0	384	41.72
UB 305 x 165 x 54	54.0	11730	1063	13.04	3.93	755.8	127.4	848.5	195.8	233.6	35.40
UB 305 x 165 x 46	46.1	9933	896	12.98	3.90	647.9	108.1	722.5	165.6	194.4	22.57
UB 305 x 165 x 40	40.3	8537	764	12.88	3.85	562.7	92.7	625.5	141.8	164.1	15.04
UB 305 x 127 x 48	48.1	9609	461	12.51	2.74	617.9	73.6	713.2	116.2	101.2	32.80
UB 305 x 127 x 42	41.9	8230	389	12.39	2.69	535.8	62.6	616.0	98.5	84.3	21.92
UB 305 x 127 x 37	37.0	7205	336	12.33	2.66	473.4	54.5	541.9	85.5	72.3	15.35
UB 254 x 200 x 67	67.0	10518	2225	11.00	5.06	818.6	218.1	916.3	333.5	323	67.73
UB 254 x 200 x 58	58.0	8890	1885	10.84	4.99	705.5	185.7	785.0	284.0	268	45.43
UB 254 x 200 x 49.1	49.1	7222	1514	10.63	4.87	584.8	149.9	648.2	229.6	210	28.45
UB 254 x 146 x 43	43.0	6591	678	10.93	3.51	507.8	92.0	570.5	141.3	103.1	24.82
UB 254 x 146 x 37	37.0	5584	571	10.84	3.47	436.3	78.0	487.4	119.6	85.6	16.03
UB 254 x 146 x 31	31.1	4461	448	10.55	3.34	354.9	61.3	397.2	94.3	65.9	9.27

Universal Columns

EN Sizes

Dimensions: EN 10365:2017

Tolerances: EN 10034:1993



PRODUCT		DIMENSIONS						
Designation Section size	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
UC 356 x 406 x 900 *	900	531.0	442.0	65.9	106.0	24.0	271.0	1152.2
UC 356 x 406 x 818 *	818	514.0	437.0	60.5	97.0	24.0	272.0	1046.3
UC 356 x 406 x 744 *	744	498.0	432.0	55.6	88.9	24.0	272.2	951.1
UC 356 x 406 x 677 *	677	483.0	428.0	51.2	81.5	24.0	272.0	866.4
UC 356 x 406 x 634	634	474.6	424.0	47.6	77.0	24.0	272.6	810.5
UC 356 x 406 x 592	592	465.0	421.0	45.0	72.3	24.0	272.4	757.9
UC 356 x 406 x 551	551	455.6	418.5	42.1	67.5	24.0	272.6	704.9
UC 356 x 406 x 509	509	446.0	416.0	39.1	62.7	24.0	272.6	652.0
UC 356 x 406 x 467	467	436.6	412.2	35.8	58.0	24.0	272.6	597.9
UC 356 x 406 x 393	393	419.0	407.0	30.6	49.2	24.0	272.6	503.5
UC 356 x 406 x 340	340	406.4	403.0	26.6	42.9	24.0	272.6	436.0
UC 356 x 406 x 287	287	393.6	399.0	22.6	36.5	24.0	272.6	368.7
UC 356 x 406 x 235	235	381.0	394.8	18.4	30.2	24.0	272.6	302.4
UC 356 x 368 x 202	202	374.6	374.7	16.5	27.0	24.0	272.6	260.2
UC 356 x 368 x 177	177	368.2	372.6	14.4	23.8	24.0	272.6	228.5
UC 356 x 368 x 153	153	362.0	370.5	12.3	20.7	24.0	272.6	197.8
UC 356 x 368 x 129	129	355.6	368.6	10.4	17.5	24.0	272.6	167.3
UC 305 x 305 x 500 *	500	427.3	340.0	45.1	75.1	18.0	241.1	638.4
UC 305 x 305 x 454 *	454	414.5	336.0	41.3	68.7	18.0	241.1	578.9
UC 305 x 305 x 415 *	415	402.5	334.0	38.9	62.7	18.0	241.1	529.4
UC 305 x 305 x 375 *	375	391.5	330.0	35.4	57.2	18.0	241.1	478.4
UC 305 x 305 x 342	342	382.3	328.0	32.6	52.6	18.0	241.1	438.2
UC 305 x 305 x 313	313	373.7	325.0	30.0	48.3	18.0	241.1	399.9
UC 305 x 305 x 283	283	365.3	322.2	26.8	44.1	18.0	241.1	361.2
UC 305 x 305 x 240	240	352.5	318.4	23.0	37.7	18.0	241.1	306.6
UC 305 x 305 x 198	198	339.9	314.5	19.1	31.4	18.0	241.1	253.2
UC 305 x 305 x 158	158	327.1	311.2	15.8	25.0	18.0	241.1	202.2

* On agreement subject to minimum quantity and delivery condition.
Dimensions as per ESI standard.

UC

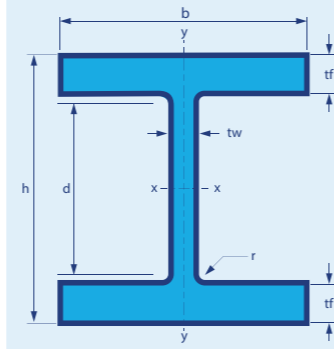
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x ix	Axis y-y iy	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl,x}	Axis y-y W _{pl,y}	H x10 ⁹	J
	kg/m	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
UC 356 x 406 x 900 *	900	450909	153388	19.78	11.54	16983	6941	21665	10720	68887	38269
UC 356 x 406 x 818 *	818	392900	135571	19.38	11.38	15288	6205	19301	9572	58651	29241
UC 356 x 406 x 744 *	744	342831	119968	18.99	11.23	13768	5554	17213	8559	49981	22427
UC 356 x 406 x 677 *	677	300179	106903	18.61	11.11	12430	4995	15392	7690	42919	17261
UC 356 x 406 x 634	634	275545	98153	18.44	11.00	11612	4630	14281	7117	38661	14376
UC 356 x 406 x 592	592	250872	90198	18.19	10.91	10790	4285	13185	6583	34665	11906
UC 356 x 406 x 551	551	227638	82694	17.97	10.83	9993	3952	12122	6066	31050	9686
UC 356 x 406 x 509	509	205240	75422	17.74	10.76	9204	3626	11079	5560	27632	7754
UC 356 x 406 x 467	467	183703	67852	17.53	10.65	8415	3292	10048	5042	24261	6088
UC 356 x 406 x 393	393	147318	55382	17.10	10.49	7032	2721	8268	4160	18900	3724
UC 356 x 406 x 340	340	123242	46866	16.81	10.37	6065	2326	7045	3550	15459	2466
UC 356 x 406 x 287	287	100575	38688	16.52	10.24	5110	1939	5858	2955	12319	1522
UC 356 x 406 x 235	235	79784	31001	16.24	10.13	4188	1570	4732	2388	9529	861.9
UC 356 x 368 x 202	202	66961	23696	16.04	9.54	3575	1265	4017	1924	7151	597.1
UC 356 x 368 x 177	177	57818	20536	15.91	9.48	3141	1102	3501	1675	6084	411.3
UC 356 x 368 x 153	153	49289	17559	15.79	9.42	2723	947.8	3010	1439	5110	272.4
UC 356 x 368 x 129	129	40945	14616	15.64	9.35	2303	793.1	2525	1203	4174	168.9
UC 305 x 305 x 500 *	500	169268	49427	16.28	8.80	7923	2907	9896	4489	15256	10438
UC 305 x 305 x 454 *	454	147654	43613	15.97	8.68	7124	2596	8812	4003	12984	7954
UC 305 x 305 x 415 *	415	129674	39088	15.65	8.59	6443	2341	7900	3609	11239	6137
UC 305 x 305 x 375 *	375	113285	34376	15.39	8.48	5787	2083	7027	3207	9572	4629
UC 305 x 305 x 342	342	100850	31027	15.17	8.41	5276	1892	6351	2909	8407	3599
UC 305 x 305 x 313	313	89540	27707	14.96	8.32	4792	1705	5721	2618	7315	2780
UC 305 x 305 x 283	283	79013	24638	14.79	8.26	4326	1529	5116	2344	6341	2090
UC 305 x 305 x 240	240	64344	20317	14.49	8.14	3651	1276	4258	1952	5025	1306
UC 305 x 305 x 198	198	51045	16301	14.20	8.02	3004	1037	3451	1582	3873	754.2
UC 305 x 305 x 158	158	38888	12571	13.87	7.89	2378	807.9	2691	1231	2865	390.2

Universal Columns

EN Sizes

Dimensions: EN 10365:2017

Tolerances: EN 10034:1993



PRODUCT		DIMENSIONS						
Designation Section size	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
UC 305 x 305 x 137	137	320.5	309.2	13.8	21.7	18.0	241.1	175.2
UC 305 x 305 x 118	118	314.5	307.4	12.0	18.7	18.0	241.1	151.0
UC 305 x 305 x 97	96.9	307.9	305.3	9.9	15.4	18.0	241.1	124.2
UC 254 x 254 x 167	167	289.1	265.2	19.2	31.7	18.0	189.7	214.3
UC 254 x 254 x 132	132	276.3	261.3	15.3	25.3	18.0	189.7	169.5
UC 254 x 254 x 107	107	266.7	258.8	12.8	20.5	18.0	189.7	137.8
UC 254 x 254 x 89	88.9	260.3	256.3	10.3	17.3	18.0	189.7	114.7
UC 254 x 254 x 73	73.1	254.1	254.6	8.6	14.2	18.0	189.7	94.5
UC 203 x 203 x 127 *	128	241.4	213.9	18.1	30.1	14.0	153.2	163.2
UC 203 x 203 x 113 *	114	235.0	212.1	16.3	26.9	14.0	153.2	145.3
UC 203 x 203 x 100	100	229.0	210.0	14.5	23.7	14.0	153.6	127.6
UC 203 x 203 x 86	86.1	222.2	209.1	12.7	20.5	14.0	153.2	110.4
UC 203 x 203 x 71	71.0	215.8	206.4	10.0	17.3	14.0	153.2	91.2
UC 203 x 203 x 60	60.0	209.6	205.8	9.4	14.2	14.0	153.2	77.2
UC 203 x 203 x 52	52.0	206.2	204.3	7.9	12.5	14.0	153.2	67.1
UC 203 x 203 x 46	46.1	203.2	203.6	7.2	11.0	14.0	153.2	59.5

* On agreement subject to minimum quantity and delivery condition.

Dimensions as per ESI standard.

UC

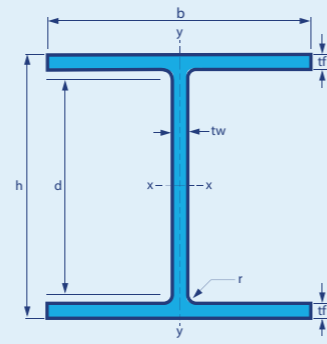
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x i _x	Axis y-y i _y	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl,x}	Axis y-y W _{pl,y}	H x10 ⁹	J
	kg/m	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
UC 305 x 305 x 137	137	32955	10701	13.71	7.81	2057	692.2	2307	1054	2386	257.7
UC 305 x 305 x 118	118	27813	9060	13.57	7.75	1769	589.5	1968	896.3	1980	167.4
UC 305 x 305 x 97	96.9	22390	7309	13.42	7.67	1454	478.8	1603	727.0	1562	95.50
UC 254 x 254 x 167	167	30160	9873	11.86	6.79	2086	744.6	2439	1139	1632	657.2
UC 254 x 254 x 132	132	22691	7534	11.57	6.67	1642	576.6	1884	880.2	1185	335.9
UC 254 x 254 x 107	107	17672	5930	11.33	6.56	1325	458.2	1499	698.7	897.5	184.0
UC 254 x 254 x 89	88.9	14430	4859	11.22	6.51	1109	379.2	1239	576.8	716.6	109.5
UC 254 x 254 x 73	73.1	11569	3909	11.06	6.43	910.6	307.1	1007.1	466.7	562.0	62.79
UC 203 x 203 x 127 *	128	15496	4921	9.74	5.49	1284	460.1	1524	705.5	548.0	444.9
UC 203 x 203 x 113 *	114	13360	4287	9.59	5.43	1137	404.2	1336	619.0	463.1	318.8
UC 203 x 203 x 100	100	11388	3665	9.45	5.36	994.6	349.0	1156	533.9	385.5	219.2
UC 203 x 203 x 86	86.1	9508	3128	9.28	5.32	855.8	299.2	983.6	457.1	317.7	143.8
UC 203 x 203 x 71	71.0	7677	2538	9.17	5.27	711.5	245.9	805.6	374.4	249.7	84.17
UC 203 x 203 x 60	60.0	6184	2065	8.95	5.17	590.0	200.7	662.9	306.0	196.9	50.84
UC 203 x 203 x 52	52.0	5318	1778	8.90	5.15	515.8	174.1	574.2	264.9	166.6	34.24
UC 203 x 203 x 46	46.1	4627	1549	8.82	5.10	455.4	152.1	504.3	231.5	142.9	24.29

Universal Bearing Piles with Wide Flanges

EN Sizes

Dimensions: EN 10365:2017

Tolerances: EN 10034:1993



PRODUCT		DIMENSIONS						
Designation Section size	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
UBP 356 x 368 x 174	174	361.4	378.5	20.3	20.4	24.0	272.6	224.5
UBP 356 x 368 x 152	152	356.4	376.0	17.8	17.9	24.0	272.6	196.6
UBP 356 x 368 x 133	133	352.0	373.8	15.6	15.7	24.0	272.6	172.3
UBP 356 x 368 x 109	109	346.4	371.0	12.8	12.9	24.0	272.6	141.7
UBP 305 x 305 x 223	223	337.9	325.7	30.3	30.4	18.0	241.1	284.8
UBP 305 x 305 x 186	186	328.3	320.9	25.5	25.6	18.0	241.1	237.7
UBP 305 x 305 x 149	149	318.5	316.0	20.6	20.7	18.0	241.1	190.7
UBP 305 x 305 x 126	126	312.3	312.9	17.5	17.6	18.0	241.1	161.4
UBP 305 x 305 x 110	110	307.9	310.7	15.3	15.4	18.0	241.1	140.9
UBP 305 x 305 x 95	94.9	303.7	308.7	13.3	13.3	18.0	241.1	121.7
UBP 305 x 305 x 88	88.0	301.7	307.8	12.4	12.3	18.0	241.1	112.9
UBP 305 x 305 x 79	78.9	299.3	306.4	11.0	11.1	18.0	241.1	101.3
UBP 254 x 254 x 85	85.1	254.3	260.4	14.4	14.3	18.0	189.7	109.8
UBP 254 x 254 x 71	71.0	249.7	258.0	12.0	12.0	18.0	189.7	91.8
UBP 254 x 254 x 63	63.0	247.1	256.6	10.6	10.7	18.0	189.7	81.6
UBP 203 x 203 x 54	53.9	204.0	207.7	11.3	11.4	14.0	153.2	69.5
UBP 203 x 203 x 45	44.9	200.2	205.9	9.5	9.5	14.0	153.2	58.0

UBP

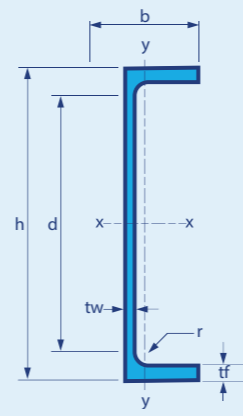
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x i _x	Axis y-y i _y	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl x}	Axis y-y W _{pl y}	H x 10 ⁹	J
	kg/m	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
UBP 356 x 368 x 174	174	51709	18472	15.18	9.07	2862	976.0	3231	1502	5360	399.2
UBP 356 x 368 x 152	152	44671	15885	15.07	8.99	2507	844.9	2812	1298	4543	276.8
UBP 356 x 368 x 133	133	38682	13686	14.98	8.91	2198	732.3	2451	1123	3864	193.3
UBP 356 x 368 x 109	109	31331	10992	14.87	8.81	1809	592.6	2002	906.7	3053	115.2
UBP 305 x 305 x 223	223	52840	17580	13.62	7.86	3128	1079.5	3664	1681	4138	1028.9
UBP 305 x 305 x 186	186	42751	14146	13.41	7.71	2604	881.6	3014	1368	3230	614.7
UBP 305 x 305 x 149	149	33208	10913	13.20	7.56	2085	690.7	2381	1067	2414	327.8
UBP 305 x 305 x 126	126	27549	9003	13.06	7.47	1764	575.5	1996	886.3	1951	204.3
UBP 305 x 305 x 110	110	23704	7711	12.97	7.40	1540	496.3	1731	762.8	1647	139.3
UBP 305 x 305 x 95	94.9	20186	6530	12.88	7.32	1329	423.1	1485	648.9	1375	93.01
UBP 305 x 305 x 88	88.0	18566	5986	12.83	7.28	1231	388.9	1371	596.2	1252	75.74
UBP 305 x 305 x 79	78.9	16585	5327	12.80	7.25	1108	347.7	1229	532.1	1105	56.12
UBP 254 x 254 x 85	85.1	12446	4218	10.65	6.20	978.9	323.9	1107	499.6	606.0	100.14
UBP 254 x 254 x 71	71.0	10233	3441	10.56	6.12	819.6	266.7	919.0	410.3	485.2	61.43
UBP 254 x 254 x 63	63.0	9022	3018	10.51	6.08	730.3	235.2	814.3	361.2	421.0	44.78
UBP 203 x 203 x 54	53.9	5086	1706	8.55	4.95	498.6	164.3	563.5	253.2	157.9	39.24
UBP 203 x 203 x 45	44.9	4160	1385	8.47	4.89	415.5	134.5	465.7	206.8	125.7	24.03

Parallel Flange Channels

EN Sizes

Dimensions: EN 10365:2017

Tolerances: EN 10034:1993



PRODUCT		DIMENSIONS						
Designation Section size	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
PFC 430 x 100 x 64	64.4	430.0	100.0	11.0	19.0	15.0	362.0	83.1
PFC 380 x 100 x 54	54.0	380.0	100.0	9.5	17.5	15.0	315.0	69.7
PFC 300 x 100 x 46	45.5	300.0	100.0	9.0	16.5	15.0	237.0	59.0

PFC

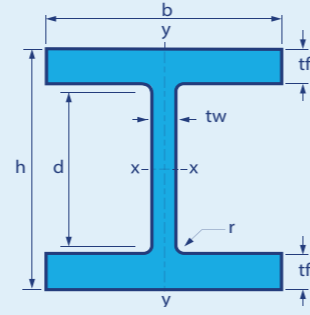
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x i _x	Axis y-y i _y	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl,x}	Axis y-y W _{pl,y}	H x 10 ⁹	J
	kg/m	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
PFC 430 x 100 x 64	64.4	22298	322.7	16.39	1.97	1037	64.5	1159	99.3	133.7	72.64
PFC 380 x 100 x 54	54.0	15311	295.6	14.82	2.06	805.8	59.1	914.3	92.4	95.82	52.60
PFC 300 x 100 x 46	45.5	8393	278.0	11.93	2.17	559.5	55.6	653.3	89.4	55.26	42.87

American Wide Flange Beams

ASTM Sizes

Dimensions: ASTM A6 / A6M

Tolerances: ASTM A6 / A6M



PRODUCT		DIMENSIONS						
Designation Section size (Imperial)	Mass per feet	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	lbs/f	Inch	Inch	Inch	Inch	Inch	Inch	Inch ²
W 40 x 16 x 431 *	431	41.26	16.22	1.34	2.36	1.18	34.2	127
W 40 x 16 x 397 *	397	40.94	16.10	1.22	2.20	1.18	34.2	117
W 40 x 16 x 372	372	40.63	16.06	1.16	2.05	1.18	34.2	109
W 40 x 16 x 362	362	40.55	16.02	1.12	2.01	1.18	34.2	107
W 40 x 16 x 324	324	40.16	15.91	1.00	1.81	1.18	34.2	95.3
W 40 x 16 x 297	297	39.84	15.83	0.93	1.65	1.18	34.2	87.4
W 40 x 16 x 277	277	39.69	15.83	0.83	1.57	1.18	34.2	81.4
W 40 x 16 x 249	249	39.37	15.75	0.75	1.42	1.18	34.2	73.3
W 40 x 16 x 215	215	38.98	15.75	0.65	1.22	1.18	34.2	63.4
W 40 x 16 x 199	199	38.66	15.75	0.65	1.07	1.18	34.2	58.5
W 40 x 12 x 392 *	392	41.57	12.36	1.42	2.52	1.18	34.2	115
W 40 x 12 x 331	331	40.79	12.17	1.22	2.13	1.18	34.2	97.5
W 40 x 12 x 327	327	40.79	12.13	1.18	2.13	1.18	34.2	96.0
W 40 x 12 x 294	294	40.39	12.01	1.06	1.93	1.18	34.2	86.2
W 40 x 12 x 278	278	40.16	11.97	1.02	1.81	1.18	34.2	81.9
W 40 x 12 x 264	264	40.00	11.93	0.96	1.73	1.18	34.2	77.5
W 40 x 12 x 235	235	39.69	11.89	0.83	1.57	1.18	34.2	69.0
W 40 x 12 x 211	211	39.37	11.81	0.75	1.41	1.18	34.2	62.1
W 40 x 12 x 183	183	38.98	11.81	0.65	1.22	1.18	34.2	53.8
W 40 x 12 x 167	167	38.58	11.81	0.65	1.02	1.18	34.2	49.1
W 40 x 12 x 149	149	38.19	11.81	0.63	0.83	1.18	34.2	43.8
W 36 x 16.5 x 529 *	529	39.80	17.20	1.61	2.91	1.18	31.6	156
W 36 x 16.5 x 487 *	487	39.33	17.09	1.50	2.68	1.18	31.6	144
W 36 x 16.5 x 441 *	441	38.86	16.97	1.36	2.44	1.18	31.6	130
W 36 x 16.5 x 395 *	395	38.39	16.81	1.22	2.20	1.18	31.6	117
W 36 x 16.5 x 361 *	361	37.99	16.73	1.12	2.01	1.18	31.6	107
W 36 x 16.5 x 330 *	330	37.68	16.61	1.02	1.85	1.18	31.6	97.3
W 36 x 16.5 x 302 *	302	37.32	16.65	0.94	1.68	1.18	31.6	89.3
W 36 x 16.5 x 282 *	282	37.13	16.61	0.89	1.57	1.18	31.6	83.5
W 36 x 16.5 x 262 *	262	36.85	16.54	0.84	1.44	1.18	31.6	77.3

* On agreement subject to minimum quantity and delivery condition.



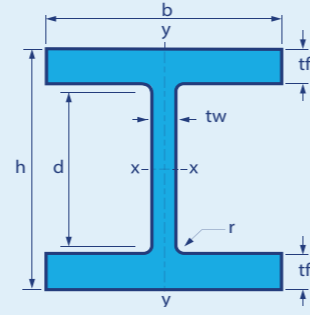
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size (Metric)	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x ix	Axis y-y iy	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl x}	Axis y-y W _{pl y}	H x10 ⁹	J
	kg/m	Inch ⁴	Inch ⁴	Inch	Inch	Inch ³	Inch ³	Inch ³	Inch ³	Inch ⁴	Inch ⁴
W 1000 x 400 x 642 *	642	34851	1689	16.6	3.65	1689	208	1959	328	635541	179
W 1000 x 400 x 591 *	591	31978	1538	16.6	3.63	1562	191	1802	300	574707	142
W 1000 x 400 x 554	554	29608	1420	16.5	3.60	1457	177	1678	277	526287	117
W 1000 x 400 x 539	539	28891	1385	16.5	3.61	1425	173	1637	271	512233	109
W 1000 x 400 x 483	483	25646	1218	16.4	3.57	1277	153	1460	239	446484	79.5
W 1000 x 400 x 443	443	23221	1093	16.3	3.54	1166	138	1329	215	397477	61.1
W 1000 x 400 x 412	412	21874	1043	16.4	3.58	1102	132	1249	204	377812	51.3
W 1000 x 400 x 371	371	19550	927	16.3	3.56	993	118	1120	182	333072	37.9
W 1000 x 400 x 321	321	16732	796	16.2	3.54	859	101	964	156	283117	24.5
W 1000 x 400 x 296	296	14903	696	16.0	3.45	771	88.4	870	137	245387	18.3
W 1000 x 300 x 584 *	584	29937	803	16.1	2.64	1440	130	1711	212	302537	174
W 1000 x 300 x 494	494	24697	644	15.9	2.57	1211	106	1429	172	238385	106
W 1000 x 300 x 486	486	24503	639	16.0	2.58	1201	105	1414	170	236467	104
W 1000 x 300 x 438	438	21843	561	15.9	2.55	1082	93.5	1266	150	205907	76.6
W 1000 x 300 x 415	415	20496	522	15.8	2.52	1021	87.1	1194	140	190232	65.2
W 1000 x 300 x 393	393	19405	492	15.8	2.52	970	82.6	1131	132	179061	56.0
W 1000 x 300 x 350	350	17369	444	15.9	2.54	875	74.6	1012	118	160184	41.0
W 1000 x 300 x 314	314	15477	390	15.8	2.51	786	66.0	906	105	139794	30.1
W 1000 x 300 x 272	272	13306	336	15.7	2.50	683	57.0	783	89.7	119440	19.8
W 1000 x 300 x 249	249	11558	282	15.3	2.40	599	47.8	692	76.0	99133	14.0
W 1000 x 300 x 222	222	9794	229	14.9	2.29	513	38.8	598	62.3	79593	9.75
W 920 x 420 x 787 *	787	39739	2483	16.0	3.99	1997	289	2332	454	840325	336
W 920 x 420 x 725 *	725	36056	2240	15.8	3.95	1833	262	2132	412	748529	265
W 920 x 420 x 656 *	656	32281	1996	15.7	3.92	1661	235	1920	368	659012	199
W 920 x 420 x 588 *	588	28578	1749	15.7	3.87	1489	208	1711	325	570437	146
W 920 x 420 x 537 *	537	25799	1576	15.6	3.85	1358	188	1554	293	508360	112
W 920 x 420 x 491 *	491	23415	1418	15.5	3.82	1243	171	1416	265	453842	86.7
W 920 x 420 x 449 *	449	21214	1297	15.4	3.81	1137	156	1290	242	410980	66.4
W 920 x 420 x 420 *	420	19740	1203	15.4	3.80	1063	145	1204	224	379462	54.5
W 920 x 420 x 390 *	390	18019	1088	15.3	3.75	978	132	1106	204	340346	43.1

American Wide Flange Beams

ASTM Sizes

Dimensions: ASTM A6 / A6M

Tolerances: ASTM A6 / A6M



PRODUCT		DIMENSIONS						
Designation Section size (Imperial)	Mass per foot	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	lbs/f	Inch	Inch	Inch	Inch	Inch	Inch	Inch ²
W 36 x 16.5 x 247 *	247	36.65	16.50	0.80	1.35	1.18	31.6	72.9
W 36 x 16.5 x 231 *	231	36.50	16.46	0.76	1.26	1.18	31.6	68.5
W 36 x 16.5 x 527 *	527	39.21	17.20	1.61	2.91	1.18	31.0	155
W 36 x 16.5 x 485 *	485	38.74	17.09	1.50	2.68	1.18	31.0	143
W 36 x 16.5 x 439 *	439	38.27	16.97	1.36	2.44	1.18	31.0	129
W 36 x 16.5 x 393	395	37.80	16.81	1.22	2.20	1.18	31.0	116
W 36 x 16.5 x 359	391	37.40	16.73	1.12	2.01	1.18	31.0	106
W 36 x 16.5 x 328	328	37.09	16.61	1.02	1.85	1.18	31.0	96.7
W 36 x 16.5 x 300	300	36.73	16.65	0.94	1.68	1.18	31.0	88.7
W 36 x 16.5 x 280	280	36.54	16.61	0.89	1.57	1.18	31.0	83.0
W 36 x 16.5 x 260	260	36.26	16.54	0.84	1.44	1.18	31.0	76.8
W 36 x 16.5 x 245	245	36.06	16.50	0.80	1.35	1.18	31.0	72.4
W 36 x 16.5 x 230	230	35.91	16.46	0.76	1.26	1.18	31.0	68.0
W 36 x 12 x 387 *	387	39.09	12.67	1.42	2.56	1.18	31.6	114
W 36 x 12 x 350 *	350	38.61	12.55	1.30	2.32	1.18	31.6	104
W 36 x 12 x 318 *	318	38.22	12.43	1.18	2.13	1.18	31.6	94.3
W 36 x 12 x 286 *	286	37.83	12.31	1.06	1.93	1.18	31.6	84.7
W 36 x 12 x 256	256	37.44	12.20	0.96	1.73	1.18	31.6	76.0
W 36 x 12 x 232	232	37.13	12.13	0.87	1.57	1.18	31.6	68.9
W 36 x 12 x 210	210	36.69	12.17	0.83	1.36	1.18	31.6	62.5
W 36 x 12 x 194	194	36.50	12.13	0.76	1.26	1.18	31.6	57.7
W 36 x 12 x 182	182	36.34	12.09	0.72	1.18	1.18	31.6	54.4
W 36 x 12 x 170	170	36.18	12.05	0.68	1.10	1.18	31.6	50.8
W 36 x 12 x 160	160	36.02	12.01	0.65	1.02	1.18	31.6	47.8
W 36 x 12 x 150	150	35.87	11.97	0.63	0.94	1.18	31.6	45.0
W 36 x 12 x 135	135	35.55	11.97	0.60	0.79	1.18	31.6	40.5
W 33 x 15.75 x 387 *	387	35.94	16.18	1.26	2.28	0.94	29.5	114
W 33 x 15.75 x 354 *	354	35.55	16.10	1.16	2.09	0.94	29.5	105
W 33 x 15.75 x 318 *	318	35.16	15.98	1.04	1.89	0.94	29.5	93.8

* On agreement subject to minimum quantity and delivery condition.
Dimensions as per ESI standard.



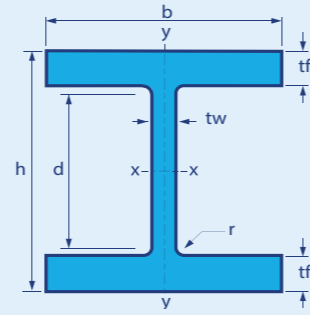
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size (Metric)	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x ix	Axis y-y iy	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl,x}	Axis y-y W _{pl,y}	H x10 ⁹	J
	kg/m	Inch ⁴	Inch ⁴	Inch	Inch	Inch ³	Inch ³	Inch ³	Inch ³	Inch ⁴	Inch ⁴
W 920 x 420 x 368 *	368	16830	1012	15.2	3.73	918	123	1037	190	314787	36.1
W 920 x 420 x 344 *	344	15695	938	15.1	3.70	860	114	970	176	290477	29.9
W 920 x 420 x 784 *	784	38376	2483	15.7	4.00	1957	289	2286	454	813638	336
W 920 x 420 x 722 *	722	34809	2240	15.6	3.96	1797	262	2089	411	724601	264
W 920 x 420 x 653 *	653	31158	1996	15.5	3.93	1628	235	1882	368	637812	199
W 920 x 420 x 585	585	27578	1749	15.4	3.88	1459	208	1677	324	551969	146
W 920 x 420 x 534	534	24891	1575	15.3	3.86	1331	188	1522	293	491809	112
W 920 x 420 x 488	488	22588	1418	15.3	3.83	1218	171	1387	265	439003	86.5
W 920 x 420 x 446	446	20460	1297	15.2	3.82	1114	156	1264	241	397474	66.2
W 920 x 420 x 417	417	19036	1203	15.1	3.81	1042	145	1179	224	366961	54.4
W 920 x 420 x 387	387	17373	1088	15.0	3.76	958	132	1083	204	329089	43.0
W 920 x 420 x 365	365	16224	1012	15.0	3.74	900	123	1015	190	304344	36.0
W 920 x 420 x 342	342	15128	938	14.9	3.71	843	114	950	176	280822	29.8
W 920 x 310 x 576 *	576	26648	877	15.3	2.77	1363	138	1615	224	289375	181
W 920 x 310 x 521 *	521	23772	771	15.2	2.73	1231	123	1451	198	251611	136
W 920 x 310 x 474 *	474	21451	687	15.1	2.70	1122	111	1316	177	221953	104.3
W 920 x 310 x 425 *	425	19121	605	15.0	2.67	1011	98.2	1179	157	193498	77.1
W 920 x 310 x 381	381	16939	527	14.9	2.63	905	86.3	1051	137	166973	56.2
W 920 x 310 x 345	345	15229	469	14.9	2.61	820	77.4	949	123	147531	42.3
W 920 x 310 x 313	313	13371	410	14.6	2.56	729	67.4	844	107	127218	30.3
W 920 x 310 x 289	289	12319	376	14.6	2.55	675	62.0	779	98.4	116208	24.2
W 920 x 310 x 271	271	11529	349	14.6	2.53	635	57.8	731	91.5	107405	20.3
W 920 x 310 x 253	253	10709	321	14.5	2.52	592	53.4	681	84.4	98494	16.7
W 920 x 310 x 238	238	9963	295	14.4	2.49	553	49.2	636	77.8	90134	13.9
W 920 x 310 x 223	223	9253	270	14.3	2.45	516	45.1	594	71.4	81988	11.6
W 920 x 310 x 201	201	8012	227	14.1	2.37	451	38.0	522	60.4	68301	8.39
W 840 x 400 x 576 *	576	24364	1615	14.6	3.76	1356	200	1564	312	456062	151
W 840 x 400 x 527 *	527	22041	1459	14.5	3.74	1240	181	1424	282	407180	117
W 840 x 400 x 473 *	473	19593	1290	14.5	3.71	1115	161	1273	250	355893	86.1

American Wide Flange Beams

ASTM Sizes

Dimensions: ASTM A6 / A6M

Tolerances: ASTM A6 / A6M



PRODUCT		DIMENSIONS						
Designation Section size (Imperial)	Mass per feet	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	lbs/f	Inch	Inch	Inch	Inch	Inch	Inch	Inch ²
W 33 x 15.75 x 291 *	291	34.84	15.91	0.96	1.73	0.94	29.5	85.9
W 33 x 15.75 x 263 *	263	34.53	15.79	0.87	1.57	0.94	29.5	77.7
W 33 x 15.75 x 241 *	241	34.17	15.87	0.83	1.40	0.94	29.5	71.3
W 33 x 15.75 x 221 *	221	33.94	15.79	0.78	1.28	0.94	29.5	65.4
W 33 x 15.75 x 201 *	201	33.66	15.75	0.72	1.15	0.94	29.5	59.4
W 33 x 11.5 x 169	169	33.82	11.50	0.67	1.22	0.94	29.5	49.8
W 33 x 11.5 x 152	152	33.50	11.57	0.63	1.06	0.94	29.5	45.1
W 33 x 11.5 x 141	141	33.31	11.54	0.61	0.96	0.94	29.5	42.0
W 33 x 11.5 x 130	130	33.07	11.50	0.58	0.85	0.94	29.5	38.6
W 33 x 11.5 x 118	118	32.87	11.50	0.55	0.74	0.94	29.5	35.1
W 30 x 15 x 391 *	391	33.19	15.59	1.36	2.44	0.94	26.4	115
W 30 x 15 x 357 *	357	32.80	15.47	1.24	2.24	0.94	26.4	105
W 30 x 15 x 326	326	32.40	15.35	1.14	2.05	0.94	26.4	96.1
W 30 x 15 x 292	292	32.01	15.24	1.02	1.85	0.94	26.4	86.0
W 30 x 15 x 261	261	31.61	15.16	0.93	1.65	0.94	26.4	77.1
W 30 x 15 x 235	235	31.30	15.04	0.83	1.50	0.94	26.4	69.4
W 30 x 15 x 211	211	30.94	15.12	0.78	1.31	0.94	26.4	62.5
W 30 x 15 x 191	191	30.67	15.04	0.71	1.19	0.94	26.4	56.5
W 30 x 15 x 173	173	30.43	15.00	0.65	1.07	0.94	26.4	51.3
W 30 x 10.5 x 148	148	30.67	10.47	0.65	1.18	0.94	26.4	43.9
W 30 x 10.5 x 132	132	30.31	10.55	0.61	1.00	0.94	26.4	39.3
W 30 x 10.5 x 124	124	30.16	10.51	0.59	0.93	0.94	26.4	36.9
W 30 x 10.5 x 116	116	30.00	10.51	0.57	0.85	0.94	26.4	34.7
W 30 x 10.5 x 108	108	29.84	10.47	0.54	0.76	0.94	26.4	32.1
W 30 x 10.5 x 99	99	29.65	10.43	0.52	0.67	0.94	26.4	29.4
W 30 x 10.5 x 90	90	29.53	10.39	0.47	0.61	0.94	26.4	26.7
W 27 x 14 x 368 *	368	30.39	14.65	1.38	2.48	0.94	23.5	109
W 27 x 14 x 336 *	336	30.00	14.53	1.26	2.28	0.94	23.6	99.0
W 27 x 14 x 307	307	29.61	14.45	1.16	2.09	0.94	23.5	90.7

* On agreement subject to minimum quantity and delivery condition.



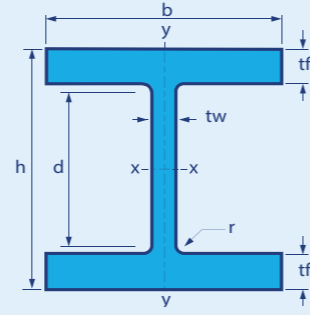
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size (Metric)	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x ix	Axis y-y iy	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl,x}	Axis y-y W _{pl,y}	H x10 ⁹	J
	kg/m	Inch ⁴	Inch ⁴	Inch	Inch	Inch ³	Inch ³	Inch ³	Inch ³	Inch ⁴	Inch ⁴
W 840 x 400 x 433 *	433	17745	1162	14.4	3.68	1019	146	1159	226	317753	66.4
W 840 x 400 x 392 *	392	15904	1032	14.3	3.65	921	131	1043	202	279735	49.7
W 840 x 400 x 359 *	359	14269	935	14.1	3.62	835	118	945	182	250505	37.2
W 840 x 400 x 329 *	329	12929	838	14.1	3.58	762	106	861	164	223101	28.6
W 840 x 400 x 299 *	299	11598	750	14.0	3.55	689	95.2	777	147	197742	21.5
W 840 x 295 x 251	251	9365	310	13.7	2.49	554	53.9	634	84.6	82103	18.4
W 840 x 295 x 226	226	8250	274	13.5	2.46	492	47.3	564	74.2	71784	13.0
W 840 x 295 x 210	210	7545	247	13.4	2.42	453	42.7	520	67.2	64284	10.38
W 840 x 295 x 193	193	6769	217	13.2	2.37	409	37.8	471	59.5	56133	7.95
W 840 x 295 x 176	176	5999	188	13.1	2.32	365	32.7	421	51.7	48382	5.92
W 760 x 381 x 582 *	582	20744	1548	13.4	3.66	1250	199	1453	310	364389	178
W 760 x 381 x 531 *	531	18704	1388	13.3	3.63	1141	179	1318	280	322784	137
W 760 x 381 x 484	484	16833	1242	13.2	3.59	1039	162	1195	252	284980	105
W 760 x 381 x 434	434	14913	1094	13.2	3.57	932	144	1065	223	248013	76.8
W 760 x 381 x 389	389	13143	960	13.1	3.53	831	127	946	196	214915	55.3
W 760 x 381 x 350	350	11742	852	13.0	3.50	750	113	849	175	188790	41.2
W 760 x 381 x 314	314	10349	759	12.9	3.48	669	100	755	155	166209	29.2
W 760 x 381 x 284	284	9238	673	12.8	3.45	602	89.5	678	138	146013	21.6
W 760 x 381 x 257	257	8287	601	12.7	3.42	545	80.1	612	123	129387	16.2
W 760 x 265 x 220	220	6758	227	12.4	2.27	441	43.3	506	68.2	49149	15.4
W 760 x 265 x 196	196	5846	197	12.2	2.24	386	37.3	443	58.7	42060	10.47
W 760 x 265 x 185	185	5430	181	12.1	2.21	360	34.4	414	54.2	38416	8.68
W 760 x 265 x 173	173	5019	165	12.0	2.18	335	31.4	385	49.6	34971	7.12
W 760 x 265 x 161	161	4544	146	11.9	2.13	305	27.9	351	44.1	30756	5.60
W 760 x 265 x 147	147	4063	127	11.7	2.08	274	24.4	317	38.7	26591	4.36
W 760 x 265 x 134	134	3687	115	11.7	2.07	250	22.1	288	34.9	23873	3.34
W 690 x 360 x 548 *	548	16203	1305	12.2	3.47	1066	178	1247	279	252958	174
W 690 x 360 x 500 *	500	14601	1170	12.1	3.44	973	161	1131	251	223776	134
W 690 x 360 x 457	457	13167	1055	12.0	3.41	889	146	1028	227	198934	104

American Wide Flange Beams

ASTM Sizes

Dimensions: ASTM A6 / A6M

Tolerances: ASTM A6 / A6M



PRODUCT		DIMENSIONS						
Designation Section size (Imperial)	Mass per feet	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	lbs/f	Inch	Inch	Inch	Inch	Inch	Inch	Inch ²
W 27 x 14 x 281	281	29.29	14.33	1.06	1.93	0.94	23.5	83.0
W 27 x 14 x 258	258	28.98	14.25	0.98	1.77	0.94	23.5	76.2
W 27 x 14 x 235	235	28.66	14.17	0.91	1.61	0.94	23.6	69.5
W 27 x 14 x 217	217	28.43	14.13	0.83	1.50	0.94	23.5	64.3
W 27 x 14 x 194	194	28.11	14.02	0.75	1.34	0.94	23.5	57.3
W 27 x 14 x 178	178	27.80	14.09	0.72	1.19	0.94	23.5	52.7
W 27 x 14 x 161	161	27.60	14.02	0.66	1.08	0.94	23.6	47.8
W 27 x 14 x 146	146	27.36	13.98	0.61	0.98	0.94	23.5	43.5
W 27 x 10 x 129	129	27.64	10.00	0.61	1.10	0.94	23.6	38.3
W 27 x 10 x 114	114	27.28	10.08	0.57	0.93	0.94	23.5	34.0
W 27 x 10 x 102	102	27.09	10.00	0.52	0.83	0.94	23.5	30.5
W 27 x 10 x 94	94	26.93	10.00	0.49	0.74	0.94	23.6	28.1
W 27 x 10 x 84	84	26.69	9.96	0.46	0.64	0.94	23.5	25.3
W 24 x 12.75 x 370	370	27.99	13.66	1.52	2.72	0.94	20.7	109
W 24 x 12.75 x 335	335	27.52	13.50	1.38	2.48	0.94	20.7	98.9
W 24 x 12.75 x 306	306	27.13	13.39	1.26	2.28	0.94	20.7	90.2
W 24 x 12.75 x 279	279	26.73	13.31	1.16	2.09	0.94	20.7	82.6
W 24 x 12.75 x 250	250	26.34	13.19	1.04	1.89	0.94	20.7	74.1
W 24 x 12.75 x 229	229	26.02	13.11	0.96	1.73	0.94	20.7	67.8
W 24 x 12.75 x 207	207	25.71	12.99	0.87	1.57	0.94	20.7	61.2
W 24 x 12.75 x 192	192	25.47	12.95	0.81	1.46	0.94	20.7	56.9
W 24 x 12.75 x 176	176	25.24	12.87	0.75	1.34	0.94	20.7	52.1
W 24 x 12.75 x 162	162	25.00	12.95	0.70	1.22	0.94	20.7	48.3
W 24 x 12.75 x 146	146	24.72	12.91	0.65	1.09	0.94	20.7	43.6
W 24 x 12.75 x 131	131	24.49	12.87	0.61	0.96	0.94	20.7	39.2
W 24 x 12.75 x 117	117	24.25	12.80	0.55	0.85	0.94	20.7	35.0
W 24 x 12.75 x 104	104	24.06	12.76	0.50	0.75	0.94	20.7	31.1
W 24 x 9 x 146 *	146	25.32	9.22	0.77	1.38	0.94	20.7	43.6
W 24 x 9 x 128 *	128	25.00	9.11	0.67	1.22	0.94	20.7	38.0

* On agreement subject to minimum quantity and delivery condition.
Dimensions as per ESI standard.



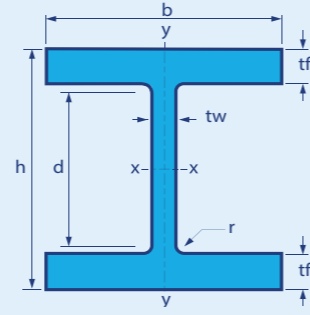
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size (Metric)	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x ix	Axis y-y iy	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl x}	Axis y-y W _{pl y}	H x10 ⁹	J
	kg/m	Inch ⁴	Inch ⁴	Inch	Inch	Inch ³	Inch ³	Inch ³	Inch ³	Inch ⁴	Inch ⁴
W 690 x 360 x 419	419	11938	949	12.0	3.38	815	132	937	206	177115	81.1
W 690 x 360 x 384	384	10821	857	11.9	3.35	747	120	855	187	158154	63.2
W 690 x 360 x 350	350	9728	766	11.8	3.32	679	108	774	168	139784	48.1
W 690 x 360 x 323	323	8950	707	11.8	3.32	630	100	715	155	127932	38.6
W 690 x 360 x 289	289	7874	615	11.7	3.28	560	87.8	633	135	110061	27.6
W 690 x 360 x 265	265	7046	556	11.6	3.25	507	78.9	572	122	98193	20.7
W 690 x 360 x 240	240	6347	496	11.5	3.22	460	70.8	518	109	87034	15.6
W 690 x 360 x 217	217	5701	445	11.5	3.20	417	63.7	468	98.1	77327	11.8
W 690 x 250 x 192	192	4828	184	11.2	2.19	349	36.8	400	57.7	32236	11.9
W 690 x 250 x 170	170	4155	159	11.1	2.16	305	31.6	349	49.6	27529	8.05
W 690 x 250 x 152	152	3690	139	11.0	2.13	272	27.8	311	43.6	23861	5.89
W 690 x 250 x 140	140	3342	124	10.9	2.11	248	24.9	283	39.1	21258	4.57
W 690 x 250 x 125	125	2919	106	10.8	2.05	219	21.3	250	33.5	17933	3.35
W 610 x 324 x 551	551	13460	1163	11.1	3.26	962	170	1141	268	184581	212
W 610 x 324 x 498	498	11950	1024	11.0	3.22	868	152	1023	238	159560	160
W 610 x 324 x 455	455	10746	916	10.9	3.19	792	137	927	214	140637	123
W 610 x 324 x 415	415	9670	824	10.8	3.16	723	124	842	193	124635	95.6
W 610 x 324 x 372	372	8552	725	10.7	3.13	649	110	750	171	107980	70.2
W 610 x 324 x 341	341	7713	651	10.7	3.10	593	99.3	681	154	95784	54.1
W 610 x 324 x 307	307	6881	576	10.6	3.07	535	88.6	612	137	83630	40.6
W 610 x 324 x 285	285	6330	530	10.5	3.05	497	81.9	566	127	76254	32.8
W 610 x 324 x 262	262	5736	477	10.5	3.03	455	74.1	515	115	67965	25.4
W 610 x 324 x 241	241	5242	443	10.4	3.03	419	68.4	474	106	62490	19.9
W 610 x 324 x 217	217	4650	392	10.3	3.00	376	60.7	424	93.7	54654	14.6
W 610 x 324 x 195	195	4099	342	10.2	2.96	335	53.2	377	82.1	47276	10.51
W 610 x 324 x 174	174	3601	297	10.1	2.92	297	46.5	333	71.7	40649	7.54
W 610 x 324 x 155	155	3165	259	10.1	2.89	263	40.6	294	62.6	35141	5.37
W 610 x 230 x 217 *	217	4485	181	10.1	2.04	354	39.4	411	62.5	25829	21.4
W 610 x 230 x 191 *	191	3874	154	10.1	2.01	310	33.9	357	53.5	21708	14.5

American Wide Flange Beams

ASTM Sizes

Dimensions: ASTM A6 / A6M

Tolerances: ASTM A6 / A6M



PRODUCT		DIMENSIONS						
Designation Section size (Imperial)	Mass per feet	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	lbs/f	Inch	Inch	Inch	Inch	Inch	Inch	Inch ²
W 24 x 9 x 114 *	114	24.76	9.05	0.61	1.10	0.94	20.7	34.4
W 24 x 9 x 103	103	24.53	9.02	0.55	0.98	0.94	20.7	30.9
W 24 x 9 x 94	94	24.29	9.06	0.52	0.87	0.94	20.7	28.2
W 24 x 9 x 84	84	24.09	9.02	0.47	0.77	0.94	20.7	25.2
W 24 x 9 x 76	76	23.94	8.98	0.44	0.68	0.94	20.7	22.9
W 24 x 9 x 68	68	23.74	8.98	0.41	0.59	0.94	20.7	20.6
W 24 x 7 x 67 *	67	23.91	7.06	0.44	0.68	0.94	20.7	20.4
W 24 x 7 x 62	62	23.74	7.05	0.43	0.59	0.94	20.7	18.8
W 24 x 7 x 55	55	23.58	7.01	0.39	0.50	0.94	20.7	16.7
W 21 x 12.25 x 201 *	201	23.03	12.56	0.91	1.63	0.71	18.4	59.4
W 21 x 12.25 x 182	182	22.72	12.48	0.83	1.48	0.71	18.3	53.8
W 21 x 12.25 x 166	166	22.48	12.40	0.75	1.36	0.71	18.3	48.9
W 21 x 12.25 x 147	147	22.05	12.52	0.72	1.15	0.71	18.3	43.4
W 21 x 12.25 x 132	132	21.81	12.44	0.65	1.04	0.71	18.3	39.0
W 21 x 12.25 x 122	122	21.69	12.40	0.60	0.96	0.71	18.4	36.1
W 21 x 12.25 x 111	111	21.50	12.32	0.55	0.87	0.71	18.3	32.9
W 21 x 12.25 x 101	101	21.38	12.28	0.50	0.80	0.71	18.4	30.0
W 21 x 8.25 x 93	93	21.61	8.43	0.58	0.93	0.71	18.3	27.5
W 21 x 8.25 x 83	83	21.42	8.35	0.52	0.83	0.71	18.3	24.5
W 21 x 8.25 x 73	73	21.22	8.31	0.46	0.74	0.71	18.3	21.7
W 21 x 8.25 x 68	68	21.14	8.27	0.43	0.69	0.71	18.4	20.2
W 21 x 8.25 x 62	62	20.98	8.23	0.40	0.61	0.71	18.3	18.5
W 21 x 8.25 x 55	55	20.79	8.23	0.37	0.52	0.71	18.3	16.4
W 21 x 8.25 x 48	48	20.63	8.15	0.35	0.43	0.71	18.4	14.4
W 21 x 6.5 x 57	57	21.06	6.54	0.41	0.65	0.71	18.3	16.9
W 21 x 6.5 x 50	50	20.83	6.54	0.38	0.54	0.71	18.3	15.0
W 21 x 6.5 x 44	44	20.67	6.50	0.35	0.45	0.71	18.4	13.2

* On agreement subject to minimum quantity and delivery condition.
Dimensions as per ESI standard.



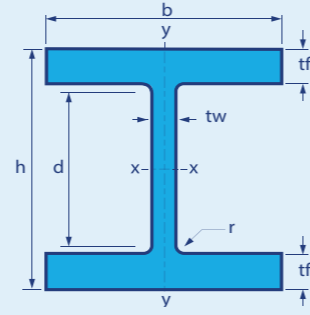
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size (Metric)	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x ix	Axis y-y iy	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl,x}	Axis y-y W _{pl,y}	H x10 ⁹	J
	kg/m	Inch ⁴	Inch ⁴	Inch	Inch	Inch ³	Inch ³	Inch ³	Inch ³	Inch ⁴	Inch ⁴
	W 610 x 230 x 171 *	171	3463	136	10.0	1.99	280	30.1	321	47.5	19000
W 610 x 230 x 153	153	3074	120	10.0	1.97	251	26.7	287	41.9	16597	7.91
W 610 x 230 x 140	140	2757	109	9.9	1.96	227	24.0	259	37.7	14827	5.96
W 610 x 230 x 125	125	2434	95	9.8	1.94	202	21.0	230	32.9	12817	4.30
W 610 x 230 x 113	113	2171	82	9.7	1.90	181	18.4	207	28.9	11101	3.23
W 610 x 230 x 101	101	1902	71	9.6	1.86	160	15.8	183	24.9	9477	2.37
W 610 x 180 x 100 *	100	1810	40	9.4	1.40	151	11.3	176	18.3	5350	2.83
W 610 x 180 x 92	92.0	1620	35	9.3	1.36	136	9.9	159	16.0	4615	2.24
W 610 x 180 x 82	82.0	1412	29	9.2	1.32	120	8.3	140	13.6	3849	1.66
W 530 x 310 x 300 *	300	5324	540	9.5	3.02	462	85.9	531	133	61619	42.1
W 530 x 310 x 272	272	4747	481	9.4	2.99	418	77.0	478	119	54072	31.7
W 530 x 310 x 248	248	4285	433	9.4	2.97	381	69.8	433	107	48159	24.2
W 530 x 310 x 219	219	3649	377	9.2	2.94	331	60.2	375	92.9	41050	16.1
W 530 x 310 x 196	196	3239	333	9.1	2.92	297	53.5	335	82.4	35857	11.8
W 530 x 310 x 182	182	2988	306	9.1	2.91	276	49.3	310	75.8	32815	9.40
W 530 x 310 x 165	165	2686	273	9.0	2.88	250	44.3	280	68.0	28980	7.15
W 530 x 310 x 150	150	2443	247	9.0	2.87	229	40.2	255	61.7	26137	5.47
W 530 x 210 x 138	138	2088	93.0	8.7	1.84	193	22.1	223	34.8	9906	6.39
W 530 x 210 x 123	123	1848	81.2	8.7	1.82	173	19.5	198	30.6	8566	4.63
W 530 x 210 x 109	109	1623	70.9	8.6	1.81	153	17.1	175	26.7	7415	3.26
W 530 x 210 x 101	101	1503	64.7	8.6	1.79	142	15.7	162	24.5	6750	2.64
W 530 x 210 x 92	92.0	1348	57.2	8.5	1.76	128	13.9	146	21.7	5916	2.01
W 530 x 210 x 82	82.0	1165	48.8	8.4	1.72	112	11.9	128	18.6	4991	1.41
W 530 x 210 x 72	72.0	983	38.8	8.3	1.64	95.3	9.5	109	15.0	3949	0.98
W 530 x 165 x 85	85.0	1186	30.4	8.4	1.34	113	9.3	130	14.8	3148	1.95
W 530 x 165 x 74	74.0	1007	25.1	8.2	1.29	96.7	7.7	112	12.3	2564	1.32
W 530 x 165 x 66	66.0	863	20.6	8.1	1.25	83.5	6.4	97.4	10.2	2096	0.93

American Wide Flange Beams

ASTM Sizes

Dimensions: ASTM A6 / A6M

Tolerances: ASTM A6 / A6M



PRODUCT		DIMENSIONS						
Designation Section size (Imperial)	Mass per feet	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	lbs/f	Inch	Inch	Inch	Inch	Inch	Inch	Inch ²
W 18 x 11 x 311 *	311	22.32	12.01	1.52	2.74	0.55	15.7	91.7
W 18 x 11 x 283 *	283	21.85	11.89	1.40	2.50	0.55	15.7	83.3
W 18 x 11 x 258 *	258	21.46	11.77	1.28	2.30	0.55	15.8	76.0
W 18 x 11 x 234 *	234	21.06	11.65	1.16	2.11	0.55	15.7	69.0
W 18 x 11 x 211 *	211	20.67	11.54	1.06	1.91	0.55	15.7	62.2
W 18 x 11 x 192 *	192	20.35	11.46	0.96	1.75	0.55	15.7	56.6
W 18 x 11 x 175	175	20.04	11.38	0.89	1.59	0.55	15.8	51.5
W 18 x 11 x 158	158	19.72	11.30	0.81	1.44	0.55	15.7	46.5
W 18 x 11 x 143	143	19.49	11.22	0.73	1.32	0.55	15.7	42.1
W 18 x 11 x 130	130	19.25	11.14	0.67	1.20	0.55	15.7	38.3
W 18 x 11 x 119	119	18.98	11.26	0.65	1.06	0.55	15.8	35.1
W 18 x 11 x 106	106	18.74	11.18	0.59	0.94	0.55	15.8	31.3
W 18 x 11 x 97	97	18.58	11.14	0.54	0.87	0.55	15.7	28.7
W 18 x 11 x 86	86	18.39	11.10	0.48	0.77	0.55	15.7	25.5
W 18 x 11 x 76	76	18.23	11.02	0.43	0.68	0.55	15.8	22.4
W 18 x 7.5 x 109 *	109	19.37	7.85	0.71	1.26	0.55	15.7	32.0
W 18 x 7.5 x 90 *	90	18.92	7.74	0.60	1.04	0.55	15.7	26.4
W 18 x 7.5 x 71	71	18.46	7.64	0.50	0.81	0.55	15.7	21.0
W 18 x 7.5 x 65	65	18.35	7.60	0.45	0.75	0.55	15.7	19.2
W 18 x 7.5 x 60	60	18.23	7.56	0.41	0.70	0.55	15.7	17.8
W 18 x 7.5 x 55	55	18.11	7.52	0.39	0.63	0.55	15.7	16.3
W 18 x 7.5 x 50	50	17.99	7.48	0.35	0.57	0.55	15.7	14.8
W 18 x 6 x 46	46.0	18.07	6.06	0.36	0.61	0.55	15.8	13.7
W 18 x 6 x 40	40.0	17.91	6.02	0.31	0.52	0.55	15.8	11.9
W 18 x 6 x 35	35.0	17.72	5.98	0.30	0.43	0.55	15.8	10.4
W 16 x 10.25 x 100	100	16.97	10.43	0.59	0.98	0.55	13.9	29.6
W 16 x 10.25 x 89	89	16.73	10.35	0.52	0.87	0.55	13.9	26.2

* On agreement subject to minimum quantity and delivery condition.
Dimensions as per ESI standard.



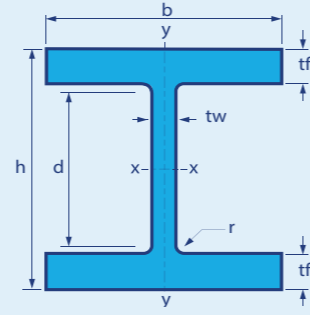
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size (Metric)	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x ix	Axis y-y iy	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl x}	Axis y-y W _{pl y}	H x10 ⁹	J
	kg/m	Inch ⁴	Inch ⁴	Inch	Inch	Inch ³	Inch ³	Inch ³	Inch ³	Inch ⁴	Inch ⁴
	W 460 x 280 x 464 *	464	6973	796	8.7	2.95	625	133	754	208	75807
W 460 x 280 x 421 *	421	6173	704	8.6	2.91	565	118	677	185	65558	137
W 460 x 280 x 384 *	384	5519	628	8.5	2.88	514	107	612	166	57353	106
W 460 x 280 x 349 *	349	4915	559	8.4	2.85	467	95.9	551	149	49985	80.9
W 460 x 280 x 315 *	315	4329	490	8.3	2.81	419	85.0	491	132	42979	60.0
W 460 x 280 x 286 *	286	3884	440	8.3	2.79	382	76.9	444	119	37986	46.0
W 460 x 280 x 260	260	3461	392	8.2	2.76	345	68.8	399	106	33225	34.8
W 460 x 280 x 235	235	3068	347	8.1	2.73	311	61.5	357	94.9	28953	25.9
W 460 x 280 x 213	213	2755	311	8.1	2.72	283	55.5	323	85.4	25628	19.6
W 460 x 280 x 193	193	2468	277	8.0	2.69	256	49.8	291	76.5	22549	14.9
W 460 x 280 x 177	177	2195	252	7.9	2.68	231	44.8	262	69.1	20223	10.9
W 460 x 280 x 158	158	1922	220	7.8	2.65	205	39.3	231	60.4	17362	7.75
W 460 x 280 x 144	144	1753	201	7.8	2.65	189	36.0	212	55.3	15731	6.06
W 460 x 280 x 128	128	1539	176	7.8	2.63	167	31.7	187	48.6	13652	4.28
W 460 x 280 x 113	113	1345	152	7.7	2.60	148	27.6	164	42.2	11706	2.96
W 460 x 190 x 161 *	161	1925	102	7.8	1.79	199	26.0	232	41.1	8330	12.8
W 460 x 190 x 133 *	133	1542	80.5	7.6	1.74	163	20.8	188	32.7	6410	7.30
W 460 x 190 x 106	106	1181	60.4	7.5	1.70	128	15.8	147	24.8	4692	3.67
W 460 x 190 x 97	97.0	1078	54.9	7.5	1.69	117	14.4	134	22.5	4235	2.84
W 460 x 190 x 89	89.0	992	50.3	7.5	1.68	109	13.3	124	20.7	3855	2.29
W 460 x 190 x 82	82.0	897	44.8	7.4	1.66	99.1	11.9	113	18.5	3410	1.76
W 460 x 190 x 74	74.0	807	39.9	7.4	1.64	89.8	10.7	102	16.6	3022	1.32
W 460 x 150 x 68	68.0	722	22.6	7.3	1.29	79.9	7.5	91.8	11.8	1717	1.30
W 460 x 150 x 60	60.0	621	19.1	7.2	1.27	69.3	6.4	79.4	10.0	1442	0.87
W 460 x 150 x 52	52.0	518	15.2	7.1	1.21	58.5	5.1	67.4	8.1	1135	0.56
W 410 x 260 x 149	149	1493	187	7.1	2.51	176	35.8	199	55.0	11899	7.99
W 410 x 260 x 132	132	1300	162	7.0	2.49	155	31.3	175	48.0	10167	5.61

American Wide Flange Beams

ASTM Sizes

Dimensions: ASTM A6 / A6M

Tolerances: ASTM A6 / A6M



PRODUCT		DIMENSIONS						
Designation Section size (Imperial)	Mass per feet	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	lbs/f	Inch	Inch	Inch	Inch	Inch	Inch	Inch ²
W 16 x 10.25 x 77	77	16.54	10.28	0.46	0.76	0.55	13.9	22.7
W 16 x 10.25 x 67	67	16.34	10.24	0.39	0.67	0.55	13.9	19.8
W 16 x 7 x 57	57	16.42	7.13	0.43	0.72	0.55	13.9	16.9
W 16 x 7 x 50	50	16.26	7.09	0.38	0.63	0.55	13.9	14.9
W 16 x 7 x 45	45	16.14	7.05	0.35	0.57	0.55	13.9	13.5
W 16 x 7 x 40	40	16.02	7.01	0.30	0.50	0.55	13.9	11.9
W 16 x 7 x 36	36	15.87	6.97	0.30	0.43	0.55	13.9	10.7
W 16 x 5.5 x 36 *	36	16.01	5.64	0.31	0.51	0.55	13.9	10.7
W 16 x 5.5 x 31	31	15.87	5.51	0.28	0.44	0.55	13.9	9.25
W 16 x 5.5 x 26	26	15.71	5.51	0.25	0.35	0.55	13.9	7.86
W 14 x 16 x 605 *	605	20.91	17.40	2.59	4.17	0.94	10.7	179
W 14 x 16 x 550 *	550	20.24	17.20	2.38	3.82	0.94	10.7	162
W 14 x 16 x 500 *	500	19.61	17.01	2.19	3.50	0.94	10.7	147
W 14 x 16 x 455 *	455	19.02	16.85	2.02	3.21	0.94	10.7	134
W 14 x 16 x 426	426	18.66	16.69	1.87	3.04	0.94	10.7	126
W 14 x 16 x 398	398	18.31	16.57	1.77	2.85	0.94	10.7	117
W 14 x 16 x 370	370	17.91	16.46	1.65	2.66	0.94	10.7	109
W 14 x 16 x 342	342	17.56	16.38	1.54	2.47	0.94	10.7	101
W 14 x 16 x 311	311	17.13	16.22	1.41	2.26	0.94	10.7	91.8
W 14 x 16 x 283	283	16.73	16.10	1.29	2.07	0.94	10.7	83.7
W 14 x 16 x 257	257	16.38	15.98	1.17	1.89	0.94	10.7	76.0
W 14 x 16 x 233	233	16.02	15.91	1.07	1.72	0.94	10.7	69.0
W 14 x 16 x 211	211	15.71	15.79	0.98	1.56	0.94	10.7	62.3
W 14 x 16 x 193	193	15.47	15.71	0.89	1.44	0.94	10.7	57.2
W 14 x 16 x 176	176	15.24	15.67	0.83	1.31	0.94	10.7	52.3
W 14 x 16 x 159	159	14.96	15.55	0.74	1.19	0.94	10.7	47.1
W 14 x 16 x 145	145	14.76	15.51	0.68	1.09	0.94	10.7	43.2
W 14 x 14.5 x 132	132	14.65	14.72	0.65	1.03	0.94	10.7	39.3
W 14 x 14.5 x 120	120	14.49	14.69	0.59	0.94	0.94	10.7	35.8

* On agreement subject to minimum quantity and delivery condition.



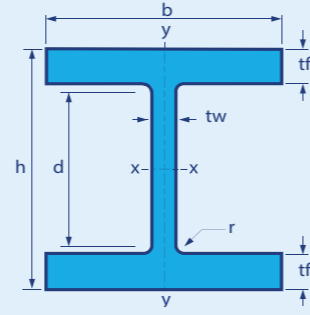
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size (Metric)	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x ix	Axis y-y iy	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl x}	Axis y-y W _{pl y}	H x10 ⁹	J
	kg/m	Inch ⁴	Inch ⁴	Inch	Inch	Inch ³	Inch ³	Inch ³	Inch ³	Inch ⁴	Inch ⁴
	W 410 x 260 x 114	114	1115	138	7.0	2.46	135	26.8	151	41.0	8549
W 410 x 260 x 100	100	962	119	7.0	2.45	118	23.3	131	35.5	7304	2.48
W 410 x 180 x 85	85.0	764	43.3	6.7	1.60	93.1	12.2	106	19.0	2663	2.34
W 410 x 180 x 75	75.0	667	37.5	6.7	1.58	82.1	10.6	93.2	16.4	2282	1.62
W 410 x 180 x 67	67.0	597	33.1	6.7	1.57	73.9	9.4	83.7	14.6	2005	1.20
W 410 x 180 x 60	60.0	525	29.0	6.7	1.56	65.6	8.3	73.8	12.8	1741	0.84
W 410 x 180 x 53	53.0	454	24.3	6.5	1.51	57.2	7.0	64.7	10.8	1442	0.60
W 410 x 140 x 53.3 *	53.3	446	15.3	6.5	1.20	55.7	5.4	63.8	8.5	913	0.75
W 410 x 140 x 46.1	46.1	381	12.4	6.4	1.16	48.0	4.5	54.9	7.1	732	0.51
W 410 x 140 x 38.8	38.8	311	9.7	6.3	1.11	39.6	3.5	45.5	5.6	570	0.31
W 360 x 410 x 900 *	900	10833	3685	7.8	4.54	1036	424	1322	654	256529	919
W 360 x 410 x 818 *	818	9439	3257	7.6	4.48	933	379	1178	584	218411	703
W 360 x 410 x 744 *	744	8237	2882	7.5	4.42	840	339	1050	522	186122	539
W 360 x 410 x 677 *	677	7212	2568	7.3	4.37	759	305	939	469	159826	415
W 360 x 410 x 634	634	6604	2361	7.2	4.33	708	283	871	435	143648	346
W 360 x 410 x 592	592	6027	2167	7.2	4.29	658	261	805	402	129090	286
W 360 x 410 x 551	551	5449	1983	7.1	4.26	608	241	738	370	114969	233
W 360 x 410 x 509	509	4931	1812	7.0	4.23	562	221	676	339	102899	186
W 360 x 410 x 463	463	4345	1611	6.9	4.19	507	199	606	304	88808	142
W 360 x 410 x 421	421	3851	1444	6.8	4.15	460	179	545	274	77439	109
W 360 x 410 x 382	382	3412	1288	6.7	4.12	417	161	489	246	67500	83.0
W 360 x 410 x 347	347	3019	1156	6.6	4.09	377	145	438	222	59012	62.8
W 360 x 410 x 314	314	2665	1024	6.5	4.05	339	130	392	198	51177	46.9
W 360 x 410 x 287	287	2412	932	6.5	4.04	312	119	358	181	45821	36.8
W 360 x 410 x 262	262	2165	842	6.4	4.01	284	107	324	164	40752	28.2
W 360 x 410 x 237	237	1910	746	6.4	3.98	255	95.9	289	146	35337	21.0
W 360 x 410 x 216	216	1726	679	6.3	3.97	234	87.5	263	133	31708	16.3
W 360 x 370 x 196	196	1546	549	6.3	3.74	211	74.6	237	114	25430	13.3
W 360 x 370 x 179	179	1397	497	6.2	3.72	193	67.7	215	103	22787	10.19

American Wide Flange Beams

ASTM Sizes

Dimensions: ASTM A6 / A6M

Tolerances: ASTM A6 / A6M



PRODUCT		DIMENSIONS						
Designation Section size (Imperial)	Mass per feet	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	lbs/f	Inch	Inch	Inch	Inch	Inch	Inch	Inch ²
W 14 x 14.5 x 109	109	14.33	14.61	0.52	0.86	0.94	10.7	32.4
W 14 x 14.5 x 99	99	14.17	14.57	0.48	0.78	0.94	10.7	29.6
W 14 x 14.5 x 90	90	14.02	14.53	0.44	0.71	0.94	10.7	26.9
W 14 x 10 x 82	82	14.29	10.12	0.51	0.85	0.94	10.7	24.5
W 14 x 10 x 74	74	14.17	10.08	0.45	0.78	0.94	10.7	22.2
W 14 x 10 x 68	68	14.06	10.04	0.41	0.72	0.94	10.7	20.4
W 14 x 10 x 61	61	13.90	10.00	0.37	0.65	0.94	10.7	18.4
W 14 x 8 x 53	53	13.94	8.07	0.37	0.66	0.94	10.7	16.1
W 14 x 8 x 48	48	13.78	8.03	0.34	0.59	0.94	10.7	14.6
W 14 x 8 x 43	43	13.66	7.99	0.30	0.53	0.94	10.7	13.1
W 14 x 6.75 x 38	38	14.09	6.77	0.31	0.52	0.55	12.0	11.3
W 14 x 6.75 x 34	34	13.98	6.73	0.28	0.46	0.55	12.0	10.1
W 14 x 6.75 x 30	30	13.86	6.73	0.27	0.39	0.55	12.0	9.01
W 14 x 5 x 26	26	13.90	5.04	0.26	0.42	0.55	12.0	7.85
W 14 x 5 x 22	22	13.74	5.00	0.23	0.33	0.55	12.0	6.59
W 12 x 12 x 336 *	336	16.81	13.39	1.78	2.96	0.71	9.5	98.9
W 12 x 12 x 305 *	305	16.34	13.23	1.63	2.70	0.71	9.5	89.8
W 12 x 12 x 279 *	279	15.87	13.15	1.53	2.47	0.71	9.5	82.1
W 12 x 12 x 252 *	252	15.39	12.99	1.39	2.25	0.71	9.5	74.1
W 12 x 12 x 230 *	230	15.04	12.91	1.28	2.07	0.71	9.5	67.9
W 12 x 12 x 210	210	14.72	12.80	1.18	1.90	0.71	9.5	62.0
W 12 x 12 x 190	190	14.37	12.68	1.06	1.74	0.71	9.5	56.0
W 12 x 12 x 170	170	14.02	12.56	0.96	1.56	0.71	9.5	50.1
W 12 x 12 x 152	152	13.70	12.48	0.87	1.40	0.71	9.5	44.9
W 12 x 12 x 136	136	13.43	12.40	0.79	1.25	0.71	9.5	40.1
W 12 x 12 x 120	120	13.11	12.32	0.71	1.11	0.71	9.5	35.4
W 12 x 12 x 106	106	12.87	12.20	0.61	0.99	0.71	9.5	31.2
W 12 x 12 x 96	96	12.72	12.17	0.55	0.90	0.71	9.5	28.4

* On agreement subject to minimum quantity and delivery condition.



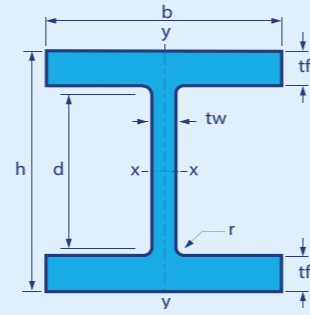
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size (Metric)	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x ix	Axis y-y iy	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl,x}	Axis y-y W _{pl,y}	H x10 ⁹	J
	kg/m	Inch ⁴	Inch ⁴	Inch	Inch	Inch ³	Inch ³	Inch ³	Inch ³	Inch ⁴	Inch ⁴
W 360 x 370 x 162	162	1255	446	6.2	3.71	175	61.1	194	92.8	20227	7.69
W 360 x 370 x 147	147	1129	402	6.2	3.69	159	55.2	176	83.8	18010	5.89
W 360 x 370 x 134	134	1014	362	6.1	3.67	145	49.9	159	75.7	16031	4.50
W 360 x 250 x 122	122	895	148	6.0	2.46	125	29.2	141	44.9	6658	5.65
W 360 x 250 x 110	110	812	134	6.0	2.46	115	26.6	128	40.8	5992	4.31
W 360 x 250 x 101	101	741	122	6.0	2.44	105	24.3	118	37.2	5401	3.41
W 360 x 250 x 91	91.0	658	108	6.0	2.42	94.7	21.6	105	33.0	4725	2.53
W 360 x 200 x 79	79.0	561	58.2	5.9	1.90	80.5	14.4	90.3	22.3	2553	2.28
W 360 x 200 x 72	72.0	500	51.5	5.9	1.88	72.6	12.8	81.0	19.8	2231	1.73
W 360 x 200 x 64	64.0	445	45.4	5.8	1.86	65.2	11.4	72.5	17.5	1949	1.29
W 360 x 170 x 58	58.0	391	26.7	5.9	1.54	55.4	7.9	62.4	12.2	1230	0.86
W 360 x 170 x 51	51.0	344	23.3	5.8	1.52	49.3	6.9	55.3	10.7	1061	0.62
W 360 x 170 x 44.6	44.6	297	19.7	5.7	1.48	42.9	5.8	48.3	9.1	890	0.43
W 360 x 130 x 39.0	39.0	251	9.0	5.7	1.07	36.1	3.6	41.2	5.6	408	0.40
W 360 x 130 x 32.9	32.9	204	7.0	5.6	1.03	29.6	2.8	33.9	4.4	313	0.24
W 310 x 310 x 500 *	500	4060	1187	6.4	3.46	483	177	603	274	56715	251
W 310 x 310 x 454 *	454	3558	1048	6.3	3.42	436	158	539	244	48492	191
W 310 x 310 x 415 *	415	3125	939	6.2	3.38	394	143	483	220	41978	147
W 310 x 310 x 375 *	375	2713	826	6.1	3.34	353	127	428	196	35538	111
W 310 x 310 x 342 *	342	2418	745	6.0	3.31	322	115	387	177	31249	86.5
W 310 x 310 x 313	313	2155	666	5.9	3.28	293	104	349	160	27291	66.8
W 310 x 310 x 283	283	1894	591	5.8	3.25	264	93.2	312	143	23525	50.3
W 310 x 310 x 253	253	1643	516	5.7	3.21	234	82.1	275	126	19968	36.5
W 310 x 310 x 226	226	1435	455	5.7	3.18	209	72.9	243	111	17173	26.6
W 310 x 310 x 202	202	1252	399	5.6	3.15	187	64.3	215	98.2	14744	19.2
W 310 x 310 x 179	179	1073	345	5.5	3.12	164	56.1	187	85.6	12429	13.3
W 310 x 310 x 158	158	932	300	5.5	3.10	145	49.1	164	74.8	10575	9.35
W 310 x 310 x 143	143	839	271	5.4	3.09	132	44.5	148	67.7	9441	7.10

American Wide Flange Beams

ASTM Sizes

Dimensions: ASTM A6 / A6M

Tolerances: ASTM A6 / A6M



PRODUCT		DIMENSIONS						
Designation Section size (Imperial)	Mass per feet	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	lbs/f	Inch	Inch	Inch	Inch	Inch	Inch	Inch ²
W 12 x 12 x 87	87	12.52	12.13	0.52	0.81	0.71	9.5	25.7
W 12 x 12 x 79	79	12.36	12.09	0.47	0.74	0.71	9.5	23.3
W 12 x 12 x 72	72	12.24	12.05	0.43	0.67	0.71	9.5	21.2
W 12 x 12 x 65	65	12.13	12.01	0.39	0.61	0.71	9.5	19.2
W 12 x 10 x 58	58	12.20	10.00	0.36	0.64	0.71	9.5	17.2
W 12 x 10 x 53	53	12.05	10.00	0.35	0.57	0.71	9.5	15.7
W 12 x 8 x 50	50	12.20	8.07	0.37	0.64	0.71	9.5	14.8
W 12 x 8 x 45	45	12.05	8.03	0.33	0.57	0.71	9.5	13.3
W 12 x 8 x 40	40	11.93	7.99	0.30	0.52	0.71	9.5	11.9
W 12 x 6.5 x 35	35	12.48	6.57	0.30	0.52	0.39	10.7	10.4
W 12 x 6.5 x 30	30	12.32	6.54	0.26	0.44	0.39	10.7	8.87
W 12 x 6.5 x 26	26	12.20	6.50	0.23	0.38	0.39	10.7	7.71
W 10 x 10 x 112	112	11.38	10.43	0.76	1.25	0.71	7.5	33.3
W 10 x 10 x 100	100	11.10	10.35	0.68	1.12	0.71	7.4	29.6
W 10 x 10 x 88	88	10.83	10.28	0.61	0.99	0.71	7.4	26.1
W 10 x 10 x 77	77	10.59	10.20	0.53	0.87	0.71	7.4	22.9
W 10 x 10 x 68	68	10.39	10.12	0.47	0.77	0.71	7.4	20.2
W 10 x 10 x 60	60	10.24	10.08	0.42	0.68	0.71	7.5	17.9
W 10 x 10 x 54	54	10.08	10.04	0.37	0.61	0.71	7.4	16.0
W 10 x 10 x 49	49	9.96	10.00	0.34	0.56	0.71	7.4	14.6
W 10 x 8 x 45	45	10.12	8.03	0.35	0.62	0.71	7.5	13.5
W 10 x 8 x 39	39	9.92	7.99	0.31	0.53	0.71	7.4	11.7
W 10 x 8 x 33	33	9.72	7.95	0.29	0.43	0.71	7.4	9.90
W 10 x 5.75 x 30	30	10.47	5.83	0.30	0.51	0.39	8.7	8.92
W 10 x 5.75 x 26	26	10.31	5.79	0.26	0.44	0.39	8.6	7.69
W 10 x 5.75 x 22	22	10.16	5.75	0.24	0.36	0.39	8.7	6.52

* On agreement subject to minimum quantity and delivery condition.
Dimensions as per ESI standard.



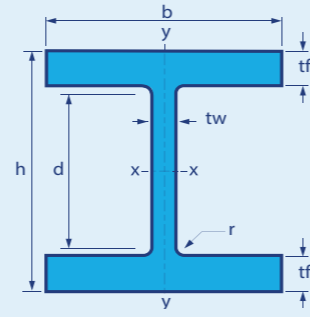
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size (Metric)	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x ix	Axis y-y iy	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl,x}	Axis y-y W _{pl,y}	H x10 ⁹	J
	kg/m	Inch ⁴	Inch ⁴	Inch	Inch	Inch ³	Inch ³	Inch ³	Inch ³	Inch ⁴	Inch ⁴
W 310 x 310 x 129	129	743	241	5.4	3.06	119	39.8	133	60.5	8260	5.31
W 310 x 310 x 117	117	665	217	5.3	3.05	108	35.9	120	54.5	7321	4.00
W 310 x 310 x 107	107	599	195	5.3	3.03	97.9	32.4	108	49.2	6533	3.05
W 310 x 310 x 97	97.0	538	175	5.3	3.02	88.7	29.2	97.8	44.3	5804	2.29
W 310 x 250 x 86	86.0	480	107	5.3	2.50	78.7	21.4	87.2	32.6	3575	2.17
W 310 x 250 x 79	79.0	428	95.9	5.2	2.47	71.1	19.2	78.5	29.2	3152	1.65
W 310 x 200 x 74	74.0	399	56.3	5.2	1.95	65.4	14.0	73.2	21.4	1880	1.87
W 310 x 200 x 67	67.0	352	49.7	5.1	1.93	58.5	12.4	65.2	19.0	1633	1.37
W 310 x 200 x 60	60.0	313	44.0	5.1	1.92	52.4	11.0	58.1	16.8	1429	1.00
W 310 x 165 x 52	52.0	286	24.7	5.2	1.54	45.9	7.5	51.4	11.5	880	0.77
W 310 x 165 x 44.5	44.5	240	20.5	5.2	1.52	39.0	6.3	43.5	9.6	724	0.48
W 310 x 165 x 38.7	38.7	206	17.5	5.2	1.51	33.8	5.4	37.6	8.2	610	0.32
W 250 x 250 x 167	167	725	237	4.7	2.67	127	45.5	149	69.6	6074	15.9
W 250 x 250 x 149	149	627	207	4.6	2.64	113	40.0	131	61.2	5155	11.4
W 250 x 250 x 131	131	536	179	4.5	2.62	99.0	34.8	114	53.2	4324	7.93
W 250 x 250 x 115	115	459	154	4.5	2.59	86.6	30.2	98.5	46.0	3632	5.43
W 250 x 250 x 101	101	397	133	4.4	2.57	76.4	26.4	86.1	40.2	3084	3.81
W 250 x 250 x 89	89.0	346	116	4.4	2.55	67.7	23.1	75.7	35.1	2653	2.68
W 250 x 250 x 80	80.0	306	104	4.4	2.54	60.7	20.7	67.4	31.4	2320	1.96
W 250 x 250 x 73	73.0	275	93	4.3	2.53	55.2	18.7	61.0	28.3	2059	1.51
W 250 x 200 x 67	67.0	253	53.5	4.3	1.99	50.0	13.3	55.9	20.4	1204	1.63
W 250 x 200 x 58	58.0	214	45.3	4.3	1.97	43.1	11.3	47.9	17.3	997	1.09
W 250 x 200 x 49.1	49.1	174	36.4	4.2	1.92	35.7	9.1	39.6	14.0	784	0.68
W 250 x 145 x 44.8	44.8	172	16.9	4.4	1.38	32.8	5.8	37.0	8.9	419	0.65
W 250 x 145 x 38.5	38.5	146	14.3	4.4	1.36	28.2	4.9	31.6	7.6	347	0.42
W 250 x 145 x 32.7	32.7	119	11.4	4.3	1.32	23.4	4.0	26.1	6.1	272	0.25

American Wide Flange Beams

ASTM Sizes

Dimensions: ASTM A6 / A6M

Tolerances: ASTM A6 / A6M



PRODUCT		DIMENSIONS						
Designation Section size (Imperial)	Mass per feet	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	lbs/f	Inch	Inch	Inch	Inch	Inch	Inch	Inch ²
W 8 x 8 x 86 *	67	9.50	8.42	0.71	1.19	0.55	6.0	25.3
W 8 x 8 x 76 *	58	9.25	8.35	0.64	1.06	0.55	6.0	22.5
W 8 x 8 x 67	67	9.02	8.27	0.57	0.93	0.55	6.0	19.8
W 8 x 8 x 58	58	8.74	8.23	0.51	0.81	0.55	6.0	17.3
W 8 x 8 x 48	48	8.50	8.11	0.40	0.69	0.55	6.0	14.2
W 8 x 8 x 40	40	8.27	8.07	0.36	0.56	0.55	6.0	11.8
W 8 x 8 x 35	35	8.11	8.03	0.31	0.50	0.55	6.0	10.4
W 8 x 8 x 31	31	7.99	7.99	0.28	0.43	0.55	6.0	9.20

* On agreement subject to minimum quantity and delivery condition.
Dimensions as per ESI standard.



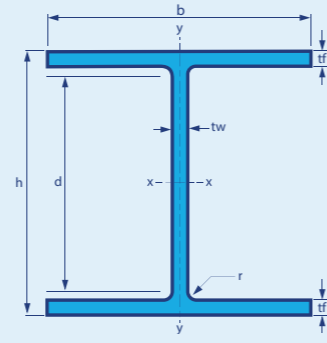
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size (Metric)	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x ix	Axis y-y iy	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl x}	Axis y-y W _{pl y}	H x 10 ⁹	J
	kg/m	Inch ⁴	Inch ⁴	Inch	Inch	Inch ³	Inch ³	Inch ³	Inch ³	Inch ⁴	Inch ⁴
W 200 x 200 x 127 *	128	372	118	3.8	2.16	78.3	28.1	93.0	43.1	2041	10.7
W 200 x 200 x 113 *	114	321	103	3.8	2.14	69.4	24.7	81.5	37.8	1725	7.66
W 200 x 200 x 100	100	274	88.0	3.7	2.11	60.7	21.3	70.5	32.6	1435	5.27
W 200 x 200 x 86	86.0	229	75.4	3.6	2.09	52.4	18.3	60.3	28.0	1184	3.54
W 200 x 200 x 71	71.0	186	61.0	3.6	2.07	43.6	15.0	49.4	22.9	931	2.07
W 200 x 200 x 59	59.0	148	49.0	3.5	2.03	35.9	12.2	40.3	18.5	728	1.20
W 200 x 200 x 52	52.0	128	42.9	3.5	2.03	31.6	10.7	35.2	16.2	621	0.84
W 200 x 200 x 46.1	46.1	111	36.9	3.5	2.00	27.7	9.2	30.7	14.0	526	0.58

American Wide Flange Bearing Piles

ASTM Sizes

Dimensions: ASTM A6 / A6M

Tolerances: ASTM A6 / A6M



PRODUCT		DIMENSIONS						
Designation Section size (Imperial)	Mass per feet	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	lbs/ft	Inch	Inch	Inch	Inch	Inch	Inch	Inch ²
HP 18 x 204 *	204	18.27	18.11	1.13	1.13	0.94	14.1	59.6
HP 18 x 181 *	181	17.99	17.99	1.00	1.00	0.94	14.1	52.7
HP 18 x 157 *	157	17.76	17.87	0.87	0.87	0.94	14.1	45.8
HP 18 x 135 *	135	17.52	17.76	0.75	0.75	0.94	14.1	39.5
HP 16 x 183	183	16.50	16.26	1.13	1.13	0.94	12.4	53.4
HP 16 x 162	162	16.26	16.14	1.00	1.00	0.94	12.4	47.3
HP 16 x 141	141	15.98	15.98	0.87	0.87	0.94	12.3	41.2
HP 16 x 121	121	15.75	15.87	0.75	0.75	0.94	12.4	35.3
HP 16 x 101	101	15.51	15.75	0.63	0.63	0.94	12.4	29.4
HP 16 x 88	88	15.31	15.67	0.54	0.54	0.94	12.3	25.3
HP 14 x 117	117	14.21	14.88	0.80	0.80	0.94	10.7	34.8
HP 14 x 102	102	14.02	14.80	0.70	0.70	0.94	10.7	30.5
HP 14 x 89	89	13.82	14.69	0.61	0.61	0.94	10.7	26.5
HP 14 x 73	73	13.62	14.57	0.50	0.50	0.94	10.7	21.8
HP 12 x 89 *	89	12.36	12.32	0.72	0.72	0.71	9.5	26.1
HP 12 x 84	84	12.28	12.28	0.69	0.69	0.71	9.5	24.7
HP 12 x 74	74	12.13	12.20	0.61	0.61	0.71	9.5	21.9
HP 12 x 63	63	11.93	12.13	0.52	0.52	0.71	9.5	18.6
HP 12 x 53	53	11.77	12.05	0.43	0.43	0.71	9.5	15.6
HP 10 x 57	57	10.00	10.24	0.57	0.57	0.71	7.4	17.1
HP 10 x 42	42	9.69	10.08	0.41	0.42	0.71	7.4	12.6
HP 8 x 36	36	8.03	8.15	0.44	0.44	0.55	6.0	10.7
HP 8 x 29	29	7.87	8.07	0.35	0.35	0.55	6.1	8.5

* On agreement subject to minimum quantity and delivery condition.

Dimensions as per ESI standard.

HP IMPERIAL

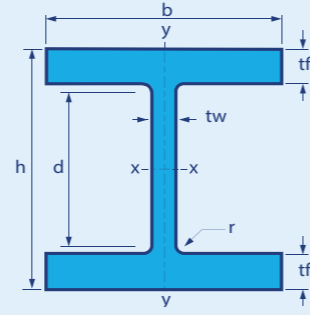
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size (Metric)	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x ix	Axis y-y iy	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl,x}	Axis y-y W _{pl,y}	H x10 ⁹	J
	kg/m	Inch ⁴	Inch ⁴	Inch	Inch	Inch ³	Inch ³	Inch ³	Inch ³	Inch ⁶	Inch ⁴
HP 460 x 304 *	304	3432	1117	7.59	4.33	376	123	428	190	81885	29.9
HP 460 x 269 *	269	2988	972	7.53	4.29	332	108	376	166	70070	21.1
HP 460 x 234 *	234	2564	829	7.48	4.26	289	92.8	324	143	59028	14.1
HP 460 x 202 *	202	2182	702	7.43	4.22	249	79.1	278	121	49313	9.32
HP 410 x 272	272	2474	809	6.81	3.89	300	99.5	344	154	47646	27.3
HP 410 x 242	242	2160	703	6.76	3.85	266	87.1	302	134	40807	19.3
HP 410 x 211	211	1843	596	6.69	3.81	231	74.6	261	115	33957	13.1
HP 410 x 181	181	1560	501	6.64	3.77	198	63.2	222	97.1	28142	8.54
HP 410 x 151	151	1281	408	6.60	3.72	165	51.8	184	79.4	22572	5.14
HP 410 x 131	131	1089	346	6.56	3.70	142	44.2	157	67.6	18876	3.46
HP 360 x 174	174	1238	442	5.97	3.56	174	59.4	197	91.4	19833	9.64
HP 360 x 152	152	1071	382	5.92	3.54	153	51.6	172	79.2	16877	6.69
HP 360 x 132	132	917	325	5.88	3.50	133	44.2	148	67.8	14131	4.59
HP 360 x 108	108	745	260	5.84	3.45	109	35.7	121	54.6	11169	2.74
HP 310 x 132 *	132	693	225	5.16	2.94	112	36.5	127	56.3	7613	5.53
HP 310 x 125	125	653	212	5.14	2.93	106	34.5	120	53.2	7116	4.78
HP 310 x 110	110	572	185	5.11	2.91	94.3	30.3	106	46.7	6130	3.40
HP 310 x 93	93	475	153	5.06	2.88	79.7	25.3	89.0	38.8	4991	2.14
HP 310 x 79	79	394	126	5.03	2.85	67.0	21.0	74.3	32.1	4056	1.33
HP 250 x 85	85	299	102	4.19	2.44	59.9	19.8	67.7	30.6	2254	2.43
HP 250 x 62	62	214	72.0	4.12	2.39	44.2	14.3	49.3	21.9	1542	1.06
HP 200 x 53	53	121	40.2	3.37	1.94	30.1	9.9	34.1	15.2	577.5	0.93
HP 200 x 43	43	94.9	31.1	3.34	1.91	24.1	7.7	27.0	11.8	438.9	0.50

American Wide Flange Beams

ASTM Sizes

Dimensions: ASTM A6 / A6M

Tolerances: ASTM A6 / A6M



PRODUCT		DIMENSIONS						
Designation Section size (Metric)	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
W 1000 x 400 x 642 *	642	1048	412	34.0	60.0	30.0	868.0	817.6
W 1000 x 400 x 591 *	591	1040	409	31.0	55.9	30.0	868.2	752.7
W 1000 x 400 x 554	554	1032	408	29.5	52.0	30.0	868.0	705.8
W 1000 x 400 x 539	539	1030	407	28.4	51.1	30.0	867.8	687.2
W 1000 x 400 x 483	483	1020	404	25.4	46.0	30.0	868.0	615.1
W 1000 x 400 x 443	443	1012	402	23.6	41.9	30.0	868.2	563.7
W 1000 x 400 x 412	412	1008	402	21.1	40.0	30.0	868.0	525.1
W 1000 x 400 x 371	371	1000	400	19.0	36.1	30.0	867.8	472.8
W 1000 x 400 x 321	321	990	400	16.5	31.0	30.0	868.0	408.8
W 1000 x 400 x 296	296	982	400	16.5	27.1	30.0	867.8	377.6
W 1000 x 300 x 584 *	584	1056	314	36.0	64.0	30.0	868.0	743.7
W 1000 x 300 x 494	494	1036	309	31.0	54.0	30.0	868.0	629.1
W 1000 x 300 x 486	486	1036	308	30.0	54.1	30.0	867.8	619.3
W 1000 x 300 x 438	438	1026	305	26.9	49.0	30.0	868.0	556.3
W 1000 x 300 x 415	415	1020	304	26.0	46.0	30.0	868.0	528.7
W 1000 x 300 x 393	393	1016	303	24.4	43.9	30.0	868.2	500.2
W 1000 x 300 x 350	350	1008	302	21.1	40.0	30.0	868.0	445.1
W 1000 x 300 x 314	314	1000	300	19.1	35.9	30.0	868.2	400.4
W 1000 x 300 x 272	272	990	300	16.5	31.0	30.0	868.0	346.8
W 1000 x 300 x 249	249	980	300	16.5	26.0	30.0	868.0	316.8
W 1000 x 300 x 222	222	970	300	16.0	21.1	30.0	867.8	282.8
W 920 x 420 x 787 *	787	1011	437	40.9	73.9	30.0	803.2	1006.7
W 920 x 420 x 725 *	725	999	434	38.1	68.1	30.0	802.8	927.6
W 920 x 420 x 656 *	656	987	431	34.5	62.0	30.0	803.0	839.9
W 920 x 420 x 588 *	588	975	427	31.0	55.9	30.0	803.2	752.7
W 920 x 420 x 537 *	537	965	425	28.4	51.1	30.0	802.8	687.1
W 920 x 420 x 491 *	491	957	422	25.9	47.0	30.0	803.0	627.9
W 920 x 420 x 449 *	449	948	423	24.0	42.7	30.0	802.6	576.0
W 920 x 420 x 420 *	420	943	422	22.5	39.9	30.0	803.2	538.7
W 920 x 420 x 390 *	390	936	420	21.3	36.6	30.0	802.8	498.9

* On agreement subject to minimum quantity and delivery condition.



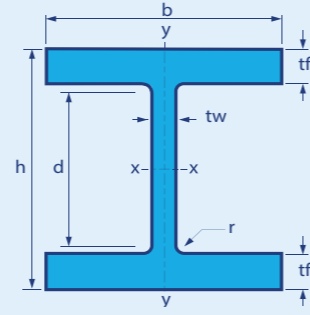
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size (Imperial)	Mass per foot	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x ix	Axis y-y iy	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl x}	Axis y-y W _{pl y}	H x 10 ⁹	J
	lbs/ft	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
	W 40 x 16 x 431 *	431	1450589	70284	42.12	9.27	27683	3412	32097	5379	170665
W 40 x 16 x 397 *	397	1331036	64014	42.05	9.22	25597	3130	29530	4916	154330	5927
W 40 x 16 x 372	372	1232372	59098	41.79	9.15	23883	2897	27496	4547	141327	4860
W 40 x 16 x 362	362	1202538	57632	41.83	9.16	23350	2832	26824	4436	137553	4546
W 40 x 16 x 324	324	1067483	50712	41.66	9.08	20931	2510	23923	3919	119897	3311
W 40 x 16 x 297	297	966512	45498	41.41	8.98	19101	2264	21777	3529	106737	2545
W 40 x 16 x 277	277	910477	43408	41.64	9.09	18065	2160	20461	3349	101456	2134
W 40 x 16 x 249	249	813732	38582	41.49	9.03	16275	1929	18361	2984	89442	1575
W 40 x 16 x 215	215	696446	33121	41.27	9.00	14070	1656	15797	2555	76027	1021
W 40 x 16 x 199	199	620314	28961	40.53	8.76	12634	1448	14255	2243	65895	762.6
W 40 x 12 x 392 *	392	1246071	33433	40.93	6.70	23600	2130	28039	3475	81242	7230
W 40 x 12 x 331	331	1027959	26824	40.42	6.53	19845	1736	23413	2818	64015	4433
W 40 x 12 x 327	327	1019883	26593	40.58	6.55	19689	1727	23171	2792	63500	4319
W 40 x 12 x 294	294	909177	23355	40.43	6.48	17723	1531	20746	2463	55293	3190
W 40 x 12 x 278	278	853121	21707	40.17	6.41	16728	1428	19571	2298	51084	2713
W 40 x 12 x 264	264	807688	20496	40.18	6.40	15899	1353	18539	2168	48084	2332
W 40 x 12 x 235	235	722965	18460	40.30	6.44	14345	1223	16589	1941	43015	1707
W 40 x 12 x 211	211	644211	16232	40.11	6.37	12884	1082	14851	1713	37540	1252
W 40 x 12 x 183	183	553846	14004	39.96	6.35	11189	934	12824	1470	32074	822.4
W 40 x 12 x 167	167	481079	11754	38.97	6.09	9818	784	11347	1245	26621	584.4
W 40 x 12 x 149	149	407667	9546	37.97	5.81	8405	636	9803	1020	21374	406.0
W 36 x 16.5 x 529 *	529	1654080	103338	40.54	10.13	32722	4729	38210	7438	225657	14004
W 36 x 16.5 x 487 *	487	1500746	93234	40.22	10.03	30045	4296	34932	6747	201007	11030
W 36 x 16.5 x 441 *	441	1343643	83074	40.00	9.95	27227	3855	31470	6034	176968	8303
W 36 x 16.5 x 395 *	395	1189522	72789	39.75	9.83	24400	3409	28041	5321	153183	6072
W 36 x 16.5 x 361 *	361	1073828	65580	39.53	9.77	22255	3086	25461	4805	136513	4657
W 36 x 16.5 x 330 *	330	974624	59026	39.40	9.70	20368	2797	23200	4345	121873	3608
W 36 x 16.5 x 302 *	302	883004	53993	39.15	9.68	18629	2553	21144	3959	110363	2764
W 36 x 16.5 x 282 *	282	821630	50085	39.05	9.64	17426	2374	19726	3676	101899	2269
W 36 x 16.5 x 262 *	262	750023	45289	38.77	9.53	16026	2157	18118	3339	91395	1795

American Wide Flange Beams

ASTM Sizes

Dimensions: ASTM A6 / A6M

Tolerances: ASTM A6 / A6M



PRODUCT		DIMENSIONS						
Designation Section size (Metric)	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
W 920 x 420 x 368 *	368	931	419	20.3	34.3	30.0	802.4	470.2
W 920 x 420 x 344 *	344	927	418	19.3	32.0	30.0	803.0	441.8
W 920 x 420 x 784 *	784	996	437	40.9	73.9	30.0	788.2	1000.5
W 920 x 420 x 722 *	722	984	434	38.1	68.1	30.0	787.8	921.8
W 920 x 420 x 653 *	653	972	431	34.5	62.0	30.0	788.0	834.7
W 920 x 420 x 585	585	960	427	31.0	55.9	30.0	788.2	748.1
W 920 x 420 x 534	534	950	425	28.4	51.1	30.0	787.8	682.9
W 920 x 420 x 488	488	942	422	25.9	47.0	30.0	788.0	624.0
W 920 x 420 x 446	446	933	423	24.0	42.7	30.0	787.6	572.4
W 920 x 420 x 417	417	928	422	22.5	39.9	30.0	788.2	535.3
W 920 x 420 x 387	387	921	420	21.3	36.6	30.0	787.8	495.7
W 920 x 420 x 365	365	916	419	20.3	34.3	30.0	787.4	467.2
W 920 x 420 x 342	342	912	418	19.3	32.0	30.0	788.0	438.9
W 920 x 310 x 576 *	576	993	322	36.1	65.0	30.0	803.0	737.9
W 920 x 310 x 521 *	521	981	319	33.0	58.9	30.0	803.2	668.4
W 920 x 310 x 474 *	474	971	316	30.0	54.1	30.0	802.8	608.5
W 920 x 310 x 425 *	425	961	313	26.9	49.0	30.0	803.0	546.6
W 920 x 310 x 381	381	951	310	24.4	43.9	30.0	803.2	490.5
W 920 x 310 x 345	345	943	308	22.1	39.9	30.0	803.2	444.3
W 920 x 310 x 313	313	932	309	21.1	34.5	30.0	803.0	403.0
W 920 x 310 x 289	289	927	308	19.4	32.0	30.0	803.0	372.3
W 920 x 310 x 271	271	923	307	18.4	30.0	30.0	803.0	350.7
W 920 x 310 x 253	253	919	306	17.3	27.9	30.0	803.2	327.8
W 920 x 310 x 238	238	915	305	16.5	25.9	30.0	803.2	308.1
W 920 x 310 x 223	223	911	304	15.9	23.9	30.0	803.2	290.3
W 920 x 310 x 201	201	903	304	15.2	20.1	30.0	802.8	261.1
W 840 x 400 x 576 *	576	913	411	32.0	57.9	24.0	749.2	736.0
W 840 x 400 x 527 *	527	903	409	29.5	53.1	24.0	748.8	674.4
W 840 x 400 x 473 *	473	893	406	26.4	48.0	24.0	749.0	605.1

* On agreement subject to minimum quantity and delivery condition.
Dimensions as per ESI standard.



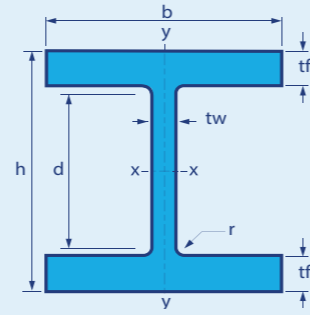
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size (Imperial)	Mass per foot	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x ix	Axis y-y iy	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl x}	Axis y-y W _{pl y}	H x10 ⁹	J
	lbs/ft	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
	W 36 x 16.5 x 247 *	247	700502	42136	38.60	9.47	15048	2011	16990	3113	84532
W 36 x 16.5 x 231 *	231	653271	39027	38.45	9.40	14094	1867	15893	2889	78003	1243
W 36 x 16.5 x 527 *	527	1597330	103330	39.96	10.16	32075	4729	37457	7432	218491	13970
W 36 x 16.5 x 485 *	485	1448869	93227	39.64	10.06	29449	4296	34238	6741	194581	11003
W 36 x 16.5 x 439 *	439	1296910	83069	39.42	9.98	26685	3855	30842	6029	171275	8283
W 36 x 16.5 x 393	395	1147883	72786	39.17	9.86	23914	3409	27478	5317	148224	6057
W 36 x 16.5 x 359	391	1036022	65577	38.95	9.80	21811	3086	24947	4802	132068	4645
W 36 x 16.5 x 328	328	940178	59024	38.81	9.73	19961	2797	22730	4342	117888	3599
W 36 x 16.5 x 300	300	851611	53991	38.57	9.71	18255	2553	20713	3957	106736	2757
W 36 x 16.5 x 280	280	792344	50084	38.47	9.67	17076	2374	19323	3674	98542	2264
W 36 x 16.5 x 260	260	723126	45288	38.19	9.56	15703	2157	17745	3338	88372	1790
W 36 x 16.5 x 245	245	675281	42135	38.02	9.50	14744	2011	16638	3111	81727	1497
W 36 x 16.5 x 230	230	629679	39026	37.88	9.43	13809	1867	15563	2887	75411	1240
W 36 x 12 x 387 *	387	1110003	36557	38.79	7.04	22357	2271	26473	3670	77869	7530
W 36 x 12 x 350 *	350	990701	32169	38.50	6.94	20198	2017	23801	3250	67738	5649
W 36 x 12 x 318 *	318	893961	28685	38.33	6.87	18413	1815	21586	2912	59799	4345
W 36 x 12 x 286 *	286	796460	25216	38.17	6.79	16576	1611	19324	2572	52072	3211
W 36 x 12 x 256	256	705063	21932	37.91	6.69	14828	1415	17218	2252	44838	2340
W 36 x 12 x 232	232	633876	19534	37.77	6.63	13444	1268	15543	2012	39617	1762
W 36 x 12 x 210	210	556524	17058	37.16	6.51	11943	1104	13825	1756	34163	1263
W 36 x 12 x 194	194	512766	15659	37.11	6.49	11063	1017	12761	1612	31206	1007.5
W 36 x 12 x 182	182	479860	14534	36.99	6.44	10398	947	11979	1499	28842	845.4
W 36 x 12 x 170	170	445746	13381	36.88	6.39	9701	875	11159	1383	26449	693.8
W 36 x 12 x 160	160	414703	12300	36.69	6.32	9065	807	10425	1275	24204	576.5
W 36 x 12 x 150	150	385123	11239	36.42	6.22	8455	739	9735	1170	22017	481.0
W 36 x 12 x 135	135	333491	9455	35.74	6.02	7386	622	8552	989.7	18341	349.1
W 33 x 15.75 x 387 *	387	1014091	67238	37.12	9.56	22214	3272	25627	5105	122469	6303
W 33 x 15.75 x 354 *	354	917396	60741	36.88	9.49	20319	2970	23335	4625	109342	4881
W 33 x 15.75 x 318 *	318	815515	53679	36.71	9.42	18265	2644	20854	4104	95570	3585

American Wide Flange Beams

ASTM Sizes

Dimensions: ASTM A6 / A6M

Tolerances: ASTM A6 / A6M



PRODUCT		DIMENSIONS						
Designation Section size (Metric)	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
W 840 x 400 x 433 *	433	885	404	24.4	43.9	24.0	749.2	554.2
W 840 x 400 x 392 *	392	877	401	22.1	39.9	24.0	749.2	501.1
W 840 x 400 x 359 *	359	868	403	21.1	35.6	24.0	748.8	460.0
W 840 x 400 x 329 *	329	862	401	19.7	32.4	24.0	749.2	421.8
W 840 x 400 x 299 *	299	855	400	18.2	29.2	24.0	748.6	383.5
W 840 x 295 x 251	251	859	292	17.0	31.0	24.0	749.0	321.5
W 840 x 295 x 226	226	851	294	16.1	26.8	24.0	749.4	290.9
W 840 x 295 x 210	210	846	293	15.4	24.4	24.0	749.2	270.7
W 840 x 295 x 193	193	840	292	14.7	21.7	24.0	748.6	248.8
W 840 x 295 x 176	176	835	292	14.0	18.8	24.0	749.4	226.4
W 760 x 381 x 582 *	582	843	396	34.5	62.0	24.0	671.0	744.0
W 760 x 381 x 531 *	531	833	393	31.5	56.9	24.0	671.2	678.7
W 760 x 381 x 484	484	823	390	29.0	52.1	24.0	670.8	619.8
W 760 x 381 x 434	434	813	387	25.9	47.0	24.0	671.0	554.9
W 760 x 381 x 389	389	803	385	23.6	41.9	24.0	671.2	497.3
W 760 x 381 x 350	350	795	382	21.1	38.1	24.0	670.8	447.7
W 760 x 381 x 314	314	786	384	19.7	33.4	24.0	671.2	403.1
W 760 x 381 x 284	284	779	382	18.0	30.1	24.0	670.8	364.3
W 760 x 381 x 257	257	773	381	16.6	27.1	24.0	670.8	330.8
W 760 x 265 x 220	220	779	266	16.5	30.0	24.0	671.0	283.2
W 760 x 265 x 196	196	770	268	15.6	25.4	24.0	671.2	253.3
W 760 x 265 x 185	185	766	267	14.9	23.6	24.0	670.8	238.1
W 760 x 265 x 173	173	762	267	14.4	21.6	24.0	670.8	223.8
W 760 x 265 x 161	161	758	266	13.8	19.3	24.0	671.4	206.9
W 760 x 265 x 147	147	753	265	13.2	17.0	24.0	671.0	190.0
W 760 x 265 x 134	134	750	264	11.9	15.5	24.0	671.0	172.3
W 690 x 360 x 548 *	548	772	372	35.1	63.0	24.0	598.0	700.4
W 690 x 360 x 500 *	500	762	369	32.0	57.9	24.0	598.2	639.0
W 690 x 360 x 457	457	752	367	29.5	53.1	24.0	597.8	585.2

* On agreement subject to minimum quantity and delivery condition.



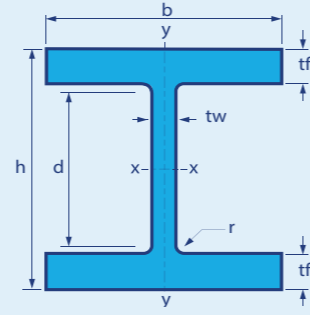
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size (Imperial)	Mass per foot	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x ix	Axis y-y iy	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl x}	Axis y-y W _{pl y}	H x 10 ⁹	J
	lbs/ft	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
	W 33 x 15.75 x 291 *	291	738586	48358	36.51	9.34	16691	2394	18989	3710	85328
W 33 x 15.75 x 263 *	263	661964	42966	36.34	9.26	15096	2143	17099	3313	75119	2070
W 33 x 15.75 x 241 *	241	593930	38910	35.93	9.20	13685	1931	15486	2987	67269	1550
W 33 x 15.75 x 221 *	221	538140	34883	35.72	9.09	12486	1740	14103	2690	59911	1192
W 33 x 15.75 x 201 *	201	482725	31198	35.48	9.02	11292	1560	12727	2409	53101	893.9
W 33 x 11.5 x 169	169	389804	12907	34.82	6.34	9076	884	10389	1386	22048	766.2
W 33 x 11.5 x 152	152	343390	11388	34.36	6.26	8070	775	9248	1217	19277	542.6
W 33 x 11.5 x 141	141	314032	10263	34.06	6.16	7424	701	8515	1101	17262	431.9
W 33 x 11.5 x 130	130	281756	9035	33.65	6.03	6708	619	7711	974.4	15074	330.8
W 33 x 11.5 x 118	118	249690	7828	33.21	5.88	5981	536	6901	846.7	12992	246.3
W 30 x 15 x 391 *	391	863425	64441	34.07	9.31	20485	3255	23809	5086	97852	7392
W 30 x 15 x 357 *	357	778521	57773	33.87	9.23	18692	2940	21603	4583	86679	5691
W 30 x 15 x 326	326	700635	51675	33.62	9.13	17026	2650	19585	4123	76527	4378
W 30 x 15 x 292	292	620721	45524	33.44	9.06	15270	2353	17455	3649	66600	3197
W 30 x 15 x 261	261	547066	39946	33.17	8.96	13626	2075	15505	3214	57712	2300
W 30 x 15 x 235	235	488756	35467	33.04	8.90	12296	1857	13917	2868	50697	1713
W 30 x 15 x 211	211	430740	31578	32.69	8.85	10960	1645	12375	2540	44633	1215
W 30 x 15 x 191	191	384519	28011	32.49	8.77	9872	1467	11111	2261	39210	900.9
W 30 x 15 x 173	173	344927	25018	32.29	8.70	8924	1313	10021	2023	34745	673.3
W 30 x 10.5 x 148	148	281269	9448	31.52	5.78	7221	710	8285	1117	13198	639.7
W 30 x 10.5 x 132	132	243345	8181	31.00	5.68	6321	611	7261	962.4	11295	435.6
W 30 x 10.5 x 124	124	226018	7516	30.81	5.62	5901	563	6778	887.4	10316	361.2
W 30 x 10.5 x 116	116	208886	6879	30.55	5.54	5483	515	6305	813.4	9391	296.5
W 30 x 10.5 x 108	108	189127	6078	30.23	5.42	4990	457	5753	723.1	8259	233.1
W 30 x 10.5 x 99	99	169127	5295	29.84	5.28	4492	400	5197	634.1	7141	181.6
W 30 x 10.5 x 90	90	153458	4771	29.84	5.26	4092	361	4719	571.2	6411	139.0
W 27 x 14 x 368 *	368	674435	54313	31.03	8.81	17472	2920	20435	4569	67928	7248
W 27 x 14 x 336 *	336	607738	48685	30.84	8.73	15951	2639	18541	4118	60092	5594
W 27 x 14 x 307	307	548063	43905	30.60	8.66	14576	2393	16853	3726	53421	4332

American Wide Flange Beams

ASTM Sizes

Dimensions: ASTM A6 / A6M

Tolerances: ASTM A6 / A6M



PRODUCT		DIMENSIONS						
Designation Section size (Metric)	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
W 690 x 360 x 419	419	744	364	26.9	49.0	24.0	598.0	535.4
W 690 x 360 x 384	384	736	362	24.9	45.0	24.0	598.0	491.6
W 690 x 360 x 350	350	728	360	23.1	40.9	24.0	598.2	448.7
W 690 x 360 x 323	323	722	359	21.1	38.1	24.0	597.8	414.8
W 690 x 360 x 289	289	714	356	19.0	34.0	24.0	598.0	369.8
W 690 x 360 x 265	265	706	358	18.4	30.2	24.0	597.6	340.0
W 690 x 360 x 240	240	701	356	16.8	27.4	24.0	598.2	308.6
W 690 x 360 x 217	217	695	355	15.4	24.8	24.0	597.4	280.4
W 690 x 250 x 192	192	702	254	15.5	27.9	24.0	598.2	246.8
W 690 x 250 x 170	170	693	256	14.5	23.6	24.0	597.8	219.4
W 690 x 250 x 152	152	688	254	13.1	21.1	24.0	597.8	196.7
W 690 x 250 x 140	140	684	254	12.4	18.9	24.0	598.2	181.1
W 690 x 250 x 125	125	678	253	11.7	16.3	24.0	597.4	162.9
W 610 x 324 x 551	551	711	347	38.6	69.1	24.0	524.8	705.6
W 610 x 324 x 498	498	699	343	35.1	63.0	24.0	525.0	638.2
W 610 x 324 x 455	455	689	340	32.0	57.9	24.0	525.2	582.1
W 610 x 324 x 415	415	679	338	29.5	53.1	24.0	524.8	532.9
W 610 x 324 x 372	372	669	335	26.4	48.0	24.0	525.0	477.8
W 610 x 324 x 341	341	661	333	24.4	43.9	24.0	525.2	437.2
W 610 x 324 x 307	307	653	330	22.1	39.9	24.0	525.2	395.0
W 610 x 324 x 285	285	647	329	20.6	37.1	24.0	524.8	367.1
W 610 x 324 x 262	262	641	327	19.0	34.0	24.0	525.0	336.2
W 610 x 324 x 241	241	635	329	17.9	31.0	24.0	525.0	311.5
W 610 x 324 x 217	217	628	328	16.5	27.7	24.0	524.6	281.1
W 610 x 324 x 195	195	622	327	15.4	24.4	24.0	525.2	252.8
W 610 x 324 x 174	174	616	325	14.0	21.6	24.0	524.8	225.5
W 610 x 324 x 155	155	611	324	12.7	19.0	24.0	525.0	200.8
W 610 x 230 x 217 *	217	643	234	19.6	35.1	24.0	524.9	281.6
W 610 x 230 x 191 *	191	635	232	17.0	30.9	24.0	525.2	245.5

* On agreement subject to minimum quantity and delivery condition.
Dimensions as per ESI standard.



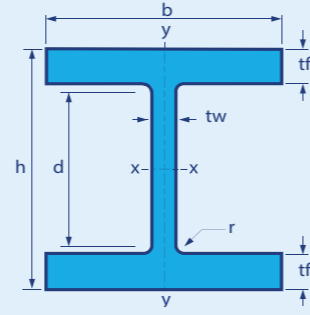
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size (Imperial)	Mass per foot	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x ix	Axis y-y iy	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl x}	Axis y-y W _{pl y}	H x10 ⁹	J
	lbs/ft	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
	W 27 x 14 x 281	281	496897	39510	30.46	8.59	13357	2171	15360	3372	47562
W 27 x 14 x 258	258	450387	35678	30.27	8.52	12239	1971	14011	3057	42470	2631
W 27 x 14 x 235	235	404912	31885	30.04	8.43	11124	1771	12685	2745	37537	2002
W 27 x 14 x 217	217	372546	29444	29.97	8.43	10320	1640	11711	2535	34354	1605
W 27 x 14 x 194	194	327752	25616	29.77	8.32	9181	1439	10370	2220	29555	1149
W 27 x 14 x 178	178	293293	23139	29.37	8.25	8309	1293	9381	1997	26368	861.8
W 27 x 14 x 161	161	264188	20640	29.26	8.18	7537	1160	8481	1789	23372	649.8
W 27 x 14 x 146	146	237295	18521	29.09	8.13	6829	1043	7661	1607	20765	490.4
W 27 x 10 x 129	129	200950	7650	28.53	5.57	5725	602	6552	945.3	8657	496.3
W 27 x 10 x 114	114	172948	6624	28.08	5.49	4991	518	5713	813.5	7393	335.2
W 27 x 10 x 102	102	153610	5783	27.94	5.42	4465	455	5097	714.2	6408	245.2
W 27 x 10 x 94	94	139084	5180	27.71	5.35	4067	408	4644	640.2	5709	190.0
W 27 x 10 x 84	84	121492	4415	27.31	5.21	3584	349	4104	549.3	4816	139.2
W 24 x 12.75 x 370	370	560250	48424	28.18	8.28	15760	2791	18696	4386	49567	8827
W 24 x 12.75 x 335	335	497405	42605	27.92	8.17	14232	2484	16763	3894	42848	6659
W 24 x 12.75 x 306	306	447267	38108	27.72	8.09	12983	2242	15191	3504	37766	5139
W 24 x 12.75 x 279	279	402504	34317	27.48	8.02	11856	2031	13792	3168	33469	3981
W 24 x 12.75 x 250	250	355971	30182	27.29	7.95	10642	1802	12292	2802	28997	2924
W 24 x 12.75 x 229	229	321024	27103	27.10	7.87	9713	1628	11164	2528	25722	2254
W 24 x 12.75 x 207	207	286413	23964	26.93	7.79	8772	1452	10027	2251	22458	1689
W 24 x 12.75 x 192	192	263465	22074	26.79	7.75	8144	1342	9273	2076	20477	1364
W 24 x 12.75 x 176	176	238732	19859	26.65	7.69	7449	1215	8447	1877	18251	1056.3
W 24 x 12.75 x 162	162	218173	18438	26.47	7.69	6872	1121	7768	1731	16781	827.1
W 24 x 12.75 x 146	146	193538	16323	26.24	7.62	6164	995	6945	1536	14677	607.1
W 24 x 12.75 x 131	131	170632	14246	25.98	7.51	5487	871	6172	1345	12695	437.5
W 24 x 12.75 x 117	117	149899	12380	25.78	7.41	4867	762	5460	1175	10916	313.8
W 24 x 12.75 x 104	104	131730	10788	25.61	7.33	4312	666	4826	1026	9437	223.5
W 24 x 9 x 146 *	146	186663	7553	25.75	5.18	5805	645	6743	1024	6936	890.6
W 24 x 9 x 128 *	128	161232	6423	25.63	5.12	5078	555	5857	876.3	5829	605.2

American Wide Flange Beams

ASTM Sizes

Dimensions: ASTM A6 / A6M

Tolerances: ASTM A6 / A6M



PRODUCT		DIMENSIONS						
Designation Section size (Metric)	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
W 610 x 230 x 171 *	171	629	230	15.5	27.9	24.0	525.1	222.1
W 610 x 230 x 153	153	623	229	14.0	24.9	24.0	525.2	199.2
W 610 x 230 x 140	140	617	230	13.1	22.2	24.0	524.6	182.1
W 610 x 230 x 125	125	612	229	11.9	19.6	24.0	524.8	162.9
W 610 x 230 x 113	113	608	228	11.2	17.3	24.0	525.4	148.1
W 610 x 230 x 101	101	603	228	10.5	14.9	24.0	525.2	133.1
W 610 x 180 x 100 *	100	607	179.2	11.3	17.2	24.0	525.0	131.3
W 610 x 180 x 92	92.0	603	179	10.9	15.0	24.0	525.0	121.1
W 610 x 180 x 82	82.0	599	178	10.0	12.8	24.0	525.4	107.9
W 530 x 310 x 300 *	300	585	319	23.1	41.4	18.0	466.2	382.9
W 530 x 310 x 272	272	577	317	21.1	37.6	18.0	465.8	347.0
W 530 x 310 x 248	248	571	315	19.0	34.5	18.0	466.0	315.5
W 530 x 310 x 219	219	560	318	18.3	29.2	18.0	465.6	280.3
W 530 x 310 x 196	196	554	316	16.5	26.3	18.0	465.4	251.7
W 530 x 310 x 182	182	551	315	15.2	24.4	18.0	466.2	232.8
W 530 x 310 x 165	165	546	313	14.0	22.2	18.0	465.6	212.0
W 530 x 310 x 150	150	543	312	12.7	20.3	18.0	466.4	193.3
W 530 x 210 x 138	138	549	214	14.7	23.6	18.0	465.8	177.6
W 530 x 210 x 123	123	544	212	13.1	21.2	18.0	465.6	158.4
W 530 x 210 x 109	109	539	211	11.6	18.8	18.0	465.4	140.3
W 530 x 210 x 101	101	537	210	10.9	17.4	18.0	466.2	130.6
W 530 x 210 x 92	92.0	533	209	10.2	15.6	18.0	465.8	119.2
W 530 x 210 x 82	82.0	528	209	9.5	13.3	18.0	465.4	106.0
W 530 x 210 x 72	72.0	524	207	9.0	10.9	18.0	466.2	93.1
W 530 x 165 x 85	85.0	535	166	10.3	16.5	18.0	466.0	109.3
W 530 x 165 x 74	74.0	529	166	9.7	13.6	18.0	465.8	96.6
W 530 x 165 x 66	66.0	525	165	8.9	11.4	18.0	466.2	85.1

* On agreement subject to minimum quantity and delivery condition.

Dimensions as per ESI standard.



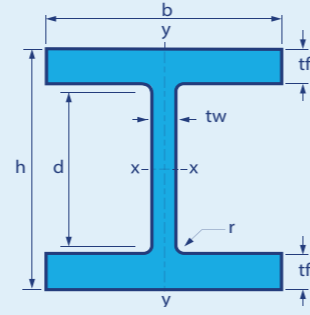
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size (Imperial)	Mass per foot	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x ix	Axis y-y iy	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl x}	Axis y-y W _{pl y}	H x10 ⁹	J
	lbs/ft	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
	W 24 x 9 x 114 *	114	144148	5678	25.48	5.06	4584	494	5267	778.2	5102
W 24 x 9 x 103	103	127931	5005	25.34	5.01	4107	437	4699	687.1	4457	329.1
W 24 x 9 x 94	94	114762	4521	25.11	4.98	3720	393	4250	617.6	3982	247.9
W 24 x 9 x 84	84	101329	3938	24.94	4.92	3311	344	3774	539.8	3442	178.8
W 24 x 9 x 76	76	90345	3431	24.70	4.81	2972	301	3390	473.1	2981	134.5
W 24 x 9 x 68	68	79151	2955	24.39	4.71	2625	259	2999	408.3	2545	98.80
W 24 x 7 x 67 *	67	75323	1664	23.95	3.56	2480	186	2886	299.9	1437	117.81
W 24 x 7 x 62	62	67424	1447	23.60	3.46	2236	162	2612	262.7	1239	93.24
W 24 x 7 x 55	55	58778	1214	23.34	3.36	1963	136	2297	222.2	1034	69.01
W 21 x 12.25 x 201 *	201	221585	22457	24.06	7.66	7576	1408	8704	2178	16547	1754
W 21 x 12.25 x 182	182	197590	20008	23.86	7.59	6849	1262	7826	1949	14520	1318
W 21 x 12.25 x 166	166	178343	18006	23.78	7.55	6247	1143	7096	1761	12932	1008.5
W 21 x 12.25 x 147	147	151882	15681	23.28	7.48	5424	986	6149	1522	11023	669.5
W 21 x 12.25 x 132	132	134835	13855	23.14	7.42	4868	877	5491	1351	9629	490.4
W 21 x 12.25 x 122	122	124387	12729	23.11	7.39	4515	808	5075	1243	8812	391.0
W 21 x 12.25 x 111	111	111798	11361	22.97	7.32	4095	726	4589	1115	7782	297.5
W 21 x 12.25 x 101	101	101685	10288	22.94	7.30	3745	659	4181	1011	7019	227.6
W 21 x 8.25 x 93	93	86928	3872	22.13	4.67	3167	362	3648	570.7	2660	266.1
W 21 x 8.25 x 83	83	76925	3379	22.04	4.62	2828	319	3242	500.9	2300	192.6
W 21 x 8.25 x 73	73	67574	2953	21.95	4.59	2507	280	2861	438.1	1991	135.7
W 21 x 8.25 x 68	68	62547	2694	21.88	4.54	2330	257	2655	401.2	1813	109.9
W 21 x 8.25 x 62	62	56090	2381	21.69	4.47	2105	228	2398	356.3	1589	83.58
W 21 x 8.25 x 55	55	48499	2030	21.39	4.38	1837	194	2096	304.2	1340	58.64
W 21 x 8.25 x 48	48	40903	1617	20.96	4.17	1561	156	1794	246.1	1061	40.83
W 21 x 6.5 x 57	57	49386	1265	21.26	3.40	1846	152	2138	243.2	845	81.03
W 21 x 6.5 x 50	50	41901	1043	20.83	3.29	1584	126	1843	201.7	689	55.07
W 21 x 6.5 x 44	44	35905	858.8	20.54	3.18	1368	104	1596	167.5	563	38.53

American Wide Flange Beams

ASTM Sizes

Dimensions: ASTM A6 / A6M

Tolerances: ASTM A6 / A6M



PRODUCT		DIMENSIONS						
Designation Section size (Metric)	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
W 460 x 280 x 464 *	464	567	305	38.6	69.6	14.0	399.8	591.4
W 460 x 280 x 421 *	421	555	302	35.6	63.5	14.0	400.0	537.6
W 460 x 280 x 384 *	384	545	299	32.5	58.4	14.0	400.2	490.1
W 460 x 280 x 349 *	349	535	296	29.5	53.6	14.0	399.8	445.2
W 460 x 280 x 315 *	315	525	293	26.9	48.5	14.0	400.0	401.0
W 460 x 280 x 286 *	286	517	291	24.4	44.5	14.0	400.0	365.1
W 460 x 280 x 260	260	509	289	22.6	40.4	14.0	400.2	332.0
W 460 x 280 x 235	235	501	287	20.6	36.6	14.0	399.8	299.9
W 460 x 280 x 213	213	495	285	18.5	33.5	14.0	400.0	271.8
W 460 x 280 x 193	193	489	283	17.0	30.5	14.0	400.0	247.1
W 460 x 280 x 177	177	482	286	16.6	26.9	14.0	400.2	226.6
W 460 x 280 x 158	158	476	284	15.0	23.9	14.0	400.2	201.7
W 460 x 280 x 144	144	472	283	13.6	22.1	14.0	399.8	184.9
W 460 x 280 x 128	128	467	282	12.2	19.6	14.0	399.8	164.4
W 460 x 280 x 113	113	463	280	10.8	17.3	14.0	400.4	144.8
W 460 x 190 x 161 *	161	492	199	18.0	32.0	14.0	400.0	206.3
W 460 x 190 x 133 *	133	481	197	15.3	26.3	14.0	400.0	170.6
W 460 x 190 x 106	106	469	194	12.6	20.6	14.0	399.8	135.5
W 460 x 190 x 97	97.0	466	193	11.4	19.0	14.0	400.0	123.8
W 460 x 190 x 89	89.0	463	192	10.5	17.7	14.0	399.6	114.5
W 460 x 190 x 82	82.0	460	191	9.9	16.0	14.0	400.0	105.2
W 460 x 190 x 74	74.0	457	190	9.0	14.5	14.0	400.0	95.3
W 460 x 150 x 68	68.0	459	154	9.1	15.4	14.0	400.2	88.1
W 460 x 150 x 60	60.0	455	153	8.0	13.3	14.0	400.4	76.7
W 460 x 150 x 52	52.0	450	152	7.6	10.8	14.0	400.4	67.1
W 410 x 260 x 149	149	431	265	14.9	25.0	14.0	353.0	191.0
W 410 x 260 x 132	132	425	263	13.3	22.2	14.0	352.6	169.1

* On agreement subject to minimum quantity and delivery condition.
Dimensions as per ESI standard.



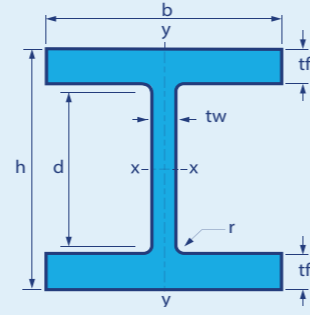
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size (Imperial)	Mass per foot	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x ix	Axis y-y iy	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl,x}	Axis y-y W _{pl,y}	H x 10 ⁹	J
	lbs/ft	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
W 18 x 11 x 311 *	311	290243	33126	22.15	7.48	10238	2172	12360	3400	20357	7477
W 18 x 11 x 283 *	283	256928	29319	21.86	7.38	9259	1942	11091	3035	17605	5695
W 18 x 11 x 258 *	258	229733	26147	21.65	7.30	8431	1749	10022	2727	15401	4398
W 18 x 11 x 234 *	234	204594	23265	21.44	7.23	7648	1572	9023	2444	13423	3369
W 18 x 11 x 211 *	211	180207	20407	21.20	7.13	6865	1393	8039	2162	11541	2497
W 18 x 11 x 192 *	192	161670	18332	21.04	7.09	6254	1260	7272	1950	10201	1916
W 18 x 11 x 175	175	144043	16297	20.83	7.01	5660	1128	6543	1744	8922	1447
W 18 x 11 x 158	158	127693	14455	20.63	6.94	5098	1007	5856	1555	7775	1078
W 18 x 11 x 143	143	114686	12950	20.54	6.90	4634	908.8	5289	1399	6882	817.7
W 18 x 11 x 130	130	102716	11541	20.39	6.83	4201	815.6	4772	1254	6055	619.1
W 18 x 11 x 119	119	91374	10507	20.08	6.81	3791	734.7	4298	1132	5431	455.1
W 18 x 11 x 106	106	79995	9138	19.92	6.73	3361	643.5	3792	989.7	4662	322.5
W 18 x 11 x 97	97	72968	8359	19.86	6.72	3092	590.7	3472	906.4	4224	252.4
W 18 x 11 x 86	86	64061	7334	19.74	6.68	2744	520.1	3067	796.8	3666	178.0
W 18 x 11 x 76	76	55963	6335	19.66	6.61	2417	452.5	2690	692.1	3143	123.0
W 18 x 7.5 x 109 *	109	80126	4252	19.71	4.54	3257	426.5	3795	672.9	2237	533.7
W 18 x 7.5 x 90 *	90	64189	3351	19.40	4.43	2671	340.7	3086	535.6	1721	303.9
W 18 x 7.5 x 71	71	49173	2516	19.05	4.31	2097	259.3	2404	406.2	1260	152.7
W 18 x 7.5 x 65	65	44854	2283	19.03	4.29	1925	236.6	2197	369.3	1137	118.4
W 18 x 7.5 x 60	60	41299	2093	18.99	4.27	1784	218.1	2029	339.4	1035	95.15
W 18 x 7.5 x 55	55	37352	1863	18.85	4.21	1624	195.1	1846	303.7	916	73.05
W 18 x 7.5 x 50	50	33610	1661	18.78	4.18	1471	174.9	1667	271.7	811	54.92
W 18 x 6 x 46	46	30047	941.2	18.47	3.27	1309	122.2	1505	192.8	461	54.15
W 18 x 6 x 40	40	25848	796.7	18.36	3.22	1136	104.1	1301	163.7	387	36.01
W 18 x 6 x 35	35	21565	634.6	17.93	3.08	958.5	83.50	1105	132.1	305	23.46
W 16 x 10.25 x 100	100	62129	7767	18.04	6.38	2883	586.2	3262	900.7	3195	332.5
W 16 x 10.25 x 89	89	54113	6740	17.89	6.31	2546	512.5	2865	786.3	2730	233.6

American Wide Flange Beams

ASTM Sizes

Dimensions: ASTM A6 / A6M

Tolerances: ASTM A6 / A6M



PRODUCT		DIMENSIONS						
Designation Section size (Metric)	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
W 410 x 260 x 114	114	420	261	11.6	19.3	14.0	353.4	146.7
W 410 x 260 x 100	100	415	260	10.0	16.9	14.0	353.2	127.7
W 410 x 180 x 85	85.0	417	181	10.9	18.2	14.0	352.6	109.1
W 410 x 180 x 75	75.0	413	180	9.7	16.0	14.0	353.0	96.2
W 410 x 180 x 67	67.0	410	179	8.8	14.4	14.0	353.2	86.8
W 410 x 180 x 60	60.0	407	178	7.7	12.8	14.0	353.4	76.6
W 410 x 180 x 53	53.0	403	177	7.5	10.9	14.0	353.2	68.9
W 410 x 140 x 53.3 *	53.3	407	143	7.9	12.9	14.0	352.8	68.7
W 410 x 140 x 46.1	46.1	403	140	7.0	11.2	14.0	352.6	59.7
W 410 x 140 x 38.8	38.8	399	140	6.4	8.8	14.0	353.4	50.7
W 360 x 410 x 900 *	900	531	442	65.9	106.0	24.0	271.0	1152.2
W 360 x 410 x 818 *	818	514	437	60.5	97.0	24.0	272.0	1046.3
W 360 x 410 x 744 *	744	498	432	55.6	88.9	24.0	272.2	951.1
W 360 x 410 x 677 *	677	483	428	51.2	81.5	24.0	272.0	866.4
W 360 x 410 x 634	634	474	424	47.6	77.1	24.0	271.8	811.0
W 360 x 410 x 592	592	465	421	45.0	72.3	24.0	272.4	757.9
W 360 x 410 x 551	551	455	418	42.0	67.6	24.0	271.8	704.4
W 360 x 410 x 509	509	446	416	39.1	62.7	24.0	272.6	652.0
W 360 x 410 x 463	463	435	412	35.8	57.4	24.0	272.2	592.6
W 360 x 410 x 421	421	425	409	32.8	52.6	24.0	271.8	540.1
W 360 x 410 x 382	382	416	406	29.8	48.0	24.0	272.0	490.1
W 360 x 410 x 347	347	407	404	27.2	43.7	24.0	271.6	445.0
W 360 x 410 x 314	314	399	401	24.9	39.6	24.0	271.8	402.2
W 360 x 410 x 287	287	393	399	22.6	36.6	24.0	271.8	369.3
W 360 x 410 x 262	262	387	398	21.1	33.3	24.0	272.4	337.6
W 360 x 410 x 237	237	380	395	18.9	30.2	24.0	271.6	303.9
W 360 x 410 x 216	216	375	394	17.3	27.7	24.0	271.6	278.5
W 360 x 370 x 196	196	372	374	16.4	26.2	24.0	271.6	253.3
W 360 x 370 x 179	179	368	373	15.0	23.9	24.0	272.2	231.3

* On agreement subject to minimum quantity and delivery condition.



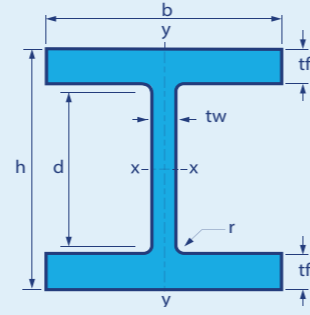
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size (Imperial)	Mass per foot	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x ix	Axis y-y iy	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl x}	Axis y-y W _{pl y}	H x 10 ⁹	J
	lbs/ft	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
	W 16 x 10.25 x 77	77	46426	5726	17.79	6.25	2211	438.7	2472	671.7	2296
W 16 x 10.25 x 67	67	40047	4955	17.71	6.23	1930	381.2	2144	582.1	1961	103.38
W 16 x 7 x 57	57	31811	1804	17.08	4.07	1526	199.4	1740	310.9	715	97.46
W 16 x 7 x 50	50	27769	1559	16.99	4.03	1345	173.3	1527	269.5	613	67.46
W 16 x 7 x 45	45	24832	1380	16.92	3.99	1211	154.2	1371	239.3	539	49.92
W 16 x 7 x 40	40	21861	1206	16.89	3.97	1074	135.5	1210	209.6	467	35.08
W 16 x 7 x 36	36	18888	1010	16.56	3.83	937.4	114.1	1060	177.3	387	24.95
W 16 x 5.5 x 36 *	36	18557	635.2	16.43	3.04	912.8	88.65	1046	139.6	245	31.39
W 16 x 5.5 x 31	31	15844	514.2	16.29	2.94	786.3	73.45	899.3	115.5	197	21.21
W 16 x 5.5 x 26	26	12932	404.1	15.97	2.82	648.2	57.73	745.0	91.21	153	13.00
W 14 x 16 x 605 *	605	450909	153388	19.78	11.54	16983	6941	21665	10720	68887	38269
W 14 x 16 x 550 *	550	392900	135571	19.38	11.38	15288	6205	19301	9572	58651	29241
W 14 x 16 x 500 *	500	342831	119968	18.99	11.23	13768	5554	17213	8559	49981	22427
W 14 x 16 x 455 *	455	300179	106903	18.61	11.11	12430	4995	15392	7690	42919	17261
W 14 x 16 x 426	426	274879	98280	18.41	11.01	11598	4636	14268	7126	38575	14419
W 14 x 16 x 398	398	250872	90198	18.19	10.91	10790	4285	13185	6583	34665	11906
W 14 x 16 x 370	370	226819	82518	17.94	10.82	9970	3948	12097	6060	30873	9698
W 14 x 16 x 342	342	205240	75422	17.74	10.76	9204	3626	11079	5560	27632	7754
W 14 x 16 x 311	311	180872	67054	17.47	10.64	8316	3255	9924	4986	23848	5929
W 14 x 16 x 283	283	160289	60098	17.23	10.55	7543	2939	8927	4496	20795	4556
W 14 x 16 x 257	257	142026	53631	17.02	10.46	6828	2642	8011	4037	18126	3453
W 14 x 16 x 233	233	125652	48098	16.80	10.40	6175	2381	7185	3635	15847	2613
W 14 x 16 x 211	211	110941	42615	16.61	10.29	5561	2125	6420	3242	13743	1954
W 14 x 16 x 193	193	100414	38793	16.49	10.25	5110	1945	5859	2962	12304	1532
W 14 x 16 x 176	176	90117	35028	16.34	10.19	4657	1760	5306	2681	10943	1174
W 14 x 16 x 159	159	79485	31050	16.17	10.11	4183	1572	4732	2392	9489	872.6
W 14 x 16 x 145	145	71846	28261	16.06	10.07	3832	1435	4308	2181	8515	676.9
W 14 x 14.5 x 132	132	64340	22865	15.94	9.50	3459	1223	3884	1861	6829	552.8
W 14 x 14.5 x 120	120	58151	20690	15.86	9.46	3160	1109	3529	1687	6119	424.0

American Wide Flange Beams

ASTM Sizes

Dimensions: ASTM A6 / A6M

Tolerances: ASTM A6 / A6M



PRODUCT		DIMENSIONS						
Designation Section size (Metric)	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
W 360 x 370 x 162	162	364	371	13.3	21.8	24.0	272.4	209.3
W 360 x 370 x 147	147	360	370	12.3	19.8	24.0	272.4	190.9
W 360 x 370 x 134	134	356	369	11.2	18.0	24.0	272.0	173.6
W 360 x 250 x 122	122	363	257	13.0	21.7	24.0	271.6	158.0
W 360 x 250 x 110	110	360	256	11.4	19.9	24.0	272.2	143.3
W 360 x 250 x 101	101	357	255	10.5	18.3	24.0	272.4	131.9
W 360 x 250 x 91	91.0	353	254	9.5	16.4	24.0	272.2	118.7
W 360 x 200 x 79	79.0	354	205	9.4	16.8	24.0	272.4	103.9
W 360 x 200 x 72	72.0	350	204	8.6	15.1	24.0	271.8	94.1
W 360 x 200 x 64	64.0	347	203	7.7	13.5	24.0	272.0	84.4
W 360 x 170 x 58	58.0	358	172	7.9	13.1	14.0	303.8	73.0
W 360 x 170 x 51	51.0	355	171	7.2	11.6	14.0	303.8	65.2
W 360 x 170 x 44.6	44.6	352	171	6.9	9.8	14.0	304.4	58.1
W 360 x 130 x 39.0	39.0	353	128	6.5	10.7	14.0	303.6	50.6
W 360 x 130 x 32.9	32.9	349	127	5.8	8.5	14.0	304.0	42.5
W 310 x 310 x 500 *	500	427	340	45.1	75.1	18.0	240.8	638.3
W 310 x 310 x 454 *	454	415	336	41.3	68.7	18.0	241.6	579.1
W 310 x 310 x 415 *	415	403	334	38.9	62.7	18.0	241.6	529.6
W 310 x 310 x 375 *	375	391	330	35.4	57.2	18.0	240.6	478.2
W 310 x 310 x 342 *	342	382	328	32.6	52.6	18.0	240.8	438.1
W 310 x 310 x 313	313	374	325	30.0	48.3	18.0	241.4	400.0
W 310 x 310 x 283	283	365	322	26.9	44.1	18.0	240.8	361.2
W 310 x 310 x 253	253	356	319	24.4	39.6	18.0	240.8	323.0
W 310 x 310 x 226	226	348	317	22.1	35.6	18.0	240.8	289.7
W 310 x 310 x 202	202	341	315	20.1	31.8	18.0	241.4	258.9
W 310 x 310 x 179	179	333	313	18.0	28.1	18.0	240.8	228.5
W 310 x 310 x 158	158	327	310	15.5	25.1	18.0	240.8	201.3
W 310 x 310 x 143	143	323	309	14.0	22.9	18.0	241.2	183.1

* On agreement subject to minimum quantity and delivery condition.



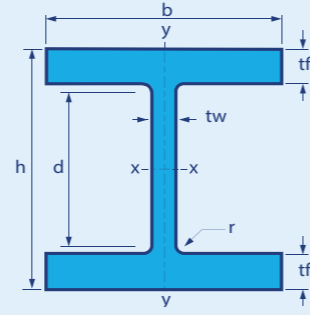
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size (Imperial)	Mass per foot	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x ix	Axis y-y iy	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl x}	Axis y-y W _{pl y}	H x10 ⁹	J
	lbs/ft	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
	W 14 x 14.5 x 109	109	52250	18568	15.80	9.42	2871	1001	3186	1520	5432
W 14 x 14.5 x 99	99	47000	16728	15.69	9.36	2611	904.2	2885	1373	4836	245.1
W 14 x 14.5 x 90	90	42218	15084	15.59	9.32	2372	817.5	2608	1241	4305	187.2
W 14 x 10 x 82	82	37242	6153	15.35	6.24	2052	478.8	2312	736.0	1788	235.4
W 14 x 10 x 74	74	33800	5575	15.36	6.24	1878	435.6	2101	668.0	1609	179.3
W 14 x 10 x 68	68	30857	5067	15.29	6.20	1729	397.4	1927	609.1	1450	141.9
W 14 x 10 x 61	61	27401	4487	15.19	6.15	1552	353.3	1722	541.3	1269	105.46
W 14 x 8 x 53	53	23359	2420	14.99	4.83	1320	236.1	1479	365.1	686	94.76
W 14 x 8 x 48	48	20812	2144	14.88	4.77	1189	210.2	1328	324.9	599	72.08
W 14 x 8 x 43	43	18535	1889	14.82	4.73	1068	186.1	1188	287.5	523	53.89
W 14 x 6.75 x 38	38	16259	1113	14.93	3.91	908.3	129.5	1022	200.1	330	35.83
W 14 x 6.75 x 34	34	14338	968.6	14.82	3.85	807.8	113.3	906.7	175.0	285	25.86
W 14 x 6.75 x 30	30	12374	818.5	14.59	3.75	703.1	95.73	791.5	148.3	239	18.10
W 14 x 5 x 26	26	10447	375.6	14.36	2.72	591.9	58.68	674.9	92.23	110	16.77
W 14 x 5 x 22	22	8474	291.5	14.12	2.62	485.6	45.90	554.8	72.35	84.1	10.141
W 12 x 12 x 336 *	336	168972	49427	16.27	8.80	7914	2907	9887	4489	15230	10437
W 12 x 12 x 305 *	305	148095	43614	15.99	8.68	7137	2596	8827	4003	13022	7955
W 12 x 12 x 279 *	279	130070	39088	15.67	8.59	6455	2341	7913	3609	11272	6138
W 12 x 12 x 252 *	252	112934	34376	15.37	8.48	5777	2083	7015	3207	9543	4628
W 12 x 12 x 230 *	230	100660	31027	15.16	8.42	5270	1892	6345	2909	8392	3599
W 12 x 12 x 210	210	89712	27707	14.98	8.32	4797	1705	5727	2619	7329	2780
W 12 x 12 x 190	190	78831	24593	14.77	8.25	4320	1527	5109	2341	6317	2092
W 12 x 12 x 170	170	68376	21466	14.55	8.15	3841	1346	4502	2061	5362	1519
W 12 x 12 x 152	152	59715	18932	14.36	8.08	3432	1194	3986	1827	4611	1108
W 12 x 12 x 136	136	52133	16590	14.19	8.01	3058	1053	3521	1610	3959	797.9
W 12 x 12 x 120	120	44682	14380	13.98	7.93	2684	918.8	3064	1403	3338	555.6
W 12 x 12 x 106	106	38783	12475	13.88	7.87	2372	804.9	2683	1226	2840	389.2
W 12 x 12 x 96	96	34915	11271	13.81	7.85	2162	729.5	2430	1110	2535	295.7

American Wide Flange Beams

ASTM Sizes

Dimensions: ASTM A6 / A6M

Tolerances: ASTM A6 / A6M



PRODUCT		DIMENSIONS						
Designation Section size (Metric)	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
W 310 x 310 x 129	129	318	308	13.1	20.6	18.0	240.8	165.9
W 310 x 310 x 117	117	314	307	11.9	18.7	18.0	240.6	150.5
W 310 x 310 x 107	107	311	306	10.9	17.0	18.0	241.0	137.0
W 310 x 310 x 97	97.0	308	305	9.9	15.4	18.0	241.2	124.2
W 310 x 250 x 86	86.0	310	254	9.1	16.3	18.0	241.4	110.8
W 310 x 250 x 79	79.0	306	254	8.8	14.6	18.0	240.8	101.3
W 310 x 200 x 74	74.0	310	205	9.4	16.3	18.0	241.4	95.7
W 310 x 200 x 67	67.0	306	204	8.5	14.6	18.0	240.8	85.9
W 310 x 200 x 60	60.0	303	203	7.5	13.1	18.0	240.8	76.7
W 310 x 165 x 52	52.0	317	167	7.6	13.2	10.0	270.6	67.0
W 310 x 165 x 44.5	44.5	313	166	6.6	11.2	10.0	270.6	57.2
W 310 x 165 x 38.7	38.7	310	165	5.8	9.7	10.0	270.6	49.7
W 250 x 250 x 167	167	289	265	19.2	31.8	18.0	189.4	214.6
W 250 x 250 x 149	149	282	263	17.3	28.4	18.0	189.2	191.1
W 250 x 250 x 131	131	275	261	15.4	25.1	18.0	188.8	168.4
W 250 x 250 x 115	115	269	259	13.5	22.1	18.0	188.8	147.6
W 250 x 250 x 101	101	264	257	11.9	19.6	18.0	188.8	130.3
W 250 x 250 x 89	89.0	260	256	10.7	17.3	18.0	189.4	115.5
W 250 x 250 x 80	80.0	256	255	9.4	15.6	18.0	188.8	103.5
W 250 x 250 x 73	73.0	253	254	8.6	14.2	18.0	188.6	94.2
W 250 x 200 x 67	67.0	257	204	8.9	15.7	18.0	189.6	86.9
W 250 x 200 x 58	58.0	252	203	8.0	13.5	18.0	189.0	75.6
W 250 x 200 x 49.1	49.1	247	202	7.4	11.0	18.0	189.0	63.9
W 250 x 145 x 44.8	44.8	266	148	7.6	13.0	10.0	220.0	57.6
W 250 x 145 x 38.5	38.5	262	147	6.6	11.2	10.0	219.6	49.6
W 250 x 145 x 32.7	32.7	258	146	6.1	9.1	10.0	219.8	42.1

* On agreement subject to minimum quantity and delivery condition.
Dimensions as per ESI standard.



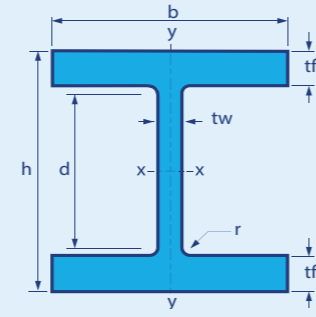
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size (Imperial)	Mass per foot	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x ix	Axis y-y iy	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl x}	Axis y-y W _{pl y}	H x 10 ⁹	J
	lbs/ft	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
W 12 x 12 x 87	87	30921	10040	13.65	7.78	1945	652.0	2175	991.9	2218	220.9
W 12 x 12 x 79	79	27665	9025	13.56	7.74	1762	587.9	1960	893.8	1966	166.5
W 12 x 12 x 72	72	24941	8124	13.49	7.70	1604	531.0	1776	806.8	1754	126.7
W 12 x 12 x 65	65	22386	7287	13.43	7.66	1454	477.8	1602	725.6	1559	95.43
W 12 x 10 x 58	58	19998	4456	13.43	6.34	1290	350.9	1428	533.9	960	90.42
W 12 x 10 x 53	53	17816	3991	13.26	6.28	1164	314.3	1287	478.7	846	68.76
W 12 x 8 x 50	50	16604	2345	13.17	4.95	1071	228.8	1200	351.1	505	77.68
W 12 x 8 x 45	45	14661	2069	13.07	4.91	958.2	202.9	1068	311.1	439	57.13
W 12 x 8 x 40	40	13010	1829	13.02	4.88	858.8	180.2	952.0	276.0	384	41.72
W 12 x 6.5 x 35	35	11909	1026	13.33	3.91	751.4	122.9	842.4	188.8	236	31.85
W 12 x 6.5 x 30	30	9996	854.9	13.22	3.87	638.8	103.0	712.7	158.0	194	19.91
W 12 x 6.5 x 26	26	8581	727.0	13.14	3.82	553.6	88.12	615.4	134.9	164	13.18
W 10 x 10 x 112	112	30176	9882	11.86	6.79	2088	745.8	2442	1141	1631	661.8
W 10 x 10 x 100	100	26093	8625	11.68	6.72	1851	655.9	2144	1003	1384	474.5
W 10 x 10 x 88	88	22309	7449	11.51	6.65	1623	570.8	1862	871.5	1161	330.1
W 10 x 10 x 77	77	19098	6408	11.37	6.59	1420	494.8	1614	754.5	975	226.2
W 10 x 10 x 68	68	16530	5551	11.26	6.53	1252	432.0	1412	658.0	828	158.5
W 10 x 10 x 60	60	14416	4842	11.17	6.48	1109	378.3	1241	575.9	712	111.5
W 10 x 10 x 54	54	12728	4315	11.09	6.46	994.4	338.4	1105	514.6	623	81.72
W 10 x 10 x 49	49	11434	3882	11.02	6.42	903.9	305.6	999.9	464.5	553	62.66
W 10 x 8 x 45	45	10518	2225	11.00	5.06	818.6	218.1	916.3	333.5	323	67.73
W 10 x 8 x 39	39	8890	1885	10.84	4.99	705.5	185.7	785.0	284.0	268	45.43
W 10 x 8 x 33	33	7222	1514	10.63	4.87	584.8	149.9	648.2	229.6	210	28.45
W 10 x 5.75 x 30	30	7158	703.6	11.15	3.50	538.2	95.08	606.3	146.4	112	27.21
W 10 x 5.75 x 26	26	6057	593.8	11.05	3.46	462.3	80.79	517.7	124.1	93.2	17.64
W 10 x 5.75 x 22	22	4937	472.7	10.83	3.35	382.7	64.76	428.5	99.67	73.1	10.57

American Wide Flange Beams

ASTM Sizes

Dimensions: ASTM A6 / A6M

Tolerances: ASTM A6 / A6M



PRODUCT		DIMENSIONS						
Designation Section size (Metric)	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
W 200 x 200 x 127 *	128	241	214	18.1	30.1	14.0	153.2	163.2
W 200 x 200 x 113 *	114	235	212	16.3	26.9	14.0	153.2	145.3
W 200 x 200 x 100	100	229	210	14.5	23.7	14.0	153.6	127.6
W 200 x 200 x 86	86.0	222	209	13.0	20.6	14.0	152.8	111.3
W 200 x 200 x 71	71.0	216	206	10.2	17.4	14.0	153.2	91.9
W 200 x 200 x 59	59.0	210	205	9.1	14.2	14.0	153.6	76.4
W 200 x 200 x 52	52.0	206	204	7.9	12.6	14.0	152.8	67.4
W 200 x 200 x 46.1	46.1	203	203	7.2	11.0	14.0	153.0	59.4

* On agreement subject to minimum quantity and delivery condition.
Dimensions as per ESI standard.



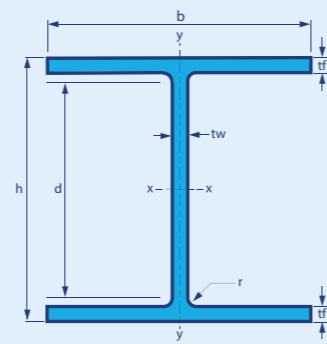
PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size (Imperial)	Mass per foot	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x ix	Axis y-y iy	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl x}	Axis y-y W _{pl y}	H x 10 ⁹	J
	lbs/ft	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
	W 8 x 8 x 86 *	86	15496	4921	9.74	5.49	1284	460.1	1524	705.5	548
W 8 x 8 x 76 *	76	13360	4287	9.59	5.43	1137	404.2	1336	619.0	463	318.8
W 8 x 8 x 67	67	11388	3665	9.45	5.36	994.6	349.0	1156	533.9	385	219.2
W 8 x 8 x 58	58	9531	3139	9.25	5.31	858.6	300.4	988.0	459.2	318	147.1
W 8 x 8 x 48	48	7721	2538	9.17	5.26	714.9	246.4	810.3	375.3	250	85.97
W 8 x 8 x 40	40	6173	2041	8.99	5.17	587.9	199.1	659.8	303.4	195	49.78
W 8 x 8 x 35	35	5331	1785	8.90	5.15	517.6	175.0	576.4	266.2	167	34.83
W 8 x 8 x 31	31	4605	1535	8.81	5.08	453.7	151.2	502.4	230.1	141	24.24

American Wide Flange Bearing Piles

ASTM Sizes

Dimensions: ASTM A6 / A6M

Tolerances: ASTM A6 / A6M



PRODUCT		DIMENSIONS						
Designation Section size (Metric)	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
HP 460 x 304 *	304	464	460	28.6	28.6	24.0	358.8	384.4
HP 460 x 269 *	269	457	457	25.4	25.4	24.0	358.6	340.4
HP 460 x 234 *	234	451	454	22.1	22.1	24.0	358.8	295.5
HP 460 x 202 *	202	445	451	19.1	19.1	24.0	358.8	254.9
HP 410 x 272	272	419	413	28.6	28.6	24.0	313.8	344.7
HP 410 x 242	242	413	410	25.4	25.4	24.0	313.8	305.1
HP 410 x 211	211	406	406	22.2	22.2	24.0	313.8	265.5
HP 410 x 181	181	400	403	19.1	19.1	24.0	313.8	228.0
HP 410 x 151	151	394	400	15.9	15.9	24.0	313.8	189.7
HP 410 x 131	131	389	398	13.7	13.7	24.0	313.8	163.6
HP 360 x 174	174	361	378	20.4	20.4	24.0	272.0	224.4
HP 360 x 152	152	356	376	17.9	17.9	24.0	272.0	196.8
HP 360 x 132	132	351	373	15.6	15.6	24.0	272.0	171.2
HP 360 x 108	108	346	370	12.8	12.8	24.0	272.0	140.6
HP 310 x 132 *	132	314	313	18.3	18.3	18.0	241.1	168.0
HP 310 x 125	125	312	312	17.4	17.4	18.0	241.1	159.6
HP 310 x 110	110	308	310	15.4	15.5	18.0	241.1	141.6
HP 310 x 93	93.0	303	308	13.1	13.1	18.0	241.1	119.8
HP 310 x 79	79.0	299	306	11.0	11.0	18.0	241.1	100.6
HP 250 x 85	85.0	254	260	14.4	14.4	18.0	189.0	110.1
HP 250 x 62	62.0	246	256	10.5	10.7	18.0	189.0	81.2
HP 200 x 53	53.0	204	207	11.3	11.3	14.0	153.4	69.0
HP 200 x 43	43.0	200	205	9	9.0	14.0	154.0	55.0

* On agreement subject to minimum quantity and delivery condition.
Dimensions as per ESI standard.

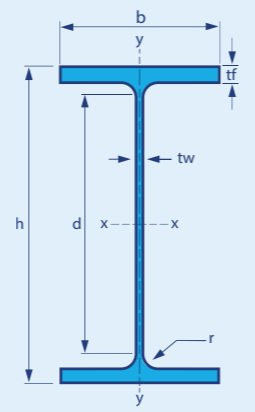
HP METRIC

PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size (Imperial)	Mass per foot	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x ix	Axis y-y iy	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl x}	Axis y-y W _{pl y}	H x10 ⁹	J
	lbs/ft	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
	HP 18 x 204 *	204	142865	46496	19.28	11.00	6158	2022	7009	3119	21989
HP 18 x 181 *	181	124606	40477	19.13	10.90	5448	1771	6162	2727	18851	879.4
HP 18 x 157 *	157	106705	34518	19.00	10.81	4732	1521	5316	2335	15851	588.1
HP 18 x 135 *	135	90834	29238	18.88	10.71	4082	1297	4557	1987	13242	388.1
HP 16 x 183	183	102986	33669	17.29	9.88	4916	1630	5634	2523	12795	1136
HP 16 x 162	162	89726	29243	17.15	9.79	4349	1426	4950	2202	10936	803.5
HP 16 x 141	141	76813	24809	17.01	9.67	3782	1222	4274	1882	9128	544.3
HP 16 x 121	121	64947	20868	16.88	9.57	3247	1036	3644	1591	7557	355.3
HP 16 x 101	101	53191	16982	16.75	9.46	2703	849.1	3009	1301	6049	214.1
HP 16 x 88	88	45389	14411	16.66	9.39	2332	724.2	2583	1108	5074	143.8
HP 14 x 117	117	51483	18399	15.15	9.05	2854	973.5	3224	1498	5320	401.1
HP 14 x 102	102	44530	15885	15.04	8.98	2503	844.9	2809	1298	4527	278.6
HP 14 x 89	89	38235	13512	14.94	8.88	2177	724.5	2429	1111	3799	191.3
HP 14 x 73	73	30919	10819	14.83	8.77	1789	584.8	1980	895.1	2992	113.85
HP 12 x 89 *	89	28772	9372	13.08	7.47	1834	598.8	2081	923.3	2040	230.0
HP 12 x 84	84	27158	8825	13.05	7.44	1741	565.7	1970	871.4	1910	198.8
HP 12 x 74	74	23822	7709	12.97	7.38	1546	497.3	1739	764.5	1647	141.7
HP 12 x 63	63	19828	6388	12.87	7.30	1307	414.8	1460	636.2	1343	89.11
HP 12 x 53	53	16430	5259	12.78	7.23	1099	343.7	1218	526.0	1090	55.37
HP 10 x 57	57	12436	4228	10.63	6.20	980.0	325.2	1109	501.5	604.4	101.04
HP 10 x 42	42	8938	2997	10.49	6.08	725.5	234.1	808.7	359.4	415.5	44.17
HP 8 x 36	36	5039	1674	8.55	4.93	494.0	161.7	558.4	249.4	155.1	38.66
HP 8 x 29	29	3950	1294	8.48	4.85	395.0	126.3	441.7	194.1	117.9	20.78

Universal Beams

AS/NZ

As per AS/NZS 3679.1



PRODUCT		DIMENSIONS						
Designation Section size	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
760 UB	197	769.8	268.0	15.6	25.4	16.5	686.0	250.6
	173	762.2	266.7	14.3	21.6	16.5	686.0	220.4
	147	754.0	265.2	12.8	17.5	16.5	686.0	187.2
690 UB	140	683.5	253.7	12.4	19.0	15.2	615.1	178.4
	125	677.9	253.0	11.7	16.2	15.2	615.1	159.5
610 UB	125	611.6	229.0	11.9	19.6	14.0	544.4	159.6
	113	607.0	228.0	11.2	17.3	14.0	544.4	144.7
	101	602.0	228.0	10.6	14.8	14.0	544.4	129.8
530 UB	92.4	533.0	209.0	10.2	15.6	14.0	473.8	118.1
	82.0	528.2	209.0	9.6	13.2	14.0	473.8	105.0
460 UB	82.1	460.4	191.0	9.9	16.0	11.4	405.6	104.6
	74.6	457.4	190.0	9.1	14.5	11.4	405.6	95.2
	67.1	453.8	190.0	8.5	12.7	11.4	405.6	85.8
410 UB	59.7	406.4	178.0	7.8	12.8	11.4	358.0	76.4
	53.7	402.6	178.0	7.6	10.9	11.4	358.0	68.9
360 UB	56.7	358.6	172.0	8.0	13.0	11.4	309.8	72.4
	50.7	355.6	171.0	7.3	11.5	11.4	309.8	64.7
	44.7	352.0	171.0	6.9	9.7	11.4	309.8	57.2
310 UB	46.2	307.2	166.0	6.7	11.8	11.4	260.8	59.3
	40.4	304.0	165.0	6.1	10.2	11.4	260.8	52.1
250 UB	37.3	256.2	146.0	6.4	10.9	8.9	216.6	47.5
	31.4	251.6	146.0	6.1	8.6	8.9	216.6	40.1

Dimensions as per ESI standard.

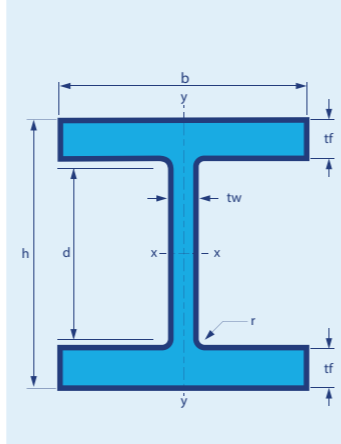
UB

PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
	G	Axis x-x I _x	Axis y-y I _y	Axis x-x i _x	Axis y-y i _y	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl,x}	Axis y-y W _{pl,y}	H x 10 ⁹	J
	kg/m	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
	760 UB	197	239957	8175	30.94	5.71	6234	610.1	7167	958.6	11289
173		205282	6850	30.52	5.58	5387	513.7	6198	807.5	9364	270.3
147		168501	5455	30.00	5.40	4470	411.4	5156	647.2	7377	162.2
690 UB	140	136267	5183	27.64	5.39	3987	408.6	4558	638.2	5708	170.3
	125	117992	4383	27.20	5.24	3481	346.5	3994	542.4	4786	118.3
610 UB	125	98626	3932	24.86	4.96	3225	343.4	3679	535.7	3437	157.0
	113	87454	3426	24.59	4.87	2882	300.5	3291	469.1	2971	114.7
	101	76102	2931	24.21	4.75	2528	257.1	2897	402.2	2520	80.46
530 UB	92.4	55427	2379	21.67	4.49	2080	227.7	2371	355.1	1589	78.29
	82.0	47735	2013	21.32	4.38	1807	192.7	2067	301.2	1332	53.79
460 UB	82.1	37176	1862	18.85	4.22	1615	195.0	1836	303.2	917.4	70.61
	74.6	33493	1661	18.76	4.18	1464	174.8	1661	271.4	812.9	53.32
	67.1	29550	1455	18.56	4.12	1302	153.1	1478	237.7	706.2	38.26
410 UB	59.7	21638	1205	16.83	3.97	1065	135.4	1201	209.3	466.0	33.80
	53.7	18779	1026	16.51	3.86	932.9	115.3	1056	178.9	393.0	23.81
360 UB	56.7	16112	1104	14.91	3.90	898.6	128.4	1012	198.3	329.2	33.92
	50.7	14184	959.9	14.80	3.85	797.7	112.3	896.8	173.3	283.7	24.25
	44.7	12135	810	14.56	3.76	689.5	94.7	776.9	146.4	236.8	16.43
310 UB	46.2	10041	900.8	13.01	3.90	653.7	108.5	728.9	166.4	196.3	23.15
	40.4	8642	764.6	12.88	3.83	568.6	92.7	632.7	142.1	164.8	15.66
250 UB	37.3	5568	566.1	10.83	3.45	434.7	77.5	486.1	118.9	85.05	15.81
	31.4	4454	446.7	10.54	3.34	354.0	61.2	396.7	94.2	65.85	9.09

Universal Columns

AS/NZ

As per AS/NZS 3679.1



PRODUCT		DIMENSIONS						
Designation Section size	Mass per meter	Depth of section	Width of section	Web thickness	Flange thickness	Root radius	Depth between fillets	Area of Section
	G	h	b	t _w	t _f	r	d	A
	kg/m	mm	mm	mm	mm	mm	mm	cm ²
310 UC	158	327.2	311	15.7	25.0	16.5	244.2	201.4
	137	320.6	309	13.8	21.7	16.5	244.2	174.7
	118	314.6	307	11.9	18.7	16.5	244.2	150.1
	96.8	308.0	305	9.9	15.4	16.5	244.2	123.7
250 UC	89.5	260.0	256.0	10.5	17.3	14.0	197.4	113.9
	72.9	253.8	254.0	8.6	14.2	14.0	197.4	93.2
200 UC	59.5	209.8	205	9.3	14.2	11.4	158.6	76.2
	52.2	206.4	204	8.0	12.5	11.4	158.6	66.6
	46.2	203.4	203	7.3	11.0	11.4	158.6	59.0

UC

PRODUCT		SECTION PROPERTIES VALUES									
Designation Section size	Mass per meter	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Warping constant	Torsional constant
		Axis x-x I _x	Axis y-y I _y	Axis x-x i _x	Axis y-y i _y	Axis x-x W _x	Axis y-y W _y	Axis x-x W _{pl x}	Axis y-y W _{pl y}	H x 10 ⁹	J
	G	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
	kg/m	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁶	cm ⁴
310 UC	158	38796	12546	13.88	7.89	2371	806.8	2683	1229	2862	384.1
	137	32881	10679	13.72	7.82	2051	691.2	2301	1052	2383	253.9
	118	27704	9024	13.58	7.75	1761	587.9	1959	893.3	1974	163.7
	96.8	22308	7287	13.43	7.67	1449	477.8	1596	725.1	1559	93.34
250 UC	89.5	14270	4841	11.19	6.52	1098	378.2	1227	574.5	712.4	104.9
	72.9	11388	3881	11.05	6.45	897.4	305.6	991.9	463.5	556.6	58.64
200 UC	59.5	6128	2041	8.97	5.17	584.2	199.1	655.7	303.1	195.0	48.21
	52.2	5285	1770	8.91	5.15	512.1	173.5	570.1	263.7	166.2	32.76
	46.2	4587	1535	8.82	5.10	451.1	151.2	499.5	229.8	141.9	22.99

Emirates Steel Grade Tables

EN10025-2: Non-alloy structural steels according to European standard

EN10025-2

Standard	Grades	Minimum yield strength				Tensile strength		Min. elongation 5.65√S0			V-Notch impact test, longitudinal	
		MPa				MPa		%			CVN	
		Nominal thickness (mm)				Nominal thickness (mm)		Nominal thickness (mm)			Temperature	Minimum energy absorbed
		≤16	>16	>40	>63	>80	≥3	≥3	>40	>63	°C	J
		≤40	≤63	≤80	≤100	≤100	≤40	≤63	≤100			

EN 10025-2: 2004	Grades	Minimum yield strength (MPa)				Tensile strength (MPa)		Min. elongation (%)			V-Notch impact test (CVN)		
		≤16	>16	>40	>63	≥3	≥3	>40	>63	°C	J		
	S235JR									20	27		
	S235J0	235	225		215	360	510	26	25	24	0	27	
	S235J2										-20	27	
	S275JR										20	27	
	S275J0	275	265	255	245	235	410	560	23	22	21	0	27
	S275J2											-20	27
	S355JR											20	27
	S355J0											0	27
	S355J2	355	345	335	325	315	470	630	22	21	20	-20	27
	S355K2 *											-20	40
	S450J0 *	450	430	410	390	380	550	720	17			0	27

* On agreement subject to minimum quantity and delivery condition.

EN10025-2

Standard	Grades	Chemical composition (Ladle analysis), [% max.]											
		C max.			Si ²⁾ max. %	Mn max. %	P max. %	S max. %	N ⁴⁾ max. %	Cu max. %	CEV ¹⁾ max.		
		%									%		
		Nominal thickness (mm)			≤16	>16	>40	≤16	>16	>40	Nominal thickness (mm)		
≤16	>16	>40	≤16	>16							>40		

EN 10025-2: 2004	Grades	C max. (%)			Si ²⁾ max. %	Mn max. %	P max. %	S max. %	N ⁴⁾ max. %	Cu max. %	CEV ¹⁾ max. (%)		
		≤16	>16	>40							≤16	>16	>40
	S235JR	0.17	0.17	0.20	-	1.40	0.04 ²⁾	0.040	0.012	0.55	0.35	0.35	0.38
	S235J0	0.17	0.17	0.17	-	1.40	0.035	0.035	0.012	0.55	0.35	0.35	0.38
	S235J2 ³⁾	0.17	0.17	0.17	-	1.40	0.030	0.030	-	0.55	0.35	0.35	0.38
	S275JR	0.21	0.21	0.22	-	1.50	0.04 ²⁾	0.040	0.012	0.55	0.40	0.40	0.42
	S275J0	0.18	0.18	0.18	-	1.50	0.035	0.035	0.012	0.55	0.40	0.40	0.42
	S275J2 ³⁾	0.18	0.18	0.18	-	1.50	0.030	0.030	-	0.55	0.40	0.40	0.42
	S355JR	0.24	0.24	0.24	0.55	1.60	0.04 ²⁾	0.040	0.012	0.55	0.45	0.47	0.47
	S355J0	0.20	0.20	0.22	0.55	1.60	0.035	0.035	0.012	0.55	0.45	0.47	0.47
	S355J2 ³⁾	0.20	0.20	0.22	0.55	1.60	0.030	0.030	-	0.55	0.45	0.47	0.47
	S355K2 ³⁾ *	0.20	0.20	0.22	0.55	1.60	0.030	0.030	-	0.55	0.45	0.47	0.47
	S450J0 ³⁾ *	0.20	0.20	0.22	0.55	1.70	0.035	0.035	0.025	0.55	0.47	0.49	0.49

Notes for the Chemical Composition:

1) $CEV = C + Mn/6 + (Cr+Mo+V)/5 + (Cu+Ni)/15$; special requirements for S275 & S355 check paragraph 7.2.5 of EN 10025-2:2004

2) Upon agreement: Si = 0,14 - 0,25% and P ≤ 0,035% max. for zinc layer forming capability during hot-dip galvanisation

3) Fully killed steel containing nitrogen binding element in amounts sufficient to bind the available nitrogen (for example min. 0,02% Al). If other elements are used they shall be reported in the inspection document.

4) The max. value for nitrogen does not apply if the chemical composition shows a minimum total Al content of 0,020% or if sufficient other N binding elements are present. The N binding elements shall be mentioned in the inspection document. In case of other elements are added, they must be mentioned on the inspection document.

Emirates Steel Grade Tables

EN10025-4: Weldable fine grain structural steels according to European standard

EN10025-4

Standard	Grades	Minimum yield strength				Tensile strength								Min. elongation	V-Notch impact test, longitudinal	
						Min	Max	Min	Max	Min	Max	Min	Max	5.65√S0		
		MPa				MPa								%	CVN	
		Nominal thickness (mm)				Nominal thickness (mm)								Temperature	Minimum energy absorbed	
	≤16	>16	>40	>63	>80			>40	>63	>80			°C	J		
	≤40	≤63	≤80	≤100			≤40	≤63	≤80	≤100						

EN 10025-4: 2004	S275M	275	265	255	245	245	370	530	360	520	350	510	350	510	24	-20	40
	S355M	355	345	335	325	325	470	630	450	610	440	600	440	600	22	-20	40
	S355ML	355	345	335	325	325	470	630	450	610	440	600	440	600	22	-50	27
	S420M*	420	400	390	380	370	520	680	500	660	480	640	470	630	19	-20	40
	S420ML*	420	400	390	380	370	520	680	500	660	480	640	470	630	19	-50	27
	S460M*	460	440	430	410	400	540	720	530	710	510	690	500	680	17	-20	40
	S460ML*	460	440	430	410	400	540	720	530	710	510	690	500	680	17	-50	27

* On agreement subject to minimum quantity and delivery condition.

EN10025-4

Standard	Grades	Chemical composition (Ladle analysis), [% max.]															CEV ¹⁾ max.			
		C max. %	Si ²⁾ max. %	Mn max. %	P max. %	S max. %	N max. %	Cu max. %	Ni max. %	Cr max. %	Mo max. %	V max. %	Nb max. %	Ti max. %	%					
																	Nominal thickness (mm)			
																	≤16	>16	>40	
															≤40			≤63		

EN 10025-4: 2004	S275M	0.15	0.50	1.50	0.035	0.030	15.00	0.55	0.30	0.30	0.10	0.08	0.05	0.05	0.34	0.34	0.35
	S355M	0.16	0.50	1.60	0.035	0.030	15.00	0.55	0.50	0.30	0.10	0.10	0.05	0.05	0.39	0.39	0.40
	S355ML	0.16	0.50	1.60	0.030	0.025	15.00	0.55	0.50	0.30	0.10	0.10	0.05	0.05	0.39	0.39	0.40
	S420M*	0.18	0.50	1.70	0.035	0.030	25.00	0.55	0.80	0.30	0.20	0.12	0.05	0.05	0.43	0.45	0.46
	S420ML*	0.18	0.50	1.70	0.030	0.025	25.00	0.55	0.80	0.30	0.20	0.12	0.05	0.05	0.43	0.45	0.46
	S460M*	0.18	0.60	1.70	0.035	0.030	25.00	0.55	0.80	0.30	0.20	0.12	0.05	0.05	0.45	0.46	0.47
	S460ML*	0.18	0.60	1.70	0.030	0.025	25.00	0.55	0.80	0.30	0.20	0.12	0.05	0.05	0.45	0.46	0.47

Notes for the Chemical Composition:

1) $CEV = C + Mn/6 + (Cr+Mo+V)/5 + (Cu+Ni)/15$; for special requirements check paragraph 7.2.4 of EN 10025-4:2004.

2) Upon agreement: Si = 0,14 - 0,25% and P ≤ 0,035% max. for zinc layer forming capability during hot-dip galvanisation.

Emirates Steel Grade Tables

EN10225: Weldable structural steels for fixed offshore structures according to European standard

EN10225

Standard	Grades	Minimum yield strength			Tensile strength		Min. elongation	V-Notch impact test	
					Min	Max			
		MPa			Mpa		%	CVN	
		Nominal thickness (mm)			Temperature	Minimum energy absorbed			
		≤16	>16	YS/TS					°C
			≤40	max.					
EN 10225: 2009	S355G1+AR ¹⁾	355	345	0.87	470	630	22	-20	50
	S355G4+M	355	345	0.87	450	610	22	-20	50
	S355G11+M	355	345	0.87	460	620	22	-40 ²⁾	50

General notes:

1) As rolled condition is limited for sections with thickness ≤25 mm.

2) Charpy CVN test to be done at -20°C. for sections with thickness ≤25 mm.

EN10225

Standard	Grades	Chemical composition (Ladle analysis), [% max.]																
		C max. %	Si ²⁾ max. %	Mn max. %	P max. %	S max. %	N max. %	Cu max. %	Ni max. %	Cr max. %	Mo max. %	V max. %	Nb max. %	Ti max. %	Cr +Mo +Ni +Cu max. %	Nb +V max. %	Nb +V +Ti max. %	CEV ¹⁾ max. %
EN 10225: 2009	S355G1+AR ¹⁾	0.20	0.50	0.90-1.65	35	30	15	0.35	0.50	0.30	0.10	120	50	30	-	-	-	0.43
	S355G4+M	0.16	0.50	1.60 max.	35	30	15	0.35	0.30	0.00	0.20	100	50	50	-	-	-	0.43
	S355G11+M	0.14	0.55	1.65 max.	25	15	12	0.30	0.50	0.25	0.08	60	40	25	0.80	0.06	0.08	0.43

Notes for the Chemical Composition:

1) $CEV = C + Mn/6 + (Cr+Mo+V)/5 + (Cu+Ni)/15$.

2) Upon agreement: Si = 0,14 - 0,25% and P ≤ 0,035% max. for zinc layer forming capability during hot-dip galvanisation.

Emirates Steel Grade Tables

Steel grades according to American standards

ASTM

Standard	Grades	Yield strength Re		Tensile strength Rm		Ratio Re/Rm	Minimum elongation A		V-Notch impact test	
							min. 200 mm	min. 50 mm	CVN ²⁾	
		[8 in.]	[2 in.]	Temperature	Average energy					
		%	%	°C [°F]	J [ft-lbf]					
A36-14	A36	≥250	36	400-550	58-80		20 ¹⁾	21 ¹⁾		
A572-15	Grade 50	≥345	50	≥450	65		18 ¹⁾	21 ¹⁾		
	Grade 55 *	≥380	55	≥485	70		17 ¹⁾	20 ¹⁾		
	Grade 60 *	≥415	60	≥520	75		16 ¹⁾	18 ¹⁾		
	Grade 65 *	≥450	65	≥550	80		15 ¹⁾	17 ¹⁾		
A709-13	Grade 36 *	≥250	36	400-550	58-80		20 ¹⁾	21 ¹⁾		3)
	Grade 50 *	≥345	50	≥450	65		18 ¹⁾	21 ¹⁾		3)
	Grade 50S *	345-450	50-65	≥450	65	≤0,85	18 ¹⁾	21 ¹⁾		3)
A992-11	A992	345-450	50-65	≥450	65	≤0,85	18 ¹⁾	21 ¹⁾		

* On agreement subject to minimum quantity and delivery condition

General notes:

- 1) Check elongation requirement adjustments at Tension Tests section of standard A6 / A6M.
- 2) Prior agreement: Additional requirement S30 of ASTM A 6/A 6M: "CVN test, alternate core location" = min. average energy 27J [20 ft-lbf] at 21 °C [70°F], applicable to flange thickness ≥ 38.1 mm [1.5 inches] (previously AISC Supl. 2 for shapes of size groups 4 and 5 of A6).
- 3) Supplementary requirement upon agreement: notch impact test according to A709.

ASTM

Standard	Grades	Chemical composition (Ladle analysis), [%]												
		C max. %	Si %	Mn %	P max. %	S max. %	N %	Cu %	Ni %	Cr %	Mo max. %	V %	Nb max. %	CEV max. %
A36-14	A36	0.26	0.40		0.04	0.05		6)						
A572-15	Grade 50	0.23	0.40 ¹⁾	1.35 ²⁾	0.04	0.05		6)				0.01-0.15		
	Grade 55	0.25	0.40	1.35 ²⁾	0.04	0.05		6)				0.01-0.15		
	Grade 60	0.26	0.40	1.35 ²⁾	0.04	0.05		6)				0.01-0.15		
	Grade 65	0.23	0.40	1.65	0.04	0.05		6)				0.01-0.15		
A709-13	Grade 36	0.26	0.40		0.04	0.05		6)						
	Grade 50	0.23	0.40	1.35 ²⁾	0.04	0.05								
	Grade 50S	0.23	0.40	0.50-1.60 ²⁾	35	45			0.45	0.35	0.15	0.15 ⁵⁾	0.05 ⁵⁾	0.45 ⁴⁾
A992-11	A992	0.23	0.40	0.50-1.60 ²⁾	35	45	0.012 ³⁾	0.60	0.45	0.35	0.15	0.15 ⁵⁾	0.05 ⁵⁾	0.45 ⁴⁾

Notes for the Chemical Composition:

- 1) For shapes with flange thickness up to 3 inches (75 mm).
- 2) For each reduction of 0.01 % below the specified carbon maximum, an increase of 0.06% Mn above the specified maximum is permitted, up to a maximum of 1.60 %.
- 3) N 0.015 max. if microalloying elements presents. Sn shall be less than 0.02%.
- 4) Max CEV of 0.47% for shapes with flange thicknesses over 2 inches (50 mm).
- 5) Nb + V ≤ 0.15%, (N ≤ 0.015% for A992 and grade 50S of A709).
- 6) When copper steel is specified, Cu ≥ 0.20.

Emirates Steel Grade Tables

Steel grades according to Indian standard

BIS

Standard	Grades	Flange thickness mm	Yield strength		Tensile strength		Min. elongation 5.65/50	Internal Bend Diameter(min)		V-Notch impact test CVN	
			Min.	Max.	Min.	Max.		≤25	>25	Temperature	Minimum energy absorbed
			MPa		MPa		%			OC	J
IS 2062	E250 A	<20	250	-	410	-	23	2t	3t	-	-
		20-40	240	-							
		>40	230	-							
	E250 BR & B0	<20	250	-	410	-	23	2t	3t	RT 0	27 27
		20-40	240	-							
		>40	230	-							
	E250 C	<20	250	-	410	-	23	2t	3t	-20	27
		20-40	240	-							
		>40	230	-							
	E275 A	<20	275	-	430	-	22	2t	3t	-	-
		20-40	265	-							
		>40	255	-							
	E275 BR & B0	<20	275	-	430	-	22	2t	3t	RT 0	27 27
		20-40	265	-							
		>40	255	-							
	E275 C	<20	275	-	430	-	22	2t	3t	-20	27
		20-40	265	-							
		>40	255	-							
	E300 A	<20	300	-	440	-	22	2t	Not required	-	-
		20-40	290	-							
		>40	280	-							
	E300 BR & B0	<20	300	-	440	-	22	2t	Not required	RT 0	27 27
		20-40	290	-							
		>40	280	-							
E300 C	<20	300	-	440	-	22	2t	Not required	-20	27	
	20-40	290	-								
	>40	280	-								
E350 A	<20	350	-	490	-	22	2t	Not required	-	-	
	20-40	330	-								
	>40	320	-								
E350 BR & B0	<20	350	-	490	-	22	2t	Not required	RT 0	27 27	
	20-40	330	-								
	>40	320	-								
E350 C	<20	350	-	490	-	22	2t	Not required	-20	27	
	20-40	330	-								
	>40	320	-								

* On agreement subject to minimum quantity and delivery condition

General notes:

E275 BR=RT(25 ± 2°C) Optional E275 B0=0.

E300 BR=RT(25 ± 2°C) Optional E300 B0=0.

E350 BR=RT(25 ± 2°C) Optional E350 B0=0.

BIS

Standard	Grades	Chemical composition (Ladle analysis), [%]															
		C max. %	Si max. %	Mn max. %	P max. %	S max. %	N max. %	Cu max. %	Ni max. %	Cr max. %	Mo max. %	V max. %	Nb max. %	Ti max. %	Nb +V +Ti max. %	Al max. %	CEV max. %
IS 2062	E250 A	0.23	0.10-0.40	1.5	0.045	0.045	0.012	0.20-0.35	-	-	-	-	-	-	0.25	-	0.42
	E250 BR & B0	0.22	0.10-0.40	1.5	0.045	0.045	0.012	0.20-0.35	-	-	-	-	-	-	0.25	-	0.41
	E250 C	0.20	0.10-0.40	1.5	0.040	0.040	0.012	0.20-0.35	-	-	-	-	-	-	0.25	-	0.39
	E275 A	0.23	0.10-0.40	1.5	0.045	0.045	0.012	0.20-0.35	-	-	-	-	-	-	0.25	-	0.43
	E275 BR & B0	0.22	0.10-0.40	1.5	0.045	0.045	0.012	0.20-0.35	-	-	-	-	-	-	0.25	-	0.42
	E275 C	0.20	0.10-0.40	1.5	0.040	0.040	0.012	0.20-0.35	-	-	-	-	-	-	0.25	-	0.41
	E300 A	0.20	0.10-0.45	1.5	0.045	0.045	0.012	0.20-0.35	-	-	-	-	-	-	0.25	-	0.44
	E300 BR & B0	0.20	0.10-0.45	1.5	0.045	0.045	0.012	0.20-0.35	-	-	-	-	-	-	0.25	-	0.44
	E300 C	0.20	0.10-0.45	1.5	0.040	0.04	0.012	0.20-0.35	-	-	-	-	-	-	0.25	-	0.44
	E350 A	0.20	0.10-0.45	1.55	0.045	0.045	0.012	0.20-0.35	-	-	-	-	-	-	0.25	-	0.47
	E350 BR & B0	0.20	0.10-0.45	1.55	0.045	0.045	0.012	0.20-0.35	-	-	-	-	-	-	0.25	-	0.47
	E350 C	0.20	0.10-0.45	1.55	0.040	0.04	0.012	0.20-0.35	-	-	-	-	-	-	0.25	-	0.45

Emirates Steel Grade Tables

Steel grades according to Australian/New Zealand standard

AS-NZS

Standard	Grades	Flange thickness	Yield strength		Tensile strength		Min. elongation	Yield strength / Tensile strength
			Min.	Max.	Min.	Max.	5.65/√S0	
		mm	MPa		MPa		%	ratio
AS/NZS 3679.1	300 & 300LO	<11	320	440	440	22	-	
		>11 < 17	300					
		>17 < 40	280					
		> 40	280					
	300L15 *	<11	320	440	440	25	-	
		>11 < 17	300					
		>17 < 40	280					
		> 40	280					
	300S0 *	<11	320	399	440	25	0.8 max.	
		>11 < 17	300					
		>17 < 40	280					
		> 40	280					
	350 & 350LO *	<11	360	480	480	20	-	
		>11 < 17	340					
		>17 < 40	340					
		> 40	330					
	350S0 *	<11	360	452	480	25	0.8 max.	
		>11 < 17	340					
			340					
		> 40	330					

* On agreement subject to minimum quantity and delivery condition

AS-NZS

Standard	Grades	Chemical composition (Ladle analysis), [%]															KV (J) Sample size (10, 7.5, 5)
		C max. %	Si max. %	Mn max. %	P max. %	S max. %	N max. %	Cu max. %	Ni max. %	Cr max. %	Mo max. %	V max. %	Nb max. %	Ti max. %	Nb+V max. %	CEV max. %	
AS/NZS 3679.1	300 & 300LO	0.25	0.5	1.6	0.04	0.04		0.5	0.5	0.3	0.1	0.03	0.02	0.04	0.03	0.44	L0 (27, 22, 18) at 0°C
	300L15 *	0.25	0.5	1.6	0.04	0.04		0.5	0.5	0.3	0.1	0.03	0.02	0.04	0.03	0.44	L15(27,22,18) at -15°C
	300S0 *	0.25	0.5	1.6	0.04	0.04		0.5	0.5	0.3	0.1	0.03	0.02	0.04	0.03	0.44	70 at 0°C (Impact test req. only >12mm thick)
	350 & 350LO *	0.22	0.5	1.6	0.04	0.04		0.5	0.5	0.3	0.1	-	-			0.45	L0 (27, 22, 18) at 0°C
	350S0 *	0.22	0.5	1.6	0.04	0.04		0.5	0.5	0.3	0.1	-	-			0.45	70 at 0°C (Impact test req. only >12mm thick)

Notes for the Chemical Composition:

For the grades 300, 300LO, 300L15 and 300S0 Cu+Ni+Cr+Mo=1% max.

For the grades 350, 350LO and 350S0 Cu+Ni+Cr+Mo=1% max and V+Nb+Ti=0.15% max.

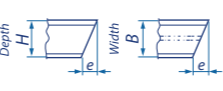
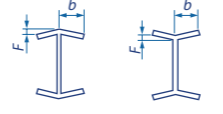
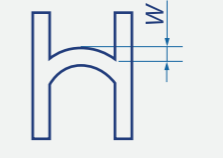
Emirates Steel Grade Tables

Rolling Tolerances for the Beams According to European and American Standards

TOLERANCES EN + ASTM

Sections	IPE / HE / HD / HL / HP		W			
	UB / UC / UBP					
Division / item	EN 10034:1993		ASTM A6-17		ASTM A6M-17	
	Dimension	Tolerance	Dimension	Tolerance	Dimension	Tolerance
Flange width b (B) [mm] [in.]	b ≤ 110	+4.0, -1.0	All sizes	+1/4", -3/16" (+6.35, -4.76 mm)	All sizes	+6, -5 mm
	110 < b ≤ 210	+4.0, -2.0				
	210 < b ≤ 325	±4.0				
	b > 325	+6.0, -5.0				
Section depth h (H) [mm] [in.]	h ≤ 180	+3.0, -2.0	All sizes	±1/8" (±3.17 mm)	All sizes	+4, -3 mm
	180 < h ≤ 400	+4.0, -2.0				
	400 < h ≤ 700	+5.0, -3.0				
	h > 700	±5.0				
Web thickness tw [mm] [in.]	tw < 7	±0.7	N/A	N/A	N/A	N/A
	7 ≤ tw < 10	±1.0				
	10 ≤ tw < 20	±1.5				
	20 ≤ tw < 40	±2.0				
	40 ≤ tw < 60	±2.5				
	tw ≥ 60	±3.0				
Flange thickness tf [mm] [in.]	tf < 6.5	+1.5, -0.5	N/A	N/A	N/A	N/A
	6.5 ≤ tf < 10	+2.0, -1.0				
	10 ≤ tf < 20	+2.5, -1.5				
	20 ≤ tf < 30	+2.5, -2.0				
	30 ≤ tf < 40	±2.5				
	40 ≤ tf < 60	±3.0				
tf ≥ 60	±4.0					
Out-of-square [mm] / [in.]	b ≤ 110	T+T' = 1.5	h ≤ 12"	T+T' ≤ 1/4" (6.35 mm)	h ≤ 310 mm	T+T' ≤ 6 mm
	b > 110	T+T' = 2% of b (max. 6.5)	h > 12"	T+T' ≤ 5/16" (7.93 mm)	h > 310 mm	T+T' ≤ 8 mm
Web-off-center [mm] [in.]	tw < 40	b ≤ 110	All sizes ≤ 634kg/m	max. 3/16" (4.76 mm)	All sizes ≤ 634kg/m	max. 5 mm
		110 < b ≤ 325				
	b > 325	5				
	tw ≥ 40	110 < b ≤ 325				
		b > 325		8		
Length section [mm] / [in.]	-0 / +100 mm		-0 / +4"		-0 / +100 mm	

TOLERANCES EN + ASTM

Sections	IPE / HE / HD / HL / HP		W			
	UB / UC / UBP					
Division / item	EN 10034:1993		ASTM A6-17		ASTM A6M-17	
	Dimension	Tolerance	Dimension	Tolerance	Dimension	Tolerance
Straightness [%]	80 < h ≤ 180	0.30% of L	b < 6"	{1/8xL(ft)}/5 ¹⁾	b < 150	0.2% of L ²⁾
	180 < h ≤ 360	0.15% of L				
	h > 360	0.10% of L	b ≥ 6"	{1/8xL(ft)}/10 ¹⁾	b ≥ 150	0.1% of L ²⁾
"Sectional squareness" 	N/A		N/A		N/A	
Maximum depth	N/A		All sizes	1/4" or under (6.35mm)	All sizes	6mm or under
Mass G [%]	N/A		G < 100 lbs/ft	+3.0, -2.5%	G < 100 lbs/ft	+3.0, -2.5%
	All sizes	±4.0%	G ≥ 100 lbs/ft	±2.5%	G ≥ 100 lbs/ft	±2.5%
Flange bend 	N/A		N/A		N/A	
Concavity of the web 	N/A		N/A		N/A	

Notes for the dimension tolerances:

Straightness: When certain sections with a flange width approximately equal to depth are specified in the order for use as columns:

1) For columns: L ≤ 45ft; 1/8 x L(ft)/10 (max. 3/8); [L > 45ft; 3/8 + 1/8 x (L(ft)-45)/10].

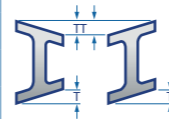
2) For columns: L ≤ 14m; 0,001L (max. 10) ; L > 14m 10 + 0,001x(L-14000).

Emirates Steel Grade Tables

Dimension and Dimensional Tolerance of Universal Section of Australian/New Zealand Standard

TOLERANCES AS + NZS

Standard	Nominal Dimension						Dimensional Tolerances										Remarks on other tolerances																																
	Designation	Unit weight [kg/m]	Depth of section (d)	Width of section (b)	Thickness		Depth	Width	Thickness		Flange Max. difference of flange over four flanges	Out of squarness		Web off center (e)	Permissible overall depth over specified depth (C)																																		
					Web	Flange			Web	Flange		T or T'	T+T'																																				
AS/NZS 3679.1	150 UB	14	150	75	5	7	±3.0	±3.0	±1.0	1.0	1.5	2.5	2.5	4.0	4.0																																		
		18	155	75	6	9.5																																											
	180 UB	16.1	173	90	4.5	7										+2.5 -1.5	±3.0	±0.7	1.0	2.0	2.5	2.5	4.0	4.0																									
		18.1	175	90	5	8																																											
	200 UB	22.2	179	90	6	10										±3.0	±3.0								±0.7	1.0	4.0	6.0	5.0	6.0	4.0																		
		18.2	198	99	4.5	7																																											
		22.3	201.6	133	5	7																																											
		25.4	203.2	133	5.8	7.8																																											
	310 UB	29.8	207	134	6.3	9.6										±3.0	±3.0										±0.7	1.0	5.0	8.0		5.0	6.0	4.0															
		32	298	149	5.5	8																																											
		40.4	304	165	6.1	10.2																																											
	360 UB	46.2	307.2	166	6.7	11.8										±3.0	±3.0												±0.7	1.0		5.0	8.0		5.0	6.0	4.0												
		44.7	352	171	6.9	9.7																																											
		50.7	355.6	171	7.3	11.5																																											
	410 UB	56.7	358.6	172	8	13										±3.0	±3.0															±0.7	1.0		5.0	8.0		5.0	6.0	4.0									
		53.7	402.6	178	7.6	10.9																																											
	460 UB	59.7	406.4	178	7.8	12.8										±3.0	±3.0																		±0.7	1.0		5.0	8.0		5.0	6.0	4.0						
		67.1	453.8	190	8.5	12.7																																											
		74.6	457.4	190	9.1	14.5																																											
	530 UB	82.1	460.4	191	9.9	16										±3.0	±3.0																					±0.7	1.0		±1.5	1.5		5.0	6.0	4.0			
		82	528.2	209	9.6	13.2																																											
	610 UB	92.4	533	209	10.2	15.6										±3.0	±3.0																								±0.7	1.0		±1.0	1.0		5.0	6.0	4.0
		101	602	228	10.6	14.8																																											
		113	607	228	11.2	17.3																																											
100 UC	125	611.6	229	11.9	19.6	±3.0	±3.0	±0.7	1.0	±1.5	1.5	5.0	6.0	4.0																																			
	14.8	97	99	5	7																																												
150 UC	23.4	152.4	152	6.1	6.8	±3.0	±3.0			±0.7	1.0	4.0	6.0		5.0	6.0	4.0																																
	30	157.6	153	6.6	9.4																																												
	37.2	161.8	154	8.1	11.5																																												
200 UC	46.2	203.4	203	7.3	11	±3.0	±3.0					±0.7	1.0		4.0	6.0		5.0	6.0	4.0																													
	52.2	206.4	204	8	12.5																																												
	59.5	209.8	205	9.3	14.2																																												
250 UC	72.9	253.8	254	8.6	14.2	±3.0	±3.0								±0.7	1.0		5.0	8.0		5.0	6.0	4.0																										
	89.5	260	256	10.5	17.3																																												
310 UC	96.8	308	305	9.9	15.4	±3.0	±3.0											±0.7	1.0		5.0	8.0		5.0	6.0	4.0																							
	118	314.6	307	11.9	18.7																																												
	137	320.6	309	13.8	21.7																																												
	158	327.2	311	15.7	25																																												



SHEET PILES

Hot-rolled sheet piles are extensively used worldwide for temporary and permanent construction works – interlocking sections driven into the ground to provide earth retention and excavation support. They are commonly used for retaining walls, land reclamation, underground structures, such as car parks and basements, in marine locations for riverbank protection, breakwaters, seawalls, cofferdams, quay walls, harbors, ports and terminals.

Manufacturing standard: EN 10248

MTC certificate: EN 10204 3.1

Length: 6m up to 31m

Steel grade: S355GP, S430GP, ASTM A 572 Grade 50, 60 & 65

Tolerances on shape and dimensions according to EN10248

Steel grade: Special grade on request with high Cu and Ni

Additional facilities: Crimping, fabrication and protective coating on request



Solutions for all Requirements

Road and rail

- Support walls
- Bridge abutment
- Ramps
- Ground water retention
- Tunnels

Water Engineering or Waterfront Structure

- Quays
- Dock construction
- Dolphins
- Waterway support
- Berth facilities
- Locks
- Safety gates
- Flood protection
- Inlet and outlet
- Retaining wall
- Barrage and dams

Environmental and water protection

- Pumping station
- Sewage works
- Storm water overflow
- Storm water retention
- Embankment

Civil Engineering

- Site excavation
- foundations
- trench
- underground car park
- house building

Terms of Delivery*

Deviation limits and dimensional tolerances for hot-rolled sheet piles conforming to EN 10248.

Pile width	Single Piles ± 2%	Double Piles ±3%
Wall Thickness of Z sections	t, s: up to 8.5 mm = ± 0.5 mm; over 8.5 mm = ± 6% s, t	
Height of Z sections	h: up to 200 mm/ 300mm = ± 6 mm; over 300 mm = ± 7 mm;	
Section Interlocks	The interlocks shall have adequate freeplay and must engage in a mannerism so that in-service forces can be transmitted.	

Deviation from straightness

The longitudinal deviation from straightness must not exceed 0.2% of pile length.

Pile length

Sheet pile lengths are permitted to deviate by ± 200 mm from the ordered lengths.

Weight

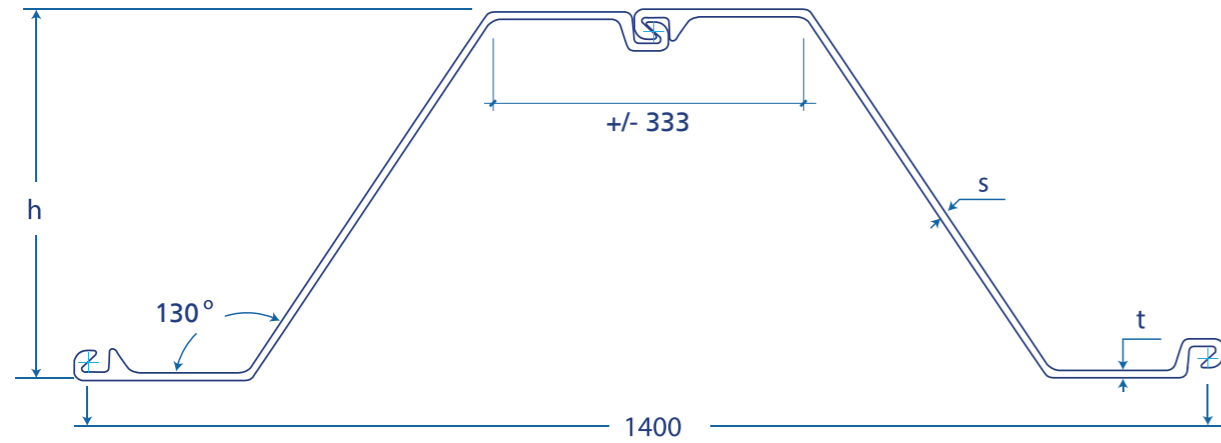
The tolerance between the arithmetic weight (according to section tables) and weighed weight of the total consignment must be within ± 5%.

* All numbers to be verified/ read in accordance with EN 10248

** Normally the possitive tolerance shall be at the discretion of te manufacturer.



ESZ 18-700 FAMILY



		Cross Sectional Area cm ²	Mass kg/m	Moment of Inertia cm ⁴	Elastic Section Modulus cm ³	Coating Area ¹⁾ m ² /m
ESZ 17 - 700	Single	94.2	74.0	25,450	1,215	1.84
	Double	188.5	148.0	50,910	2,425	3.68
	per m of wall	134.6	105.7	36,360	1,735	2.63
ESZ 18 - 700	Single	98.6	77.4	26,520	1,265	1.84
	Double	197.2	154.8	53,050	2,525	3.68
	per m of wall	140.9	110.6	37,890	1,805	2.63
ESZ 19 - 700	Single	102.9	80.8	27,590	1,310	1.84
	Double	205.9	161.6	55,180	2,625	3.68
	per m of wall	147.1	115.4	39,420	1,875	2.63
ESZ 19 - 700 10/10	Single	107.3	84.2	28,660	1,360	1.84
	Double	214.6	168.5	57,320	2,725	3.68
	per m of wall	153.3	120.3	40,940	1,945	2.63
ESZ 20 - 700	Single	111.6	87.6	29,730	1,410	1.84
	Double	223.3	175.3	59,460	2,820	3.68
	per m of wall	159.5	125.2	42,470	2,015	2.63

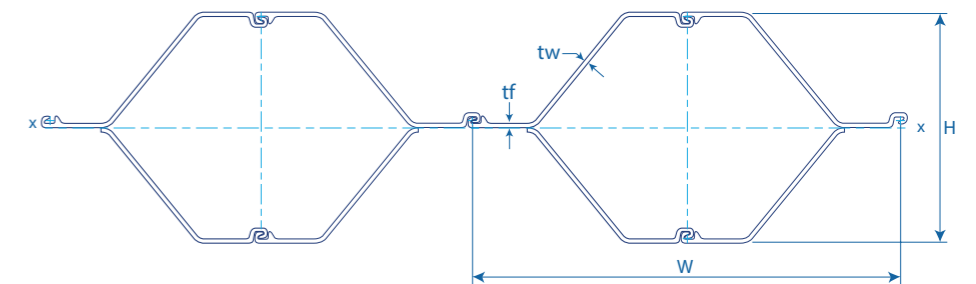
1. Both sides of pile, excluding inside of interlocks



ESZ 18-700 FAMILY

	Single Pile					Per m of wall					
	Width	Height	Flange	Web	Mass	Mass	Moment of Inertia	Elastic Modulus	Plastic Modulus	Static Moment	Radius of Gyration
	b	h	t	s	G	M	I _x	W _x			R _g
	mm	mm	mm	mm	Kg/m	Kg/m ²	cm ⁴ /m	cm ³ /m	cm ³ /m	cm ³ /m	cm
ESZ 17 - 700	700	420	8.5	8.5	74	105.7	36360	1735	2040	1020	16.43
ESZ 18 - 700	700	420	9.0	9.0	77.4	110.6	37890	1805	2130	1065	16.40
ESZ 19 - 700	700	421	9.5	9.5	80.8	115.5	39420	1875	2215	1110	16.37
ESZ 19 - 700 10/10	700	421	10.0	10.0	84.2	120.3	40940	1945	2300	1150	16.34
ESZ 20 - 700	700	422	10.5	10.5	87.6	125.2	42470	2015	2390	1195	16.32

Z Box Pile



	Data for Single Box Piles		Per m of wall					
	Width	Height	Mass ²⁾	Moment of Inertia	Elastic Modulus	Mass ²⁾	Moment of Inertia	Elastic Modulus
	w	H	G	I _x	W _x	G	I _x	W _x
	mm	mm	Kg/m	cm ⁴	cm ³	Kg/m ²	cm ⁴ /m	cm ³ /m
ESZ 17 - 700	1400	839	259.3	267520	6375	185.2	191090	4555
ESZ 18 - 700	1400	840	271.8	279850	6665	194.1	199890	4760
ESZ 19 - 700	1400	841	284.3	292230	6950	203.0	208740	4965
ESZ 20 - 700	1400	843	309.0	317090	7525	220.7	226490	5375

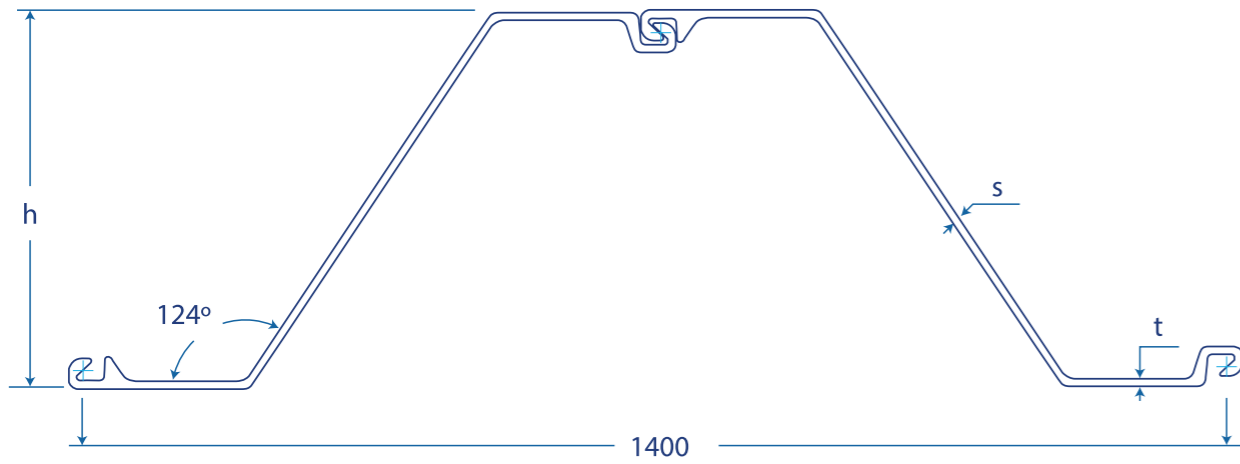
1) Mass of Piles utilised = 4 x the nominal weight of the single piles

2) Mass of welds is not included, piles cut as shown for calculation

3) Area of outside, excluding inside of locks



ESZ 26-700 FAMILY



	Cross Sectional Area cm ²	Mass kg/m	Moment of Inertia cm ⁴	Elastic Section Modulus cm ³	Coating Area ¹⁾ (both sides) m ² /m
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ESZ 24 - 700	Single	114.0	89.5	39,110	1,705	1.93
	Double	228.1	179.0	78,220	3,410	3.86
	per m of wall	162.9	127.9	55,870	2,435	2.76
ESZ 25 - 700	Single	118.6	93.1	40,490	1,760	1.93
	Double	237.2	186.2	80,980	3,525	3.86
	per m of wall	169.4	133.0	57,840	2,520	2.76
ESZ 26 - 700	Single	123.2	96.7	41,870	1,820	1.93
	Double	246.4	193.4	83,740	3,640	3.86
	per m of wall	176.0	138.1	59,810	2,600	2.76
ESZ 27 - 700	Single	127.8	100.3	43,250	1,880	1.93
	Double	255.5	200.6	86,500	3,755	3.86
	per m of wall	182.5	143.3	61,780	2,685	2.76
ESZ 28 - 700	Single	132.3	103.9	44,630	1,935	1.93
	Double	264.7	207.8	89,260	3,870	3.86
	per m of wall	189.1	148.4	67,750	2,765	2.76
ESZ 29 - 700	Single	141.6	111.1	47,410	2,055	1.93
	Double	283.2	222.3	94,830	4,105	3.86
	per m of wall	202.3	158.8	67,740	2,930	2.76

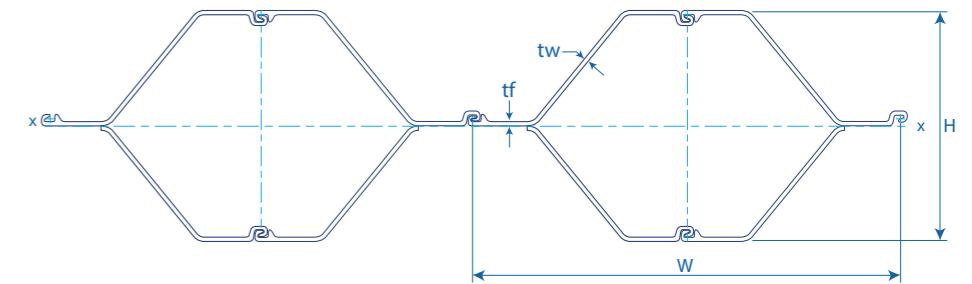
1) Both sides of pile, excluding inside of interlocks



ESZ 26-700 FAMILY

	Single Pile					Per m of wall					
	Width	Height	Flange	Web	Mass	Mass	Moment of Inertia	Elastic Modulus	Plastic Modulus	Static Moment	Radius of Gyration
	b	h	t	s	G	M	I _x	W _x			R _g
	mm	mm	mm	mm	Kg/m	Kg/m ²	cm ⁴ /m	cm ³ /m	cm ³ /m	cm ³ /m	cm
ESZ 24 - 700	700	459	12.0	9.0	89.5	127.9	55870	2435	2810	1405	18.52
ESZ 25 - 700	700	460	12.5	9.5	93.1	133.0	57840	2520	2910	1455	18.48
ESZ 26 - 700	700	460	13.0	10.0	96.7	138.1	59810	2600	3015	1505	18.44
ESZ 27 - 700	700	461	13.5	10.5	100.3	143.3	61780	2685	3120	1560	18.40
ESZ 28 - 700	700	461	14.0	11.0	103.9	148.4	63750	2765	3220	1610	18.36
ESZ 29 - 700	700	462	15.0	12.0	111.1	158.8	67740	2930	3430	1715	18.30

Z Box Pile



	Data for Single Box Piles		Per m of wall					
	Width	Height	Mass ²⁾	Moment of Inertia	Elastic Modulus	Mass ²⁾	Moment of Inertia	Elastic Modulus
	w	H	G	I _x	W _x	G	I _x	W _x
	mm	mm	Kg/m	cm ⁴	cm ³	Kg/m ²	cm ⁴ /m	cm ³ /m
ESZ 24 - 700	1400	918	309.0	396480	8640	220.7	283200	6170
ESZ 26 - 700	1400	920	335.0	427920	9305	239.3	305660	6645
ESZ 28 - 700	1400	922	361.0	459550	9970	257.9	328250	7120

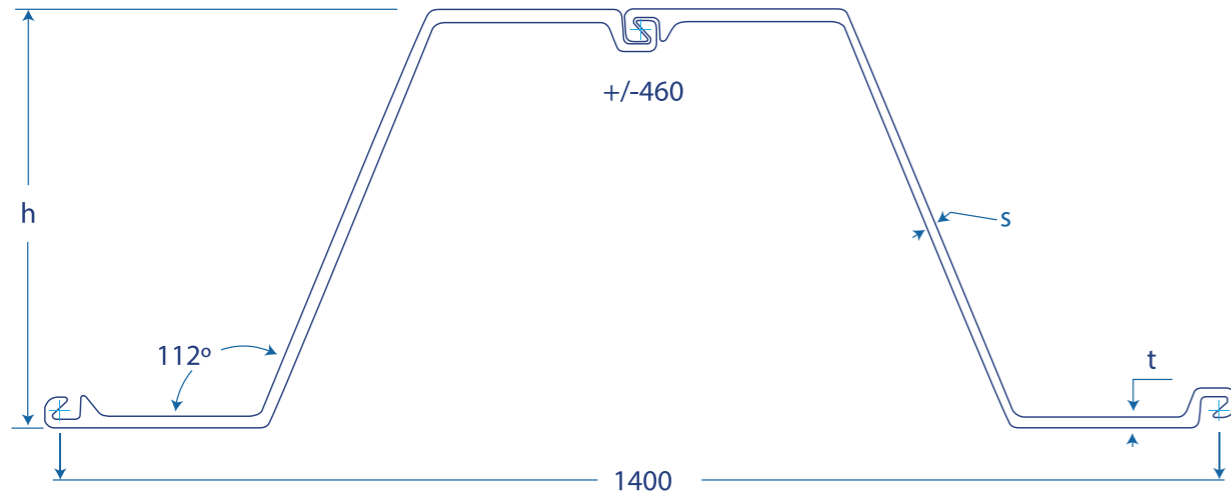
1) Mass of Piles utilised = 4 x the nominal weight of the single piles

2) Mass of welds is not included, piles cut as shown for calculation

3) Area of outside, excluding inside of locks



ESZ 38-700
FAMILY



	Cross Sectional Area cm ²	Mass kg/m	Moment of Inertia cm ⁴	Elastic Section Modulus cm ³	Coating Area ¹⁾ (both sides) m ² /m
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ESZ 36 - 700	Single	148.1	116.2	63,790	2,505	2.11
	Double	296.2	232.5	127,590	5,015	4.22
per m of wall		211.5	166.1	91,130	3,580	3.02
ESZ 37 - 700	Single	153.2	120.2	65,800	2,585	2.11
	Double	306.3	240.5	131,600	5,165	4.22
	per m of wall	218.8	171.8	94,000	3,690	3.02
ESZ 38 - 700	Single	158.2	124.2	67,800	2,660	2.11
	Double	316.5	248.4	135,600	5,320	4.22
	per m of wall	226.0	177.4	96,860	3,800	3.02
ESZ 39 - 700	Single	163.3	128.2	69,810	2,735	2.11
	Double	326.6	256.4	139,610	5,470	4.22
	per m of wall	233.3	183.1	99,720	3,905	3.02
ESZ 40 - 700	Single	168.4	132.2	71,810	2,810	2.11
	Double	336.7	264.3	143,620	5,620	4.22
	per m of wall	240.5	188.8	102,590	4,015	3.02

1. Both sides of pile, excluding inside of interlocks



ESZ 38-700
FAMILY

Single Pile					Per m of wall					
Width	Height	Flange	Web	Mass	Mass	Moment of Inertia	Elastic Modulus	Plastic Modulus	Static Moment	Radius of Gyration
b	h	t	s	G	M	I _x	W _x			R _g
mm	mm	mm	mm	Kg/m	Kg/m ²	cm ⁴ /m	cm ³ /m	cm ³ /m	cm ³ /m	cm

ESZ 36-700	700	509	14.0	11.5	116.2	166.1	91130	3580	4095	2045	20.76
ESZ 37-700	700	510	14.5	12.0	120.2	171.8	94000	3690	4225	2115	20.73
ESZ 38-700	700	510	15.0	12.5	124.2	177.4	96860	3800	4355	2180	20.70
ESZ 39-700	700	511	15.5	13.0	128.2	183.1	99720	3905	4490	2245	20.68
ESZ 40-700	700	511	16.0	13.5	132.2	188.8	102590	4015	4620	2310	20.65

**subject to available rolling campaign



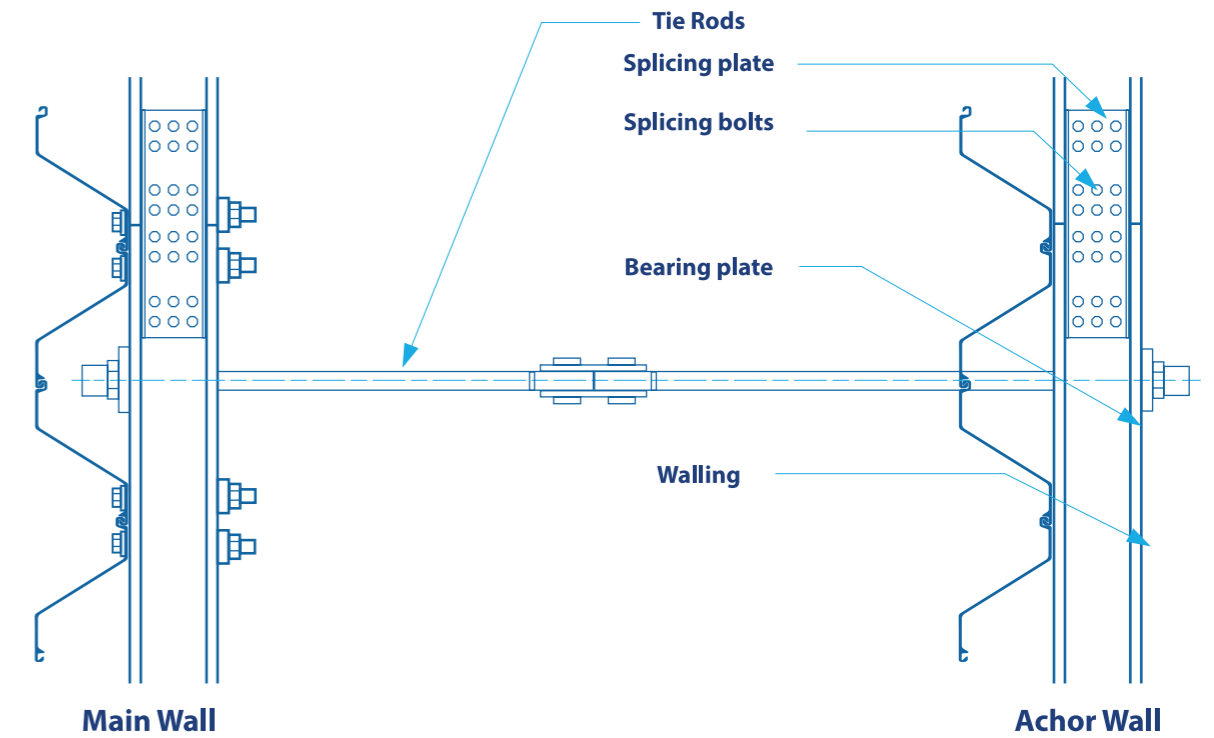
GRADES

EN 10248

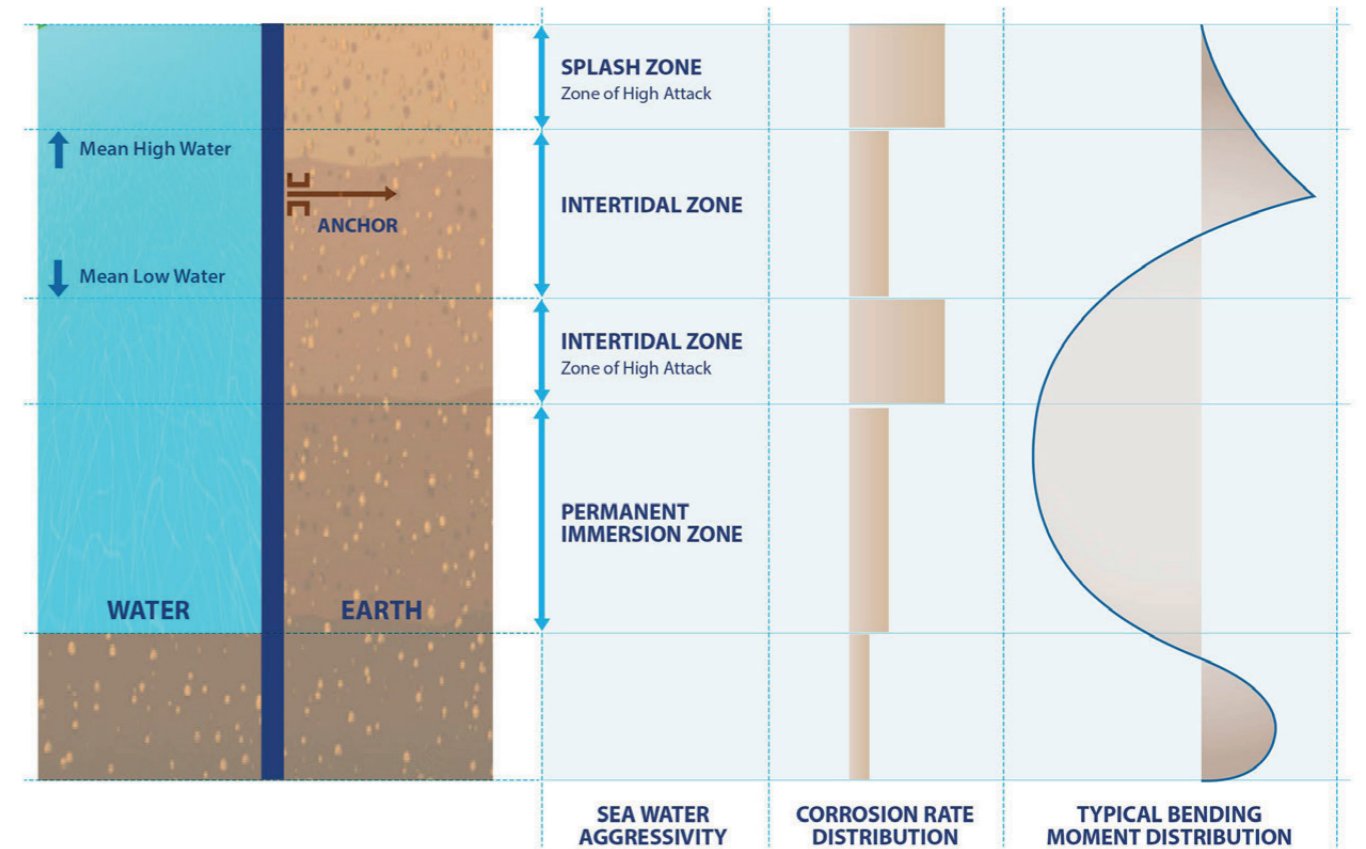
Steel grade - sheet piles sections		
Steel grade	Min. Yield	Min. Tensile
	Strength (Mpa)	Strength (Mpa)
S270GP	270	410
S355GP	355	480
S390GP	390	490
S430GP	430	510

ASTM

Steel grade - sheet piles sections		
Steel grade	Minimum Yield Strength	
	(ksi)	Mpa
A572 Grade 50	50	345
A572 Grade 60	60	415
A572 Grade 65	65	450



Typical connection details of sheet piles with tie rods and accessories



Typical diagram of sheet pile loss of thickness in marine environment

Certifications

SECTIONS

	<p>Product Conformity Certification MS EN 10025-2:2011 SIRIM (Standards and Industrial Research Organization Malaysia) Certification Number: PC 000694</p>
	<p>Product Conformity Certification CE Mark - EN 10025-2:2011 UK CARES (United Kingdom Certification Authority for Reinforcing Steel) Certification Number: 1244-CPR-1026</p>
	<p>Factory Production Control BS EN 10025-1:2004 UK CARES (UK Certification Authority for Reinforcing Steel) Certification Number: 1244-CPR-1026</p>
	<p>Product Conformity Certification ESMA (Emirates Authority for Standardization and Metrology) Certification Number: 0034/10</p>
	<p>Product Conformity Certification ISI Mark – IS 2062:2011 BIS (Bureau of Indian Standards) Certification Number: CML/4044343</p>
	<p>Factory Production Control Certification BC1:2012 TÜV Singapore Certification Number: 1800 9228 C001</p>
	<p>Product Conformity Certification AS/NZS 3679.1:2016 Australian Certification Authority (ACRS) Certification Number: 190301</p>
	<p>Registration of Construction Material EN 10025 – 2, EN 10248 Abu Dhabi Quality & Conformity Council Ref.: QCC/AC/18/App. # 573/001</p>

Certifications

SHEET PILES

	<p>Product Conformity Certification EN 10248-1 TÜV Germany Certification Number: 07/201/1326/UHP/2206/17</p>
<p>HOMOLOGATION CERTIFICATE</p>	<p>Product Conformity Certification EN 10248-1 Ministry of Infrastructure, Italy Certification Number: 002/18-AM</p>
	<p>Registration of Construction Material EN 10025 – 2, EN 10248 Abu Dhabi Quality & Conformity Council Ref.: QCC/AC/18/App. # 573/001</p>

Symbols used in hot rolled beams

G	Mass per unit weight (kg/m or lbs/ft)
h	Depth of the section (mm or Inch)
b	Width of section (mm or Inch)
t_w	Web thickness (mm or Inch)
t_f	Flange thickness (mm or Inch)
r	Root radius (mm or Inch)
d	Depth between fillets (mm or Inch)
A	Cross sectional area (cm ² or Inch ²)
I_x, I_y	Second moment of area against the strong axis X and the weak axis Y (cm ⁴ or Inch ⁴)
i_x, i_y	Radius of gyration against the strong axis X and the weak axis Y (cm or Inch)
W_x, W_y	Elastic section modulus against the strong axis X and the weak axis Y (cm ³ or Inch ³)
W_{p,x}, W_{p,y}	Plastic section modulus against the strong axis X and the weak axis Y (cm ³ or Inch ³)
H	Warping constant (cm ⁶ or Inch ⁶)
J	Torsional constant (cm ⁴ or Inch ⁴)
E	Modulus of Elasticity, 200,000 Newtons per square millimeter (N/mm ²) or 29,000 kips per square inch (ksi).

INDEX

Symbols used in hot rolled sheet piles

tf	flange thickness
tw	web thickness
h	height
w	width
I_x	moment of inertia
W_x	Elastic section modulus
R_g	Radius of gyration

INDEX



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