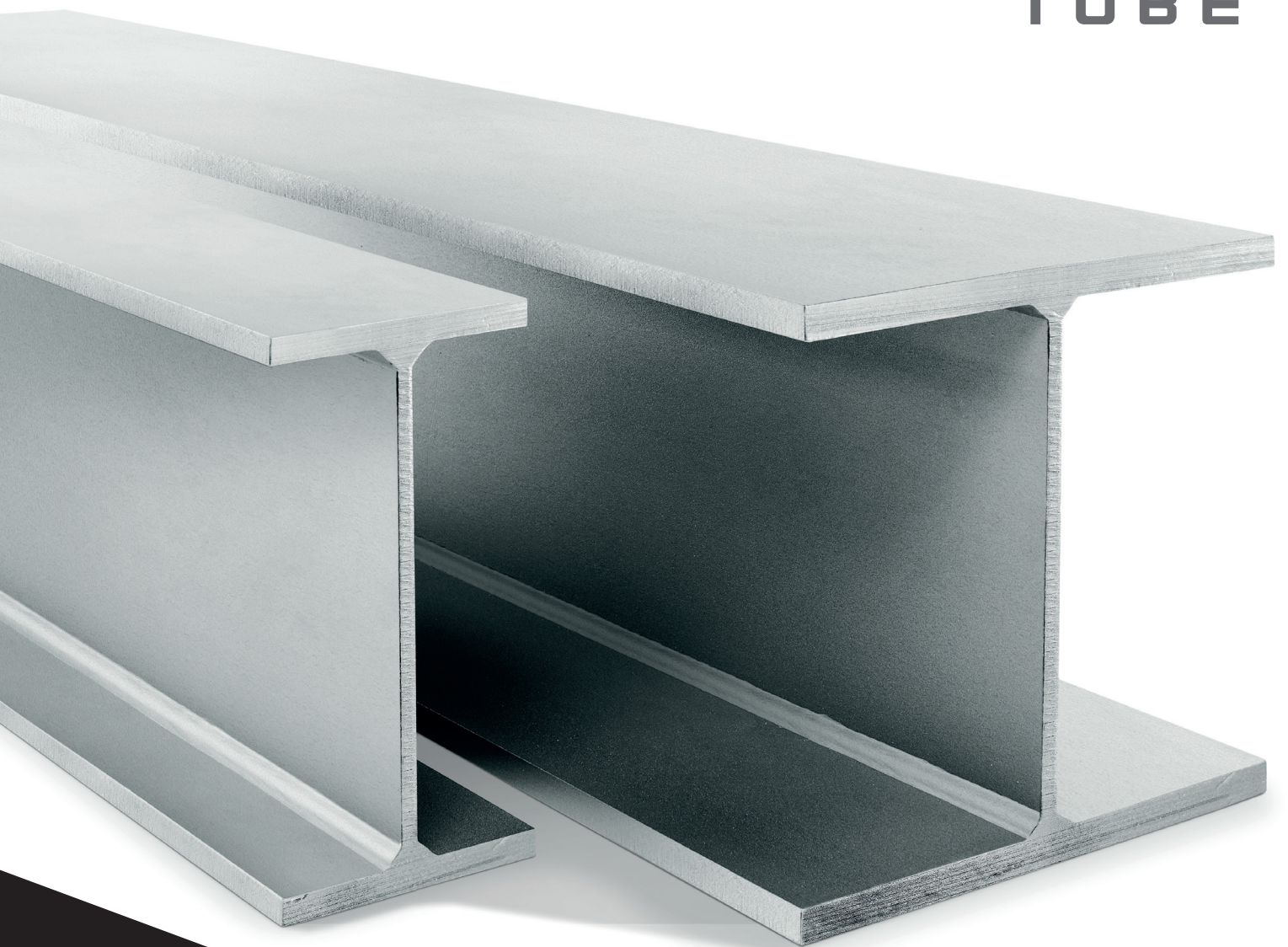




IMPERIAL

TECHNICAL DATA SHEET

Stainless I-beams and Profiles

| I-beams

| U-profiles

| L-profiles

Steel grades – chemical and mechanical properties

CHEMICAL COMPOSITION

(% by mass, maximum values unless indicated otherwise)

Austenitic

Fulfills the standard ASTM A240/240M

MT	C	Mn	P	S	Si	Cr	Ni	Mo	N	Others	PRE
304	0.07	2.00	0.045	0.030	0.75	18.0-19.5	8.0-10.5		0.10		18
304L	0.03	2.00	0.045	0.030	0.75	18.0-19.5	8.0-12.0		0.10		18
316L	0.03	2.00	0.045	0.030	0.75	16.0-18.0	10.0-14.0	2.00-3.00	0.10		24
316Ti ¹⁾	0.08	2.00	0.045	0.030	0.75	16.0-18.0	10.0-14.0	2.00-3.00	0.10	Min Ti 5x(C+N), max 0.70	24

Lean Duplex and Duplex

Fulfills the standard ASTM A240/240M

UNS	C	Mn	P	S	Si	Cr	Ni	Mo	N	Others	PRE
S32101	0.04	4.0-6.0	0.04	0.03	1.00	21.0-22.0	1.35-1.70	0.10-0.80	0.20-0.25	Cu 0.10-0.80	26
S32202	0.03	2.0	0.04	0.01	1.00	21.5-24.0	1.0-2.8	0.45	0.18-0.26		26
S32304	0.03	2.50	0.04	0.03	1.00	21.5-24.5	3.0-5.5	0.05-0.6	0.05-0.20	Cu 0.05-0.60	28
S32205	0.03	2.00	0.04	0.02	1.00	22.0-23.0	4.5-6.5	3.0-3.5	0.14-0.20		35

MECHANICAL PROPERTIES

Measured from coil or plate, minimum values. Fulfills the standard ASTM A240/240M

Austenitic

MT	0.2 % -proof strength Rp0.2 ksi (MPa)	Tensile strength Rm ksi (MPa)	Elongation A50 %
304	30 (205)	75 (515)	40
304L	25 (170)	70 (485)	40
316L	25 (170)	70 (485)	40
316Ti ¹⁾	30 (205)	75 (515)	40

Lean Duplex and Duplex

UNS		0.2 % -proof strength Rp0.2 ksi (MPa)	Tensile strength Rm ksi (MPa)	Elongation A50 %
S32101	T ≤ 0.187 in. (5 mm) T > 0.187 in. (5 mm)	77 (530) 65 (450)	101 (700) 94 (650)	30 30
S32202		65 (450)	94 (650)	30
S32304		58 (400)	87 (600)	25
S32205		65 (450)	95 (655)	25

¹⁾ Not included in standard ASTM A554

We reserve the right to changes. Stalutube takes no responsibility for any error in numerical information that might appear in this brochure.

Services

Technical consultation

Our experienced staff have extensive know-how on all matters concerning stainless steel. If you have any doubts or questions about stainless steel materials, processing or welding, we are always willing to assist. Not only in theory, but also in practice, hands-on at your plant. Don't hesitate to contact us!



Testing and certification

Get precise documentation, certifications, test reports or other statements for needed purpose. The traceability of our products is always accurate.



Surface enhancement

Surface finish is an essential part of the outlook, durability and functionality of a stainless steel structure. It is even possible to make surfaces hygienic where necessary.



Tailoring



Stalafit

Our Stalafit service allows you to order I-beams and profiles with tailored outer dimensions up to one millimeter accuracy. Possible sizes can be checked with our sales personnel or with Stalafit PRO (I-beams).



Stalafit PRO

To professionally design stainless structures we have created the design application Stalafit PRO, which can be found from stalafit.stalatube.com or from mobile markets.



Smart logistics

We guarantee short delivery times and accurate deliveries. Products are delivered in prime condition and ready for installation with each package clearly identified by specification and certification.



OTHER OPTIONAL SERVICES

Marking with stickers available by request.

Stainless welded I-beams

304, 304L, 316L, 316Ti, S32101, S32202, S32304, S32205

MARKING ON PRODUCTS

Laser marked or engraved	Stalatube Oy, made in EU, steel grade, dimensions, plate number
Bundle tag	Dimensions, steel grade, surface condition, bundle size, plate number, bundle number

BUNDLE PACKING

Plastic bands

DELIVERY CONDITIONS

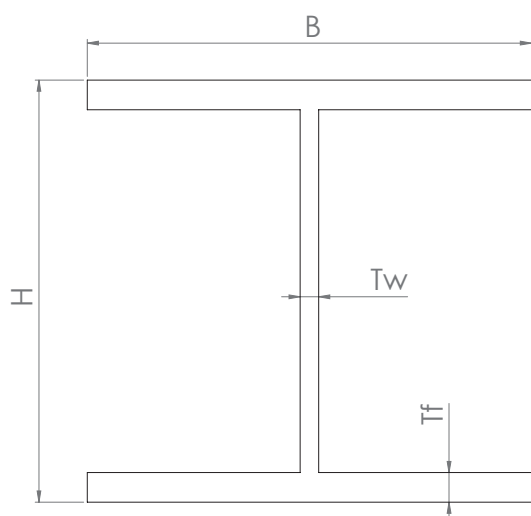
Manufacturing	Welded
Surface condition	Pickled

AVAILABILITY

The availability of dimension and steel grade should be checked before ordering.

HEIGHT H AND WIDTH B ACCORDING TO ASTM A6/A6M-19

Destination	H in.	B in.	TW in.	TF in.	Weight lb/ft
W5x16	5.01	5.000	0.236	0.394	16.907
W6x25	6.38	6.080	0.315	0.472	25.522
W8x15	8.11	4.015	0.236	0.315	14.709
W8x35	8.12	8.020	0.315	0.472	33.671
W10x22	10.17	5.750	0.236	0.394	23.101
W10x68	10.40	10.130	0.472	0.787	68.876
W12x26	12.22	6.490	0.236	0.394	26.755
W14x74	14.17	10.070	0.472	0.787	74.647
W16x40	16.01	6.995	0.315	0.472	38.869
W18x65	18.35	7.590	0.472	0.787	68.035



Dimension range
 Height H: 4 - 20 in.
 Flange width B: 4 - 12 in.
 Web thickness TW: 0.20 - 0.5 in.
 Flange thickness TF: 0.24 - 0.79 in. ¹⁾
 Standard length 20 ft

¹⁾ Duplex max 0.59 in.

Availability
 The availability of dimension and steel grade should be checked before ordering.

Also available as



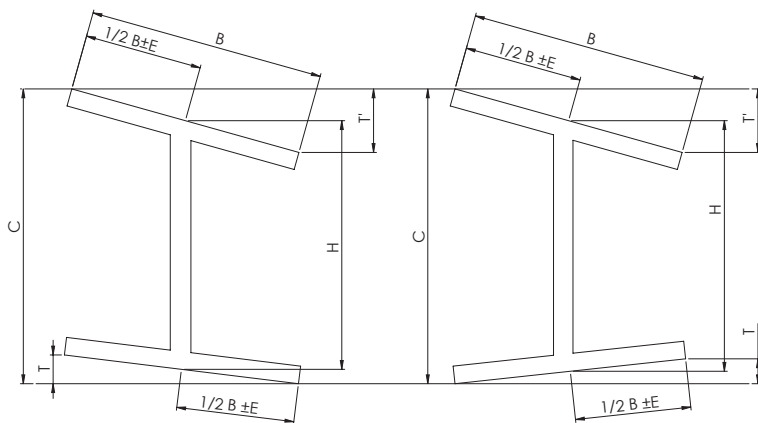
See more information
on page 3

Tolerances of I-beams

TOLERANCES

Characteristic	Tolerance	
Section height H	-.125/+ .125"	
Flange width B	-.188/+ .250"	
Web thickness Tw and Flange thickness Tf	Thickness, in.	Tolerance, in.
*) For Duplex -.012/+ .055	Tw, Tf = .12	± .012
	.12 < Tw, Tf ≤ .16	± .013
	.16 < Tw, Tf ≤ .20	± .014
	.20 < Tw, Tf ≤ .24	± .015
	.12 < Tw, Tf ≤ .16	± .013
	.24 < Tw, Tf ≤ .31	± .016
	.31 < Tw, Tf ≤ .39	± .017
	.39 < Tw, Tf ≤ .47	± .019 *)
	.47 < Tw, Tf < .79	-.012/+ .055
Tw, Tf = .79		-.012/+ .061
Length L	± .375"	
Out of square T+T 1		
H ≤ 12"	Max .25"	
H > 12"	Max .313"	
Web off center E	-.188/+ .188"	
Maximum depth C	25"	
Straightness ¹⁾	Max 1/8 x (total length L in feet/10) in.	

¹⁾ if B < 6", max sweep (straightness in less stiff direction) can be doubled



Stainless U-profiles

304, 304L, 316L, 316Ti, S32101, S32202, S32304, S32205

DELIVERY CONDITIONS

Manufacturing	Press braked
Surface condition	1D

MARKING ON PRODUCTS

Laser marked or engraved	Stalutube Oy, made in EU, steel grade, dimensions, plate number
Bundle tag	Dimensions, steel grade, surface condition, bundle size, plate number, bundle number

BUNDLE PACKING

Plastic bands

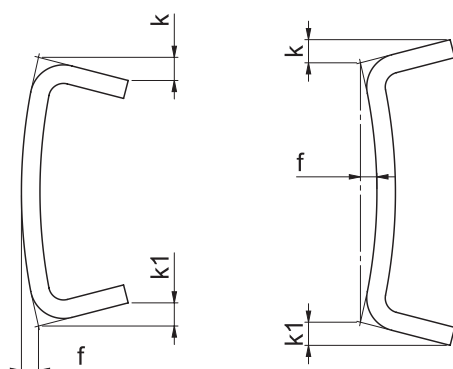
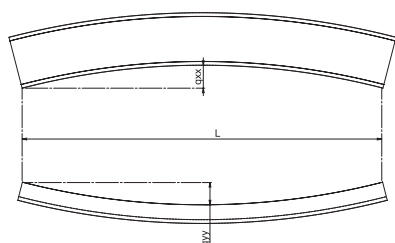
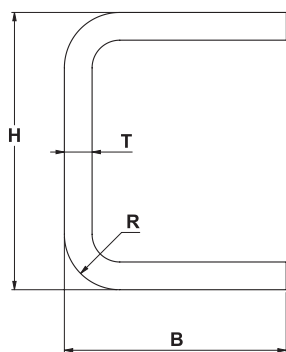
U-PROFILE STANDARD DIMENSIONS

(HEIGHT H AND WIDTH B ACCORDING TO ASTM A6/A6M-19)

Designation	H in.	B in.	T in.	Weight lb/ft
C 3 x 2.33	3.00	1.596	0.118	2.327
C 4 x 2.83	4.00	1.721	0.118	2.833
C 5 x 4.41	5.00	1.885	0.157	4.414
C 6 x 6.46	6.00	2.157	0.197	6.460
C 7 x 7.61	7.00	2.299	0.197	7.611
C 8 x 9.85	8.00	2.527	0.236	9.851
C 9 x 10.86	9.00	2.648	0.236	10.856
C 10 x 12.29	10.00	3.033	0.236	12.287
C 12 x 18.52	12.00	3.170	0.315	18.521
C 15 x 22.94	15.00	3.716	0.315	22.935
C 18 x 33.62	18.00	4.200	0.394	33.624

TOLERANCES

Characteristic	Tolerance	
Height, H	Height, in.	Tolerance, in.
	H ≤ 2.56	± .059
	2.56 < H ≤ 7.87	± .079
	7.87 < H ≤ 15.75	± .118
	H > 15.75	± .157
Flange width, B	Width, in.	Tolerance, in.
	B ≤ 1.97	± .059
	1.97 < B ≤ 3.94	± .079
	3.94 < B ≤ 4.92	± .098
	B > 4.92	± .118
Web thickness Tw and Flange thickness Tf	Thickness, in.	Tolerance, in.
	.12 < Tw, Tf ≤ .16	± .013
	.16 < Tw, Tf ≤ .20	± .014
	.20 < Tw, Tf ≤ .24	± .015
	.24 < Tw, Tf ≤ .31	± .016
	.31 < Tw, Tf ≤ .39	± .017
	.39 < Tw, Tf ≤ .47	± .019 *)
	.47 < Tw, Tf < .79	-.012/+ .055
*) For Duplex	Tw, Tf = .79	-.012/+ .061
Squareness, k+k1	Flange width, in.	Tolerance, in.
	B ≤ 6.30	.157
	B > 6.30	2.5% x B
Web flatness, f	Height, in.	Tolerance, in.
	H ≤ 7.87	± .039
	H > 7.87	± .059
Straightness, qxx	Height, in.	Tolerance, in.
	H ≤ 5.91	± 0.3% of L
	5.91 < H ≤ 11.81	± 0.2% of L
	H > 11.81	± 0.15% of L
Straightness, qyy	Height, in.	Tolerance, in.
	H ≤ 5.91	± 0.5% of L
	5.91 < H ≤ 11.81	± 0.3% of L
	H > 11.81	± 0.2% of L
Characteristic	Tolerance, in.	
Outside corner radius, R	Max 3xT	
Length, L	± .2	



Also available as



See more information
on page 3

Dimension range:

Height H: 2-39 in.
Width B: 2-20 in.
Thickness T: 0.12-0.79 in.¹⁾
Length L: 10-20 ft,
standard length 20 ft

¹⁾ Duplex max 0.59 in.

Stainless L-profiles

304, 304L, 316L, 316Ti, S32101, S32202, S32304, S32205

DELIVERY CONDITIONS

Manufacturing	Press braked
Surface condition	1D

BUNDLE PACKING

Plastic bands

MARKING ON PRODUCTS

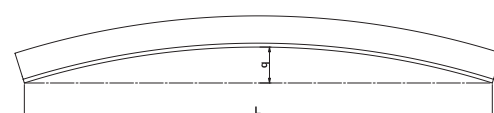
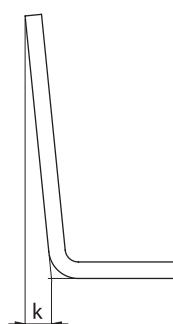
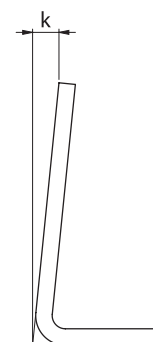
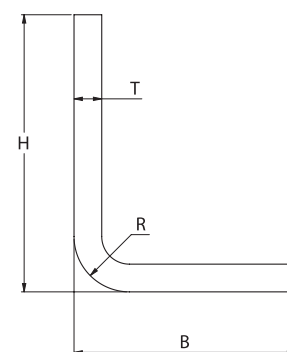
Laser marked or engraved	Stalatube Oy, made in EU, steel grade, dimensions, plate number
Bundle tag	Dimensions, steel grade, surface condition, bundle size, plate number, bundle number

L-PROFILE STANDARD DIMENSIONS (HEIGHT H AND WIDTH B ACCORDING TO ASTM A6/A6M-19)

Designation	H in.	B in.	T in.	Weight lb/ft
L2 x 2	2	2	0.197	2.450
L2.5 x 2.5	2.5	2.5	0.236	3.690
L3 x 3	3	3	0.315	4.499
L3.5 x 3.5	3.5	3.5	0.315	6.920
L4 x 4	4	4	0.394	9.800
L5 x 5	5	5	0.394	12.497
L6 x 6	6	6	0.591	22.051
L8 x 8	8	8	0.787	39.202
L10 x 10	10	10	0.787	49.989
L12 x 12	12	12	0.787	60.776

TOLERANCES

Characteristic	Tolerance	
Leg length, B and H	Leg length, in.	Tolerance, in.
	H ≤ 1.97	± .039
	1.97 < H ≤ 3.94	± .079
	3.94 < H ≤ 5.91	± .118
	5.91 < H ≤ 7.87	± .157
	H > 7.87	-.157 / +.236
Web thickness Tw and Flange thickness Tf	Thickness, in.	Tolerance, in.
	.12 < Tw, Tf ≤ .16	± .013
	.16 < Tw, Tf ≤ .20	± .014
	.20 < Tw, Tf ≤ .24	± .015
	.24 < Tw, Tf ≤ .31	± .016
	.31 < Tw, Tf ≤ .39	± .017
	.39 < Tw, Tf ≤ .47	± .019 *)
	.47 < Tw, Tf < .79	-.012 / +.055
	Tw, Tf = .79	-.012 / +.061
*) For Duplex -.012 / +.055		
Squareness, k	Leg length, in.	Tolerance, in.
	H ≤ 7.87	.079
	H > 7.87	.118
Straightness over full length, q	Leg length, in.	Tolerance, in.
	H ≤ 5.91	0.4% x L
	5.91 < H ≤ 7.87	0.2% x L
	H > 7.87	0.1% x L
Straightness over any part	Length considered, in.	Tolerance, in.
H ≤ 5.91	59.1	.236
5.91 < H ≤ 7.87	78.7	.118
H > 7.87	118.1	.118
Characteristic	Tolerance, in.	
Outside corner radius, R	Max 3xT	
Length, L	± .2	



Dimension range:

Height H: 2-20 in.
Width B: 2-20 in.
Thickness T: 0.12-0.79 in.¹⁾
Length L: 10-20 ft, standard length 20 ft

¹⁾ Duplex max 0.59 in.

Also available as



See more information
on page 3

Best stainless steel solutions to answer your needs.

Over the past 49 years, we've gained the expertise, created the world's widest range of hollow sections and developed a global distribution network to be able to serve you in all corners of the globe, even in the most demanding projects and applications.

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