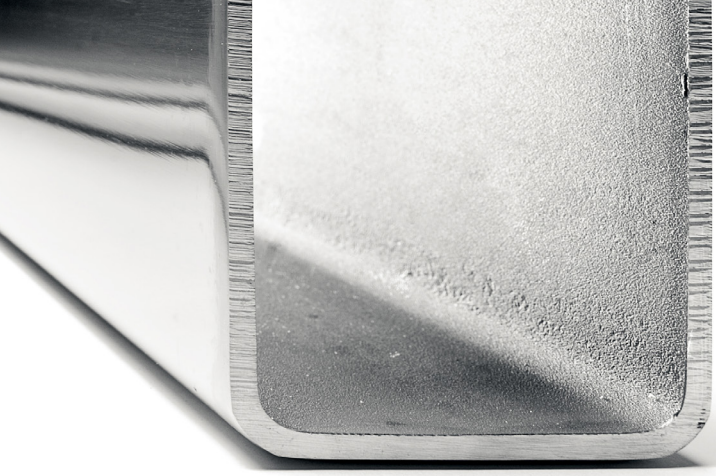
STÅLA TUBE

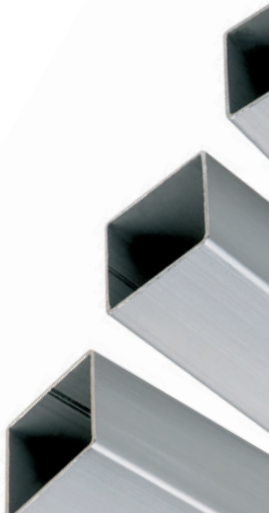
DATASHEET **METRIC**

Stainless hollow sections &

I-beams and profiles



Contents



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. Do not 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.

Tolerances

Cut to length service	4-18 m, tolerance -0/+20 mm
Precise cutting	20-9000 mm, tolerance ± 1 mm ≥ 9000 mm, tolerance depends on the length
Angle cutting	30-90°, tolerance ±1°
Laser cutting	Tolerance ±0.5 mm

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 more hygienic where necessary.

Polishing	**Ra [µm]**
Grit 180	1.5 - 1.9
Grit 220/240	1.0 - 1.4
Grit 320	0.6 - 0.9
Polished tubes are single-packed: for dimensions ≤ 60 x 60 packing in plastic sleeve and for > 60 x 60 in plastic foil.	
Bundles are packed with plastic foil, plastic bands and corner protections.	
Pickling	
Dip pickling	
Bundles are packed with plastic foil, plastic bands and corner protections	

Other optional services
Corner polishing and special surfaces by request

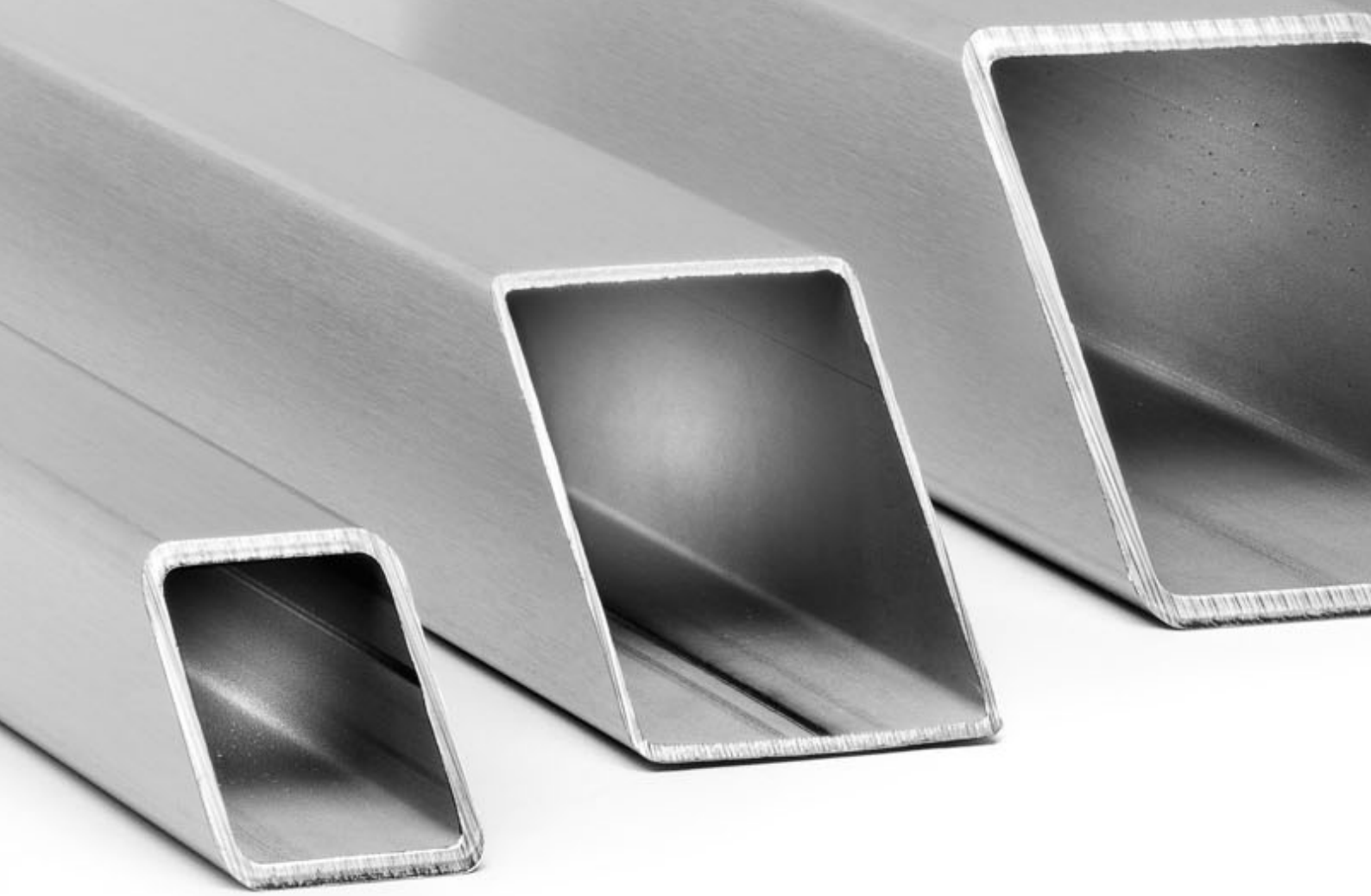
About Stalatube

Stalatube is a manufacturer of highly developed stainless steel hollow sections, profiles and components. We are known worldwide as the leading provider of stainless steel solutions. With a global presence, in-depth material expertise and the world's widest product portfolio in stainless square and rectangular hollow sections, we help customers connect the most suitable product with their application or project - in even the most complex of cases. Our customizable, environmentally conscious solutions are here to build a better future. We believe that by working with customers and investing in R&D, anything is possible.

For over 50 years of pioneer work in the industry, we have built an international distribution network covering all continents and over 50 countries. Our head office and main production facility is in Finland, sales offices are in the USA and Netherlands, a R&D office in Turkey, and a production facility for further processed products in Poland. To assist you in being the best, we provide world-class stainless steel know-how, cutting-edge technology and a full range of professional services.

USE OUR STRENGTH!

Hollow sections



Chemical composition EN 10088-2 and EN 10088-4

(% by mass, maximum values unless indicated otherwise)

Austenitic											
EN	C	Si	Mn	P	S	N	Cr	Mo	Ni	Others	PRE
1.4301	0.070	1.00	2.00	0.045	0.015	0.10	17.5-19.5		8.0-10.5		18
1.4307	0.030	1.00	2.00	0.045	0.015	0.10	17.5-19.5		8.0-10.5		18
1.4318	0.030	1.00	2.00	0.045	0.015	0.10-0.20	16.5-18.5		6.0-8.0		20
1.4404	0.030	1.00	2.00	0.045	0.015	0.10	16.5-18.5	2.0-2.50	10.0-13.0		24
1.4571	0.080	1.00	2.00	0.045	0.015		16.5-18.5	2.0-2.50	10.5-13.5	Ti 5xC-0.70	24
1.4678	0.20-0.40	1.00	14.0-18.0	0.045	0.015	0.20-0.40	12.0-16.0				
Ferritic											
EN	C	Si	Mn	P	S	N	Cr	Mo	Ni	Others	PRE
1.4003	0.030	1.00	1.50	0.040	0.015	0.030	10.5-12.5		0.30-1.00		12
Lean Duplex and duplex											
EN	C	Si	Mn	P	S	N	Cr	Mo	Ni	Others	PRE
1.4162	0.040	1.00	4.0-6.0	0.040	0.015	0.20-0.25	21.0-22.0	0.10-0.80	1.35-1.70	Cu 0.10-0.80	26
1.4362	0.030	1.00	2.00	0.035	0.015	0.05-0.20	22.0-24.0	0.10-0.60	3.5-5.5	Cu 0.10-0.60	28
1.4462	0.030	1.00	2.00	0.035	0.015	0.10-0.22	21.0-23.0	2.50-3.50	4.5-6.5		35

Mechanical properties

Roll-formed hollow sections | Standard strength class

Fulfills the standards EN 10088-2 and EN 10088-4
Measured from coil, minimum values unless indicated otherwise

Austenitic				
EN	0.2 % - proof strength Rp0.2 MPa	Tensile strength Rm MPa	Elongation A* %	
1.4301	210	520-720	45	
1.4307	200	520-700	45	
1.4404	220	530-680	40	
1.4571	220	540-690	40	
High-strength austenitic				
EN	0.2 % - proof strength Rp0.2 MPa	Tensile strength Rm MPa	Elongation A* %	
1.4318	350	650-850	40	
Ferritic				
EN	0.2 % - proof strength Rp0.2 MPa	Tensile strength Rm MPa	Elongation A* %	
1.4003	320	450-650	20	
Lean Duplex and duplex				
EN	0.2 % - proof strength Rp0.2 MPa	Tensile strength Rm MPa	Elongation A* %	
1.4162	480	680-900	20	
1.4362	500	690	25	1)
1.4462	460	700-950	25	

1) EDX2304
** A80 when T < 3 mm, A5 when T ≥ 3 mm*

Roll-formed hollow sections | Enhanced strength class

Measured from tube, minimum values

Austenitic			
Available in steel grades 1.4301, 1.4307, 1.4404 and 1.4571			
Tube	0.2 % - proof strength Rp0.2 MPa	Tensile strength Rm MPa	Elongation A5 %
STALA350 [1)]	350	600	30
High-strength austenitic			
Available in steel grades 1.4318			
Tube	0.2 % - proof strength Rp0.2 MPa	Tensile strength Rm MPa	Elongation A5 %
STALA350	350	600	30
STALA500	500	750	25
STALA800	800	1000	25
Ferritic			
Available in steel grade 1.4003			
Tube	0.2 % - proof strength Rp0.2 MPa	Tensile strength Rm MPa	Elongation A5 %
STALA400F [2)]	400	450	10
Lean Duplex			
Available in steel grade 1.4162			
Tube	0.2 % - proof strength Rp0.2 MPa	Tensile strength Rm MPa	Elongation A5 %
STALA630D [3)]	630	750	20

[1)] Available for dimensions up to 100 x 100 x 6 / 120 x 80 x 6 mm
[2)] Available for dimensions up to 100 x 100 x 5 / 120 x 80 x 5 mm
[3)] Available for dimensions up to 100 x 100 x 5 / 120 x 80 x 5 mm

Press brake hollow sections

Fulfills the standards EN 10088-2 and EN 10088-4
Measured from coil or plate, minimum values unless indicated otherwise

Austenitic				
EN	0.2 % - proof strength Rp0.2 MPa	Tensile strength Rm MPa	Elongation A5 %	
1.4301	210	520-720	45	
1.4307	200	500-700	45	
1.4404	220	520-680	40	
1.4571	220	520-690	40	
Lean Duplex and duplex				
EN	0.2 % - proof strength Rp0.2 MPa	Tensile strength Rm MPa	Elongation A5 %	
1.4162	450	650-900	30	
1.4362	420	630	25	1)
1.4462	460	640-950	25	

1) EDX2304

Roll-formed hollow sections

Austenitic EN 1.4301, 1.4307, 1.4404, 1.4571

Delivery condition	
Forming	Cold formed (roll-formed)
Welding process	TIG/Plasma, Laser or HF
Weld condition	External weld bead removed

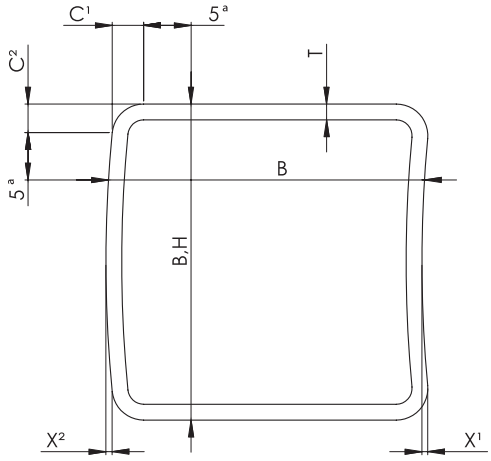
Tube marking	
Ink-jet marking on tube	Stalatube Oy made in Finland, steel grade, dimensions, coil number, production week/year, welding operator
Bundle tag	Dimensions, steel grade, surface condition, bundle size, batch id, coil number, bundle number

Bundle packing
Plastic bands

Surface condition
Brushed, when tube dimension is ≤ 100x100x6 mm
As welded (unpol), when tube dimension is > 100x100x6 mm

Tolerances (according to EN 10219-2)		
Characteristic	Tolerance	
Outside dimensions, B and H	B,H < 100 mm: ± 1 %, min ± 0.5 mm 100 mm ≤ B,H ≤ 200 mm: ± 0.8 % B,H > 200 mm: ± 0.6 %	
Concavity / Convexity (X^1/X^2)	Max. 0.8 % with a minimum of 0.5 mm	
Wall thickness, T	± 10 %, when T ≤ 5 mm ± 0.5 mm, when T > 5 mm	
Squareness of sides	90° ± 1°	
External corner profile, C1, C2 or R	B+H ≤ 200 mm and T ≤ 3 mm: Max 1.5T B+H ≤ 200 mm and T > 3 mm: 1.6T – 2.4T B+H > 200 mm and T ≤ 4 mm: 2T – 3T B+H > 200 mm and T > 4 mm: 1.6T – 2.4T	1)
Length, L	Standard length 6 m, tolerance 0/+20 mm	1)
Straightness	0.15 % of total length	
Twist	2 mm + 0.5 mm/m	

Maximum thickness for steel grade 1.4571 is 6 mm.
1) *Exception from standard*



[a] This dimension is maximum when measuring B or H and minimum when measuring T

Square		Weight [kg/m]									
H x B [mm]		1.2	1.5	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0
20	20	0.729	0.901	1.176							
25	25	0.921	**1.140**	**1.495**	**2.167**						
30	30	1.112	**1.379**	**1.814**	**2.645**						
32	32	1.189	**1.475**	**1.941**	**2.837**						
35	35	1.304	**1.618**	**2.133**	**3.124**						
38	38	1.418	**1.762**	**2.324**	**3.411**						
40	40	1.495	**1.858**	**2.452**	**3.602**	**4.703**					
45	45		**2.097**	**2.771**	**4.081**	**5.341**					
50	50		**2.336**	**3.090**	**4.559**	**5.979**	**7.349**				
60	60		2.814	**3.728**	**5.516**	**7.255**	**8.943**	**10.582**			
70	70			**4.366**	**6.473**	**8.531**	**10.538**	**12.496**			
75	75			**4.685**	**6.952**	**9.169**	**11.336**	**13.453**			
80	80			**5.004**	**7.430**	**9.807**	**12.133**	**14.410**			
90	90			**5.641**	**8.387**	**11.083**	**13.728**	**16.324**			
100	100			6.279	**9.344**	**12.359**	**15.323**	**18.237**	23.916	29.394	
120	120				11.258	14.910	18.513	22.065	29.020	35.774	
140	140				13.172	17.462	21.703	25.893	34.123	42.153	
150	150				14.129	18.738	23.298	27.807	36.675	45.343	53.811
200	200				18.913	25.118	31.272	37.376	49.434	61.292	72.950
220	220					27.670	34.462	41.204	54.538	67.672	80.605
250	250						39.247	46.946	62.194	77.241	92.089
300	300						47.221	56.515	74.953	93.190	111.227

*Sizes marked in **bold** are available in high-strength class STALA350.*

Rectangular		Weight [kg/m]									
H x B [mm]		1.2	1.5	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0
30	20	0.921	**1.140**	**1.495**							
35	25	1.112	**1.379**	**1.814**	**2.645**						
40	10	0.921	**1.140**	**1.495**							
40	20	1.112	**1.379**	**1.814**	**2.645**						
40	25	1.208	**1.499**	**1.973**	**2.885**						
40	30	1.304	**1.618**	**2.133**	**3.124**						
50	10	1.112	**1.379**	**1.814**							
50	20	1.304	**1.618**	**2.133**	**3.124**						
50	25	1.399	**1.738**	**2.292**	**3.363**						
50	30	1.495	**1.858**	**2.452**	**3.602**						
50	40		**2.097**	**2.771**	**4.081**	**5.341**					
60	10		**1.618**	**2.133**							
60	20		**1.858**	**2.452**	**3.602**						
60	30		**2.097**	**2.771**	**4.081**						
60	40		**2.336**	**3.090**	**4.559**	**5.979**					
70	50		**2.814**	**3.728**	**5.516**	**7.255**	**8.943**				
80	10		**2.097**	**2.771**							
80	20		**2.336**	**3.090**	**4.559**						
80	30		**2.575**	**3.409**	**5.038**						
80	40		2.814	**3.728**	**5.516**	**7.255**	**8.943**				
80	50			**4.047**	**5.995**	**7.893**	**9.741**				
80	60			**4.366**	**6.473**	**8.531**	**10.538**	**12.496**			
100	20		2.814	**3.728**							
100	30		3.054	**4.047**	**5.995**						
100	40			**4.366**	**6.473**	**8.531**	**10.538**				
100	50			**4.685**	**6.952**	**9.169**	**11.336**	**13.453**			
100	60			**5.004**	**7.430**	**9.807**	**12.133**	**14.410**			
100	80			**5.641**	**8.387**	**11.083**	**13.728**	**16.324**			
120	40			**5.004**	**7.430**	**9.807**					
120	60			**5.641**	**8.387**	**11.083**	**13.728**	**16.324**			
120	80			**6.279**	**9.344**	**12.359**	**15.323**	**18.237**			
120	100				10.301	13.635	16.918	20.151			
140	80				10.301	13.635	16.918	20.151			
150	50				**9.344**	**12.359**	**15.323**	**18.237**			
150	100				11.736	15.548	19.310	23.022	30.296	37.369	
160	80				11.258	14.910	18.513	22.065			
200	100				14.129	18.738	23.298	27.807	36.675	45.343	
250	100				16.521	21.928	27.285	32.592	43.055	53.318	
250	150				18.913	25.118	31.272	37.376	49.434	61.292	72.950
300	100				18.913	25.118	31.272	37.376	49.434	61.292	
300	200						39.247	46.946	62.194	77.241	92.089
400	200						47.221	56.515	74.953	93.190	111.227

Other dimensions may also be possible on request. Maximum thickness for steel grade 1.4571 is 6 mm.
*Sizes marked in **bold** are available in high-strength class STALA350.*

High-strength austenitic EN 1.4318

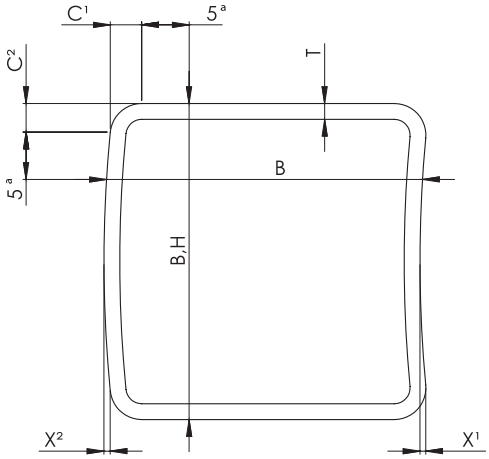
Delivery condition	
Forming	Cold formed (roll-formed)
Welding process	TIG/Plasma, Laser or HF
Weld condition	External weld bead removed

Tube marking	
Ink-jet marking on tube	Stalatube Oy made in Finland, steel grade, dimensions, coil number, production week/year, welding operator
Bundle tag	Dimensions, steel grade, surface condition, bundle size, batch id, coil number, bundle number

Bundle packing
Plastic bands

Surface condition
Brushed, when tube dimension is ≤ 100x100x6 mm
As welded (unpol), when tube dimension is > 100x100x6 mm

Tolerances (according to EN 10219-2)		
Characteristic	Tolerance	
Outside dimensions, B and H	B,H < 100 mm: ± 1 %, min ± 0.5 mm 100 mm ≤ B,H ≤ 200 mm: ± 0.8 % B,H > 200 mm: ± 0.6 %	
Concavity / Convexity (X^1/X^2)	Max. 0.8 % with a minimum of 0.5 mm	
Wall thickness, T	± 10 %, when T ≤ 5 mm ± 0.5 mm, when T > 5 mm	
Squareness of sides	90° ± 1°	
External corner profile, C1, C2 or R	B+H ≤ 200 mm and T ≤ 3 mm: Max 1.5T B+H ≤ 200 mm and T > 3 mm: 1.6T – 2.4T B+H > 200 mm and T ≤ 4 mm: 2T – 3T B+H > 200 mm and T > 4 mm: 1.6T – 2.4T	[1]
Length, L	Standard length 6 m, tolerance 0/+20 mm	[1]
Straightness	0.15 % of total length	
Twist	2 mm + 0.5 mm/m	



[a] This dimension is maximum when measuring B or H and minimum when measuring T

Maximum thickness for steel grade 1.4571 is 6 mm.
[1] *Exception from standard*

Square		Weight [kg/m]				
H x B [mm]		3.0	4.0	5.0	6.0	8.0
50	50	**4.559**	**5.979**			
60	60	**5.516**	**7.255**			
70	70	**6.473**	**8.531**			
75	75	**6.952**	**9.169**	**11.336**		
80	80	**7.430**	**9.807**	**12.133**		
90	90	**8.387**	**11.083**	**13.728**		
100	100	**9.344**	**12.359**	**15.323**	**18.237**	23.916
120	120	11.258	14.910	18.513	22.065	29.020
140	140	13.172	17.462	21.703	25.893	34.123
150	150	14.129	18.738	23.298	27.807	36.675
200	200	18.913	25.118	31.272	37.376	49.434
220	220		27.670	34.462	41.204	54.538
250	250			39.247	46.946	62.194
300	300			47.221	56.515	74.953

*Sizes marked in **bold** are available in high-strength class STALA500.*

Rectangular		Weight [kg/m]				
H x B [mm]		3.0	4.0	5.0	6.0	8.0
60	40	**4.559**				
70	50	**5.516**	**7.255**			
80	20	**4.559**				
80	30	**5.038**				
80	40	**5.516**	**7.255**			
80	50	**5.995**	**7.893**			
80	60	**6.473**	**8.531**			
100	30	**5.995**				
100	40	**6.473**	**8.531**			
100	50	**6.952**	**9.169**	**11.336**		
100	60	**7.430**	**9.807**	**12.133**		
100	80	**8.387**	**11.083**	**13.728**		
120	40	**7.430**	**9.807**			
120	60	**8.387**	**11.083**	**13.728**		
120	80	**9.344**	**12.359**	**15.323**	**18.237**	
120	100	10.301	13.635	16.918	20.151	
140	80	10.301	13.635	16.918	20.151	
150	50	**9.344**	**12.359**			
150	100	11.736	15.548	19.310	23.022	30.296
160	80	11.258	14.910	18.513	22.065	
200	100	14.129	18.738	23.298	27.807	36.675
250	100		21.928	27.285	32.592	43.055
250	150		25.118	31.272	37.376	49.434
300	100		25.118	31.272	37.376	49.434
300	200			39.247	46.946	62.194
400	200			47.221	56.515	74.953

*Sizes marked in **bold** are available in high-strength class STALA500.*

STALA800

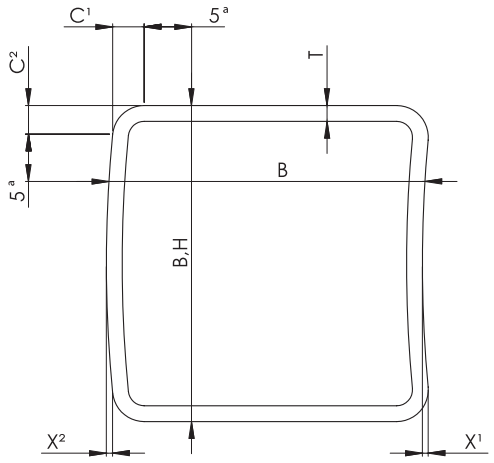
High-strength austenitic EN 1.4678

STALA800 is the newest material in our austenitic strength class. It has an exceptional combination of high strength and elongation. Coating is recommended.

Delivery condition	
Forming	Cold formed (roll-formed)
Welding process	Laser
Weld condition	External weld bead removed

Bundle packing
Plastic bands

Tube marking	
Ink-jet marking on tube	Stalatube Oy made in Finland, steel grade, dimensions, coil number, production week/year, welding operator
Bundle tag	Dimensions, steel grade, surface condition, bundle size, batch id, coil number, bundle number



[a] This dimension is maximum when measuring B or H and minimum when measuring T

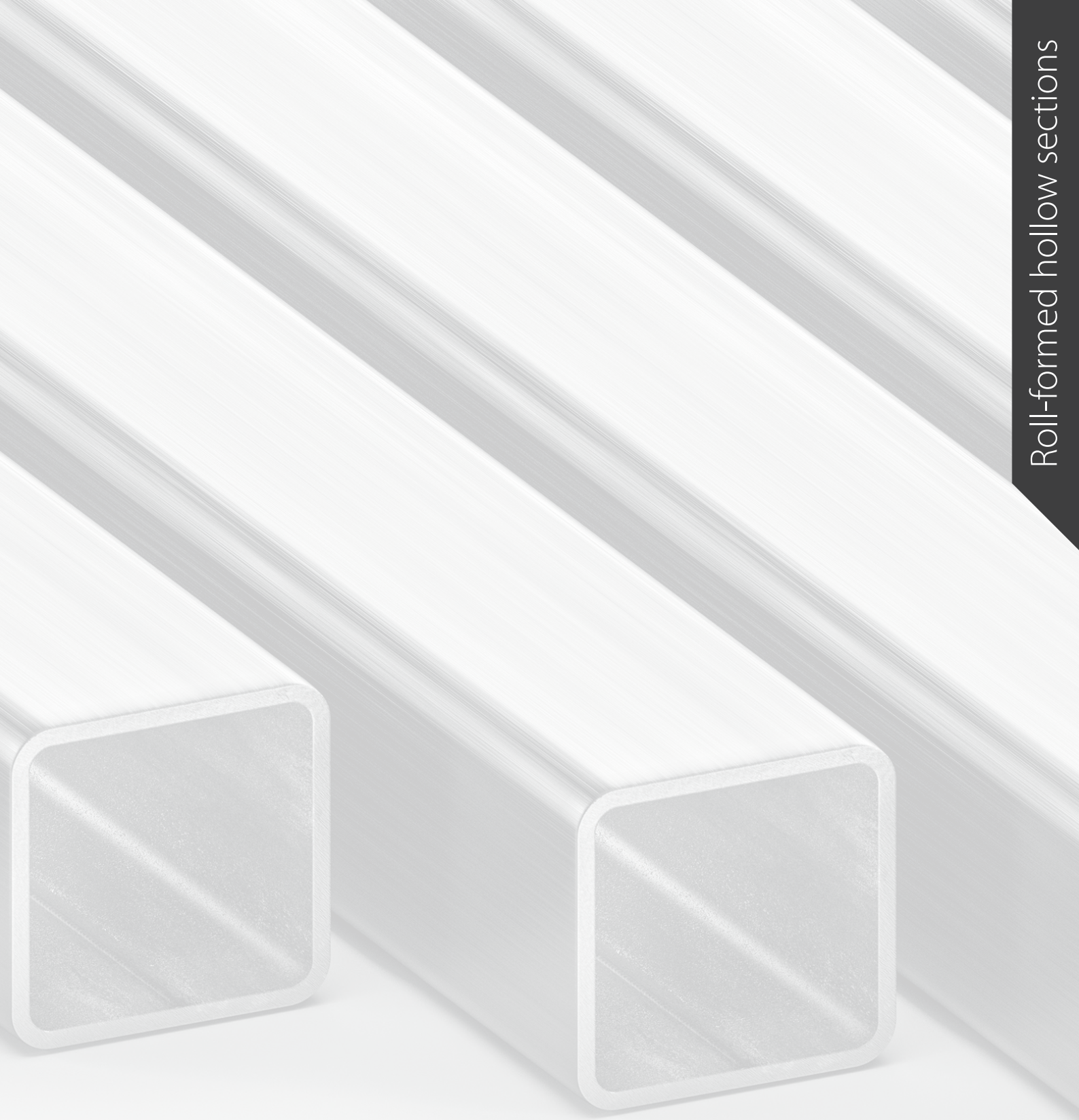
Surface condition
As welded (unpol)

Tolerances (according to EN 10219-2)		
Characteristic	Tolerance	
Outside dimensions, B and H	B,H < 100 mm: ± 1 %, min ± 0.5 mm B,H ≥ 100 mm: ± 0.8 %	
Concavity / Convexity (X^1/X^2)	Max. 0.8 % with minimum of 0.5 mm	
Wall thickness, T	± 10 %	
Squareness of side	90° ± 1°	
External corner profile, C1, C2 or R	1.6T – 2.4T	
Length	Standard length 6 m, tolerance 0/+20 mm	1)
Straightness	0.15 % of total length	
Twist	2 mm + 0.5 mm/m	

1) Exception from standard

Square		Weight [kg/m]				
H x B [mm]		1.5	2.0	2.5	3.0	3.5
25	25	1.05				
30	30	1.29	1.67			
32	32	1.38	1.79			
35	35	1.52	1.98	2.41		
40	40	1.76	2.29	2.80	3.28	
45	45	1.99	2.60	3.19	3.75	
50	50	2.22	2.91	3.58	4.22	4.83
55	55	2.46	3.23	3.97	4.69	5.38
60	60	2.69	3.54	4.36	5.15	5.92
70	70		4.16	5.14	6.09	7.02
75	75		4.47	5.53	6.56	7.56
80	80			5.92	7.03	8.11
90	90			6.70	7.96	9.20
100	100			7.48	8.90	10.29

Rectangular		Weight [kg/m]				
H x B [mm]		1.5	2.0	2.5	3.0	3.5
30	20	1.05				
40	20	1.29	1.67			
40	30	1.52	1.98	2.41		
50	20	1.52	1.98			
50	25	1.64	2.13	2.60		
50	30	1.76	2.29	2.80		
50	40	1.99	2.60	3.19	3.75	
60	20	1.76	2.29			
60	30	1.99	2.60	3.19	3.75	
60	40	2.22	2.91	3.58	4.22	4.83
60	50	2.46	3.23	3.97	4.69	5.38
70	50	2.69	3.54	4.36	5.15	5.92
80	30	2.46	3.23	3.97	4.69	5.38
80	40	2.69	3.54	4.36	5.15	5.92
80	60		4.16	5.14	6.09	7.02
100	30		3.85	4.75	5.62	
100	40		4.16	5.21	6.17	7.11
100	50		4.47	5.53	6.56	7.56
100	60		4.79	5.92	7.03	8.11
100	80		5.41	6.70	7.96	9.20
120	40		4.79	5.92	7.03	8.11
120	60			6.70	7.96	9.20
120	80			7.48	8.90	10.29



Ferritic EN 1.4003

Delivery condition	
Forming	Cold formed (roll-formed)
Welding process	Laser or HF
Weld condition	External weld bead removed

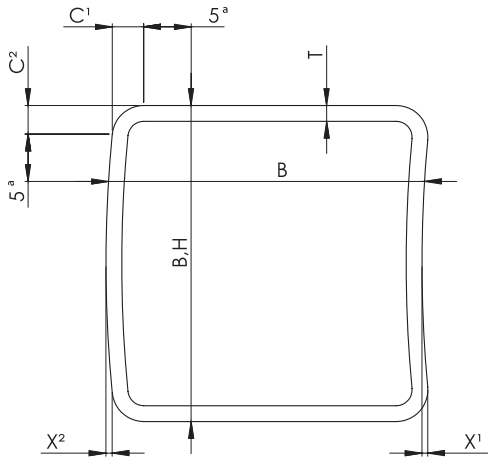
Tube marking	
Ink-jet marking on tube	Stalatube Oy made in Finland, steel grade, dimensions, coil number, production week/year, welding operator
Bundle tag	Dimensions, steel grade, surface condition, bundle size, batch id, coil number, bundle number

Bundle packing
Plastic bands

Surface condition
As welded (unpol)

Tolerances (according to EN 10219-2)		
Characteristic	Tolerance	
Outside dimensions, B and H	B,H < 100 mm: ± 1 %, min ± 0.5 mm B,H ≥ 100 mm: ± 0.8 %	
Concavity / Convexity	Max. 0.8 % with minimum of 0.5 mm	
Wall thickness, T	± 10 %	
Squareness of side	90° ± 1°	
External corner profile (C1, C2 or R)	1.6T - 2.4T	
Length	Standard length 6 m, tolerance 0/+20 mm	1)
Straightness	0.15 % of total length	
Twist	2 mm + 0.5 mm/m	

1) Exception from standard



[a] This dimension is maximum when measuring B or H and minimum when measuring T

Square		Weight [kg/m]						
H x B [mm]		1.5	2.0	2.5	3.0	4.0	5.0	6.0
20	20	**0.810**						
25	25	**1.041**	**1.337**					
30	30	**1.272**	**1.645**	**1.993**	**2.316**			
32	32	**1.364**	**1.769**	**2.147**	**2.501**			
35	35	**1.503**	**1.953**	**2.378**	**2.778**			
38	38	**1.642**	**2.138**	**2.609**	**3.055**	**3.871**		
40	40	**1.734**	**2.261**	**2.763**	**3.240**	**4.117**		
45	45	1.965	**2.569**	**3.148**	**3.702**	**4.733**		
50	50	2.196	**2.877**	**3.533**	**4.164**	**5.349**		
55	55	2.427	**3.185**	**3.918**	**4.626**	**5.965**		
60	60	2.658	**3.493**	**4.303**	**5.088**	**6.581**	**7.973**	
70	70		4.109	**5.073**	**6.012**	**7.813**	**9.513**	
75	75		4.417	**5.458**	**6.474**	**8.429**	**10.283**	
80	80		4.725	**5.843**	**6.936**	**9.045**	**11.053**	**12.960**
90	90			**6.613**	**7.860**	**10.277**	**12.593**	**14.808**
100	100				**8.784**	**11.509**	**14.133**	**16.656**

*Sizes marked in **bold** are available in high-strength class STALA400F.*

Rectangular		Weight [kg/m]						
H x B [mm]		1.5	2.0	2.5	3.0	4.0	5.0	6.0
30	20	**1.041**	**1.337**					
40	20	**1.272**	**1.645**					
40	25	**1.388**	**1.799**	**2.186**				
40	30	**1.503**	**1.953**	**2.378**	**2.778**			
50	20	**1.503**	**1.953**					
50	25	**1.62**	**2.11**	**2.571**				
50	30	**1.734**	**2.261**	**2.763**	**3.240**			
50	40	**1.965**	**2.569**	**3.148**	**3.702**	**4.733**		
60	20	**1.734**	**2.261**					
60	30	**1.965**	**2.569**	**3.148**	**3.702**			
60	40	2.196	**2.877**	**3.533**	**4.164**	**5.349**		
60	50		**3.185**	**3.918**	**4.626**	**5.965**		
70	40		**3.185**	**3.918**	**4.626**	**5.965**		
70	50		**3.493**	**4.303**	**5.088**	**6.581**		
80	30		**3.185**	**3.918**	**4.626**			
80	40		**3.493**	**4.303**	**5.088**	**6.581**		
80	50		3.801	**4.688**	**5.550**	**7.197**		
80	60		4.109	**5.073**	**6.012**	**7.813**	**9.513**	
100	30		3.801	**4.688**	**5.550**			
100	40		4.109	**5.073**	**6.012**	**7.813**		
100	50		4.417	5.458	**6.474**	**8.429**		
100	60		4.725	5.843	**6.936**	**9.045**	**11.053**	
100	80			6.613	**7.860**	**10.277**	**12.593**	**14.808**
120	40		4.725	5.843	6.936	**9.045**		
120	60				7.860	**10.277**	**12.593**	
120	80				8.784	**11.509**	**14.133**	**16.656**

*Sizes marked in **bold** are available in high-trength class STALA400F.*

Lean Duplex and duplex EN 1.4162, 1.4362, 1.4462

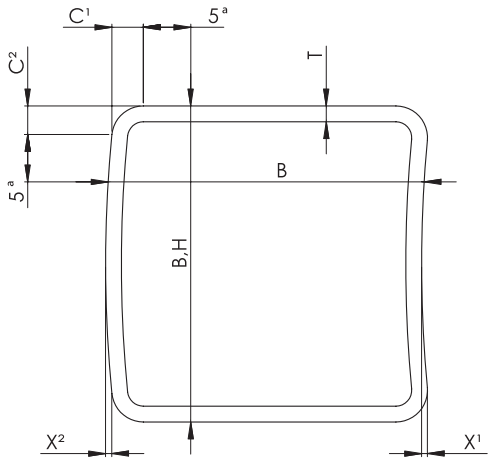
Delivery condition	
Forming	Cold formed (roll-formed)
Welding process	TIG/Plasma, Laser
Weld condition	External weld bead removed

Tube marking	
Ink-jet marking on tube	Stalatube Oy made in Finland, steel grade, dimensions, coil number, production week/year, welding operator
Bundle tag	Dimensions, steel grade, surface condition, bundle size, batch id, coil number, bundle number

Bundle packing
Plastic bands

Surface condition
Brushed, when tube dimension is ≤ 100x100x6 mm
As welded (unpol), when tube dimension is > 100x100x6 mm

Tolerances (according to EN 10219-2)		
Characteristic	Tolerance	
Outside dimensions, B and H	B,H < 100 mm: ± 1 %, min ± 0.5 mm B,H ≥ 100 mm: ± 0.8 %	1)
Concavity / Convexity (X^1/X^2)	Max. 0.8 % with minimum of 0.5 mm	
Wall thickness, T	± 10 %	
Squareness of side	90° ± 1°	
External corner profile, C1, C2 or R	B+H ≤ 200 mm: 1.6T – 2.4T B+H > 200 mm and T ≤ 4 mm: 2.0T – 3.0T B+H > 200 mm and T > 4 mm: 1.6T – 2.4T	1)
Length	Standard length 6 m, tolerance 0/+20 mm	1)
Straightness	0.15 % of total length	
Twist	2 mm + 0.5 mm/m	



[a] This dimension is maximum when measuring B or H and minimum when measuring T

[1] Exception from standard

Square		Weight [kg/m]							
H x B [mm]		1.5	2.0	2.5	3.0	4.0	5.0	6.0	8.0
25	25	**1.055**	**1.355**						
30	30	**1.289**	**1.667**	**2.019**					
32	32	**1.382**	**1.792**	**2.175**					
35	35	**1.523**	**1.979**	**2.409**					
38	38	**1.663**	**2.166**	**2.643**					
40	40	**1.757**	**2.291**	**2.799**	**3.282**				
45	45	**1.991**	**2.603**	**3.189**	**3.750**				
50	50	**2.225**	**2.915**	**3.579**	**4.218**	**5.419**			
55	55	**2.459**	**3.227**	**3.969**	**4.686**				
60	60	2.693	**3.539**	**4.359**	**5.154**	**6.667**			
70	70		**4.163**	**5.139**	**6.090**	**7.915**			
75	75		4.475	**5.529**	**6.558**	**8.539**			
80	80		4.787	5.919	7.026	**9.163**	**11.197**		
90	90			6.699	7.962	**10.411**	**12.757**		
100	100			7.479	8.898	**11.659**	**14.317**	16.872	
120	120				10.770	14.155	17.437	20.616	
150	150				13.578	17.899	22.117	26.232	
200	200					24.139	29.917	35.592	46.635
250	250						37.717	44.952	59.115
300	300						45.517	54.312	71.595

All dimensions are available in steel grade 1.4162.

Steel grades 1.4362 and 1.4462 are possible for thickness ≥ 3 mm and B, H ≥ 60 mm.

*Sizes marked in **bold** are available in high-strength class STALA630D.*

Rectangular		Weight [kg/m]							
H x B [mm]		1.5	2.0	2.5	3.0	4.0	5.0	6.0	8.0
30	20	**1.055**							
40	20	**1.289**	**1.667**						
40	30	**1.523**	**1.979**	**2.409**					
50	20	**1.523**	**1.979**						
50	25	**1.640**	**2.135**	**2.604**					
50	30	**1.757**	**2.291**	**2.799**					
50	40	**1.991**	**2.603**	**3.189**	**3.750**				
60	20	**1.757**	**2.291**						
60	30	**1.991**	**2.603**	**3.189**					
60	40	**2.225**	**2.915**	**3.579**	**4.218**	**5.419**			
60	50	2.459	**3.227**	**3.969**	**5.154**	**6.043**			
70	50	2.693	**3.539**	**4.359**	**5.154**	**6.667**			
80	30	2.459	**3.227**	**3.969**	**4.686**				
80	40	2.693	**3.539**	**4.359**	**5.154**	**6.667**			
80	60		**4.163**	**5.139**	**6.090**	**7.915**			
100	30		**3.851**	**4.749**	**5.622**				
100	40		**4.163**	**5.139**	**6.090**	**7.915**			
100	50		4.475	**5.529**	**6.558**	**8.539**			
100	60		4.787	5.919	7.026	**9.163**	**11.197**		
100	80		5.411	6.699	7.962	**10.411**	**12.757**		
120	40		4.787	5.919	7.026	**9.163**			
120	60			6.699	7.962	**10.411**	**12.757**		
120	80			7.479	8.898	**11.659**	**14.317**		
150	100				11.238	14.779	18.217	21.552	
200	100				13.578	17.899	22.117	26.232	
250	150				18.258	24.139	29.917	35.592	
300	100					24.139	29.917	35.592	
300	200					30.379	37.717	44.952	59.115
400	200						45.517	54.312	71.595

All dimensions are available in steel grade 1.4162.

Steel grades 1.4362 and 1.4462 are possible for thickness ≥ 3 mm and B, H ≥ 60 mm.

*Sizes marked in **bold** are available in high-strength class STALA630D.*

Press brake hollow sections

EN 1.4301, 1.4307, 1.4404, 1.4162, 1.4362, 1.4462

Press brake hollow sections in duplex grades are available for dimensions with T=6-12 mm, B and H 150-500 mm

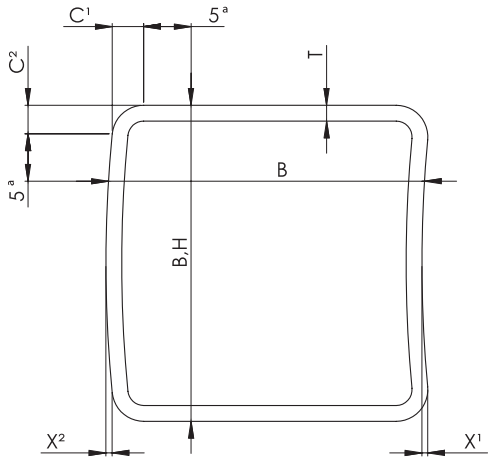
Delivery condition	
Forming	Press brake, made of two U or J profiles
Welding process	TIG/Plasma, Laser, or HF

Tube marking	
Marking on tube	Coil or plate number
Bundle tag	Dimensions, steel grade, surface condition, bundle size, batch id, coil or plate number, bundle number

Bundle packing
Plastic bands
Corner protection

Surface condition
As welded (unpol) and pickled

Tolerances	
Characteristic	Tolerance
Outside dimensions, B and H	± 1.0 %, min ± 1 mm
Concavity / Convexity	Included in outside dimensions
Wall thickness, T	± 10 %
Squareness of sides	90° ± 1°
External corner profile, C1, C2	Max 3T
Length	± 100 mm
Straightness	1 mm/m
Twist	2 mm + 0.5 mm/m
External weld bead	Width: Max 2T Height: Max 2 mm



[a] This dimension is maximum when measuring B or H and minimum when measuring T

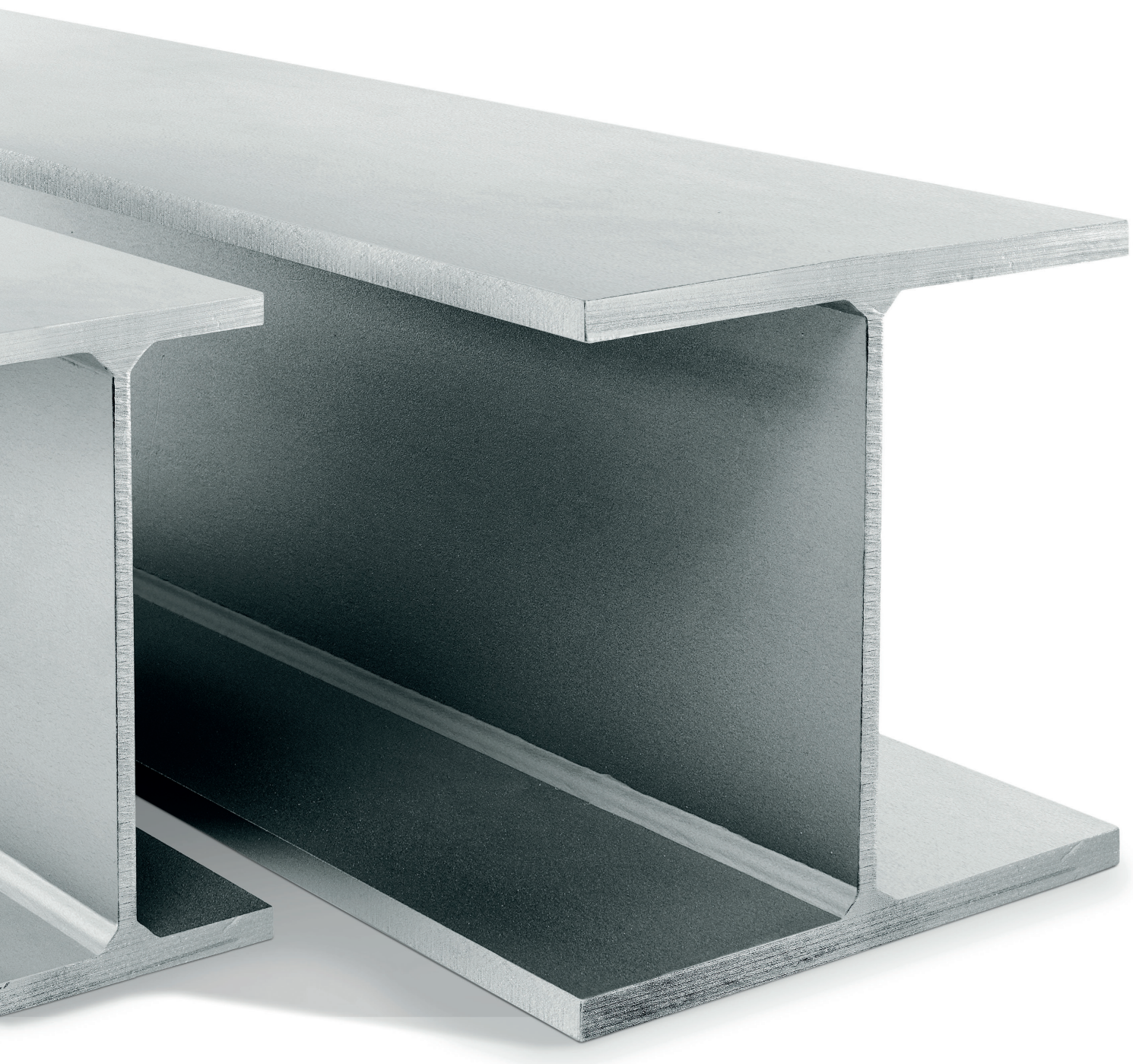
Square							
H x B [mm]		5	6	8	10	12	15
120	120	17.49	20.64	26.57			
140	140	20.65	24.43	31.63	38.36*		
150	150	22.23	26.32	34.16	41.52*		
160	160	23.81	28.22	36.69	44.68*		
180	180	26.97	32.01	41.74	51.00	59.79*	
200	200	30.13	35.80	46.80	57.32	67.38*	
250	250	38.03	45.28	59.44	73.12	86.34*	
300	300	45.93	54.76	72.08	88.92	105.30	128.98*
400	400		73.72	97.36	120.52	143.22	176.38
500	500		92.68	122.64	152.12	181.14	223.78

** Not available on 1.4162, 1.4362, 1.4462*

Rectangular							
H x B [mm]		5	6	8	10	12	15
150	80	16.70	19.69*				
160	100	19.07	22.53				
180	100	20.65	24.43				
200	100	22.23	26.32				
250	150	30.13	35.80	46.80	57.32*		
300	100	30.13	35.80				
300	200	38.03	45.28	59.44	73.12	86.34*	
350	150	38.03	45.28	59.44	73.12*		
350	250	45.93	54.76	72.08	88.92	105.30*	
400	100	38.03	45.28				
400	300		64.24	84.72	104.72	124.26*	152.68*
450	150		54.76	72.08	88.92*		
500	200		64.24	84.72	104.72	124.26*	
500	300		73.72	97.36	120.52	143.22*	176.38*
500	400		83.20	110.00	136.32	162.18	200.08

** Not available on 1.4162, 1.4362, 1.4462*

I-beams and profiles



Chemical composition EN 10088-2 and EN 10088-4

(% by mass, maximum values unless indicated otherwise)

Austenitic											
EN	C	Si	Mn	P	S	N	Cr	Mo	Ni	Others	PRE
1.4301	0.070	1.00	2.00	0.045	0.015	0.10	17.5-19.5		8.0-10.5		18
1.4307	0.030	1.00	2.00	0.045	0.015	0.10	17.5-19.5		8.0-10.5		18
1.4404	0.030	1.00	2.00	0.045	0.015	0.10	16.5-18.5	2.00-2.50	10.0-13.0		24
Lean Duplex and duplex											
EN	C	Si	Mn	P	S	N	Cr	Mo	Ni	Others	PRE
1.4162	0.040	1.00	4.0-6.0	0.040	0.015	0.20-0.25	21.0-22.0	0.10-0.80	1.35-1.70	Cu 0.10-0.80	26
1.4362	0.030	1.00	2.00	0.035	0.015	0.05-0.20	22.0-24.0	0.10-0.60	3.5-5.5	Cu 0.10-0.60	28
1.4462	0.030	1.00	2.00	0.035	0.015	0.10-0.22	21.0-23.0	2.50-3.50	4.5-6.5		35

Mechanical properties

EN 10088-2 and EN 10088-4

Measured from coil or plate, minimum values unless indicated otherwise

Austenitic				
EN	0.2 % - proof strength Rp0.2 MPa	Tensile strength Rm MPa	Elongation A5 %	
1.4301	210	520-720	45	
1.4307	200	500-700	45	
1.4404	220	520-680	40	
Lean Duplex and duplex				
EN	0.2 % - proof strength Rp0.2 MPa	Tensile strength Rm MPa	Elongation A5 %	
1.4162	450	650-900	30	
1.4362	420	630	25	1)
1.4462	460	640-950	25	

1) EDX2304

Stainless welded I-beams

EN 1.4301, 1.4307, 1.4404, 1.4162, 1.4362, 1.4462

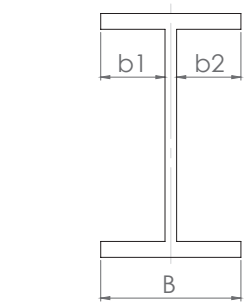
Delivery condition	
Manufacturing	Welded
Surface condition	Pickled

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

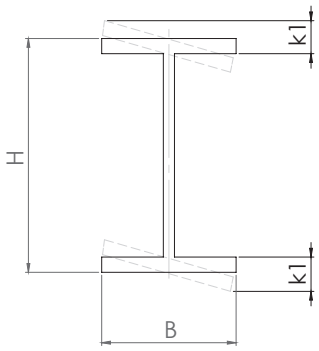
Bundle packing
Plastic bands

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

Tolerances

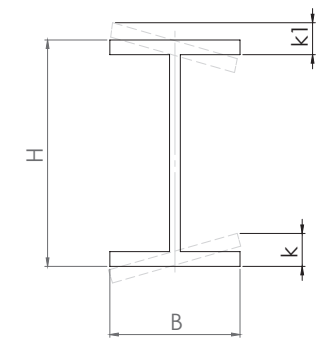


Section height H	Height, mm	Tolerance, mm
	H ≤ 180	-2.0 / +3.0
	180 < H ≤ 400	-2.0 / + 4.0
	400 < H ≤ 600	-3.0 / + 5.0
Flange width B	Width, mm	Tolerance, mm
	B ≤ 110	-1.0 / + 4.0
	110 < B ≤ 210	-2.0 / + 4.0
	210 < B ≤ 300	-4.0 / + 4.0



Web thickness Tw	Thickness, mm	Tolerance, mm
	Tw = 5.0	± 0.36
	5.0 < Tw ≤ 6.0	± 0.38
	6.0 < Tw ≤ 8.0	± 0.40
	8.0 < Tw ≤ 10.0	± 0.44
	10.0 < Tw ≤ 12.0	± 0.48 *)
Flange thickness Tf	Width, mm	Tolerance, mm
	Tf = 6.0	± 0.38
	6.0 < Tf ≤ 8.0	± 0.40
	8.0 < Tf ≤ 10.0	± 0.44
	10.0 < Tf ≤ 12.0	± 0.48*
	12.0 < Tf < 20.0	-0.30/+1.40
	Tf = 20.0	-0.30/+1.55

*For Duplex -0.30/+1.40



Length L		Tolerance, mm
		± 100 mm
Out of square k+k1	Flange width B, mm	Tolerance, mm
	B ≤ 110	1.5
	B > 110	0.02 x B
Web off-centre e e = (b1-b2) / 2	Flange width B, mm	Tolerance, mm
	B ≤ 110	2.5
	110 < B ≤ 300	3.5
Straightness qxx and qyy	Section height H, mm	Tolerance, mm
	100 ≤ H ≤ 180	0.30 % x L
	180 < H ≤ 360	0.15 % x L
	H > 360	0.10 % x L

Thickness tolerances: EN ISO 9444-2 up to 12 mm (duplex up to 10 mm), EN ISO 18286 over 12 mm (duplex over 10 mm). Other tolerances: EN 10034

Welded I-beams with outside dimensions according IPE - HEA - HEB designation. Flange and web thickness according to coil or plate standard.

Flange and web dimensions according to DIN 1025-5					
IPE	**H**	**B**	**TW**	**TF**	**kg/m**
200	200	100	6	8	21.36
220	220	110	6	10	26.86
240	240	120	6	10	29.39
270	270	135	8	10	37.13
300	300	150	8	10	41.40
330	330	160	8	12	49.68
360	360	170	8	12	53.47
400	400	180	8	15	66.04
450	450	190	10	15	78.21
500	500	200	10	15	84.53

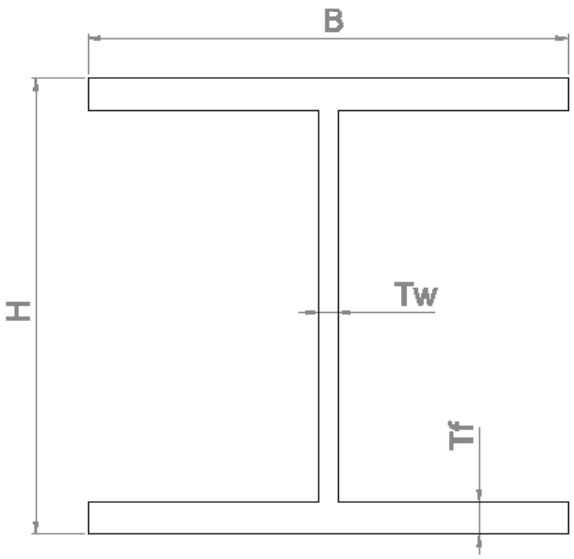
Dimensions up to 400 x 115 according DIN 1026-2 (outer dimensions)

Flange and web dimensions according to DIN 1025-3					
HEA	**H**	**B**	**TW**	**TF**	**kg/m**
120	114	120	5	8	19.04
140	133	140	6	8	23.24
160	152	160	6	10	31.54
180	171	180	6	10	35.60
200	190	200	8	10	42.34
220	210	220	8	10	46.77
240	230	240	8	12	58.52
260	250	260	8	12	63.58
280	270	280	8	12	68.64
300	290	300	8	15	87.53
320	310	300	10	15	93.22
340	330	300	10	15	94.80
360	350	300	10	20	119.29
400	390	300	10	20	122.45

Dimensions up to 400 x 115 according DIN 1026-2 (outer dimensions)

Flange and web dimensions according to DIN 1025-2					
HEB	**H**	**B**	**TW**	**TF**	**kg/m**
100	100	100	6	10	19.59
120	120	120	8	10	25.28
140	140	140	8	12	33.88
160	160	160	8	12	38.93
180	180	180	8	15	52.14
200	200	200	10	15	60.83
220	220	220	10	15	67.15
240	240	240	10	15	73.47
260	260	260	10	20	99.54
280	280	280	10	20	107.44
300	300	300	10	20	115.34

Dimensions up to 400 x 115 according DIN 1026-2 (outer dimensions)



Dimension range
Height H: 100 - 500 mm
Flange width B: 100 - 300 mm
Web thickness Tw: 5 - 12 mm
Flange thickness Tf: 6 - 20 mm [1)]
Standard length 6 m

[1)] Duplex max 15 mm

Stainless U-profiles

EN 1.4301, 1.4307, 1.4404, 1.4162, 1.4362, 1.4462

Delivery condition	
Manufacturing	Press brake
Surface condition	1D

Bundle packing
Plastic bands

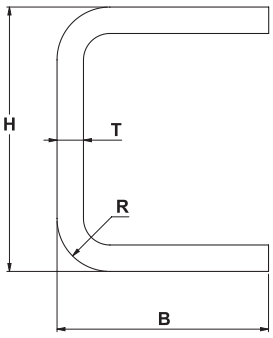
Marking on products	
Laser marked or engraved	Stalatube Oy, made in EU, steel grade, dimensions, plate number
Bundle tag	Dimensions, steel grade, surface condition, bundle size, plate number, bundle number

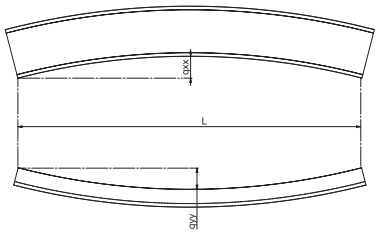
Tolerances according EN 10279		
Characteristic	**Tolerance**	
Height, H	Height, mm	Tolerance, mm
	H ≤ 65	± 1.50
	65 < H ≤ 200	± 2.00
	200 < H ≤ 400	± 3.00
	H > 400	± 4.00
Flange width, B	Width, mm	Tolerance, mm
	B ≤ 50	± 1.50
	50 < B ≤ 100	± 2.00
	100 < B ≤ 125	± 2.50
	B > 125	± 3.00
Thickness, T*	Thickness, mm	Tolerance, mm
	5.0 < T ≤ 6.0	± 0.38
	6.0 < T ≤ 8.0	± 0.40
	8.0 < T ≤ 10.0	± 0.44
	10.0 < T ≤ 12.0	± 0.48 (Duplex -0.30/+1.40)
	12.0 < T < 20.0	-0.30/1.40
	T = 20.0	-0.30/1.55
Squareness, k+k1	Flange width, mm	Tolerance, mm
	B ≤ 160	4.00*
	B > 160	2.5% x B*
Web flatness, f	Height, mm	Tolerance, mm
	H ≤ 200	± 1.0*
	H > 200	± 1.5
Straightness, qxx	Height, mm	Tolerance, mm
	H ≤ 150	± 0.3% of L
	150 < H ≤ 300	± 0.2% of L
	H > 300	± 0.15% of L
Straightness, qyy	Height, mm	Tolerance, mm
	H ≤ 150	± 0.5% of L
	150 < H ≤ 300	± 0.3% of L
	H > 300	± 0.2% of L
Characteristic	Tolerance, mm	
Outside corner radius, R	Max 3xT*	
Length, L	± 100*	

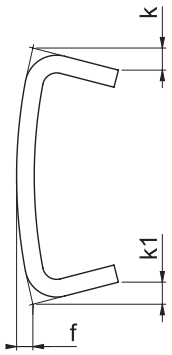
** Exception from standard*

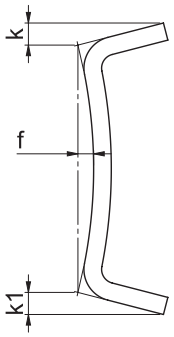
U-profile standard dimensions			
H	**B**	**T**	**kg/m**
120	60	5	8.75
140	65	6	11.74
160	70	6	13.16
180	75	8	18.98
200	80	8	20.87
220	85	8	22.77
240	90	10	30.24
270	95	10	33.40
300	100	10	36.56
330	105	10	39.72
360	110	12	50.76
400	115	12	55.50
500	125	12	66.87
600	150	15	100.04
800	200	20	177.85
1000	250	20	225.25

Dimensions up to 400 x 115 according DIN 1026-2 (outer dimensions)









Dimension range:
Height H: 120-1000 mm
Width B: 60-500 mm
Thickness T: 5-20 mm [1)]
Length L: 3-6 m,
standard length 6 m

[1)] Duplex max 15 mm

Stainless L-profiles

EN 1.4301, 1.4307, 1.4404, 1.4162, 1.4362, 1.4462

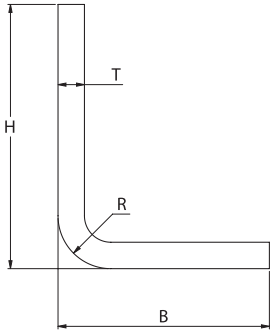
Delivery condition	
Manufacturing	Press brake
Surface condition	1D

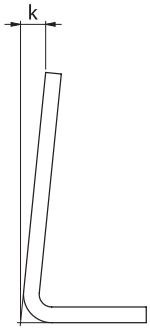
Bundle packing
Plastic bands

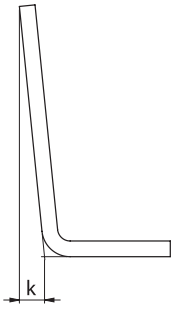
Marking on products	
Laser marked or engraved	Stalatube Oy, made in EU, steel grade, dimensions, plate number
Bundle tag	Dimensions, steel grade, surface condition, bundle size, plate number, bundle number

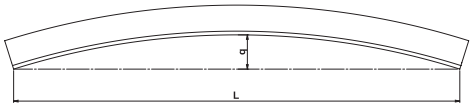
Tolerances according EN 10056-2		
Characteristic	**Tolerance**	
Leg length, B and H	Leg length, mm	Tolerance, mm
	H ≤ 50	± 1.0
	50 < H ≤ 100	± 2.0
	100 < H ≤ 150	± 3.0
	150 < H ≤ 200	± 4.0
	H > 200	-4.0 /+6.0
Thickness, T *)	Thickness, mm	Tolerance, mm
	5.0 < T ≤ 6.0	± 0.38
	6.0 < T ≤ 8.0	± 0.40
	8.0 < T ≤ 10.0	± 0.44
	10.0 < T ≤ 12.0	± 0.48 (Duplex -0.30/+1.40)
	12.0 < T < 20.0	-0.30/1.40
	T = 20.0	-0.30/1.55
Squareness, k	Leg length, mm	Tolerance, mm
	H ≤ 200	2 *)
	H > 200	3.0
Straightness over full length, q	Leg length, mm	Tolerance, mm
	H ≤ 150	0.4% x L
	150 < H ≤ 200	0.2% x L
	H > 200	0.1% x L
Straightness over any part	Length considered, mm	Tolerance, mm
H ≤ 150	1500	6
150 < H ≤ 200	2000	3
H > 200	3000	3
Characteristic	Tolerance, mm	
Outside corner radius, R	Max 3xT *)	
Length, L	± 100 *)	

**) Exception from standard*









L-profile standard dimensions			
H	**B**	**T**	**kg/m**
50	50	5	3.58
60	60	6	5,16
80	80	8	9.17
100	100	10	14.33
140	140	12	24.43
170	170	15	36.99
200	200	20	57.33
250	250	20	73.13
300	300	20	88.93
400	400	20	120.53
500	500	20	152.13

Dimensions up to 200 x 200 x 20 according to EN 10056-1

Dimension range:
Height H: 50-500 mm
Width B: 50-500 mm
Thickness T: 5-20 mm [1)]
Length L: 3-6 m,
standard length 6 m

[1)] Duplex max 15 mm

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