

STALA
TUBE



Transport

THE MOST LIGHTWEIGHT BUS BODY MATERIAL CONCEPT

Ferritic EN 1.4003

DELIVERY CONDITION

Forming	Cold formed (roll formed)
Welding process	Laser or HF
Weld condition	External weld bead removed
Surface condition	As welded (unpol)

SQUARE

H x B [mm]		Weight [kg/m]						
		1.5	2.0	2.5	3.0	3.5	4.0	5.0
20	20	0.810						
25	25	1.041	1.337					
30	30	1.272	1.645	1.993	2.316			
35	35	1.503	1.953	2.378	2.778			
38	38	1.642	2.138	2.609	3.055			
40	40	1.734	2.261	2.763	3.240	3.691	4.117	
50	50	2.196	2.877	3.533	4.164	4.769	5.349	
60	60		3.493	4.303	5.088	5.847	6.581	7.973
70	70		4.109	5.073	6.012	6.925	7.813	9.513
75	75		4.417	5.458	6.474	7.464	8.429	10.283
80	80		4.725	5.843	6.936	8.003	9.045	11.053
100	100				8.784	10.159	11.509	14.133
120	120					12.315	13.973	17.213

RECTANGULAR

H x B [mm]		Weight [kg/m]						
		1.5	2.0	2.5	3.0	3.5	4.0	5.0
30	20	1.041	1.337					
40	20	1.272	1.645					
40	25	1.388	1.799					
40	30	1.503	1.953	2.378	2.778			
50	20	1.503	1.953					
50	30	1.734	2.261	2.763	3.240			
50	40	1.965	2.569	3.148	3.702			
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	4.769	5.349	
60	50		3.185	3.918	4.626	5.308	5.965	
70	50		3.493	4.303	5.088	5.847	6.581	
80	40		3.493	4.303	5.088	5.847	6.581	
80	50		3.801	4.688	5.550	6.386	7.197	
80	60		4.109	5.073	6.012	6.925	7.813	9.513
100	40		4.109	5.073	6.012	6.925	7.813	
100	50		4.417	5.458	6.474	7.464	8.429	
100	60		4.725	5.843	6.936	8.003	9.045	11.053
100	80				7.860	9.081	10.277	12.593
120	40				6.936	8.003	9.045	
120	60				7.860	9.081	10.277	12.593
120	80				8.784	10.159	11.509	14.133
140	80					11.237	12.741	15.673
150	100					12.854	14.589	17.983

Bolded dimensions are available as Stala400F enhanced strength class.

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

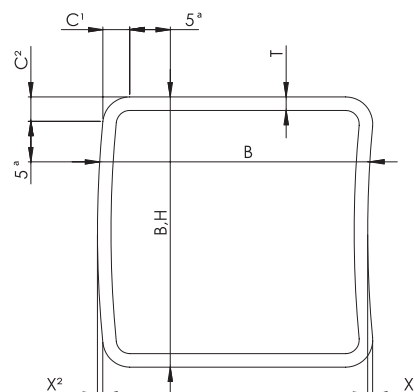
BUNDLE PACKING

Plastic bands

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

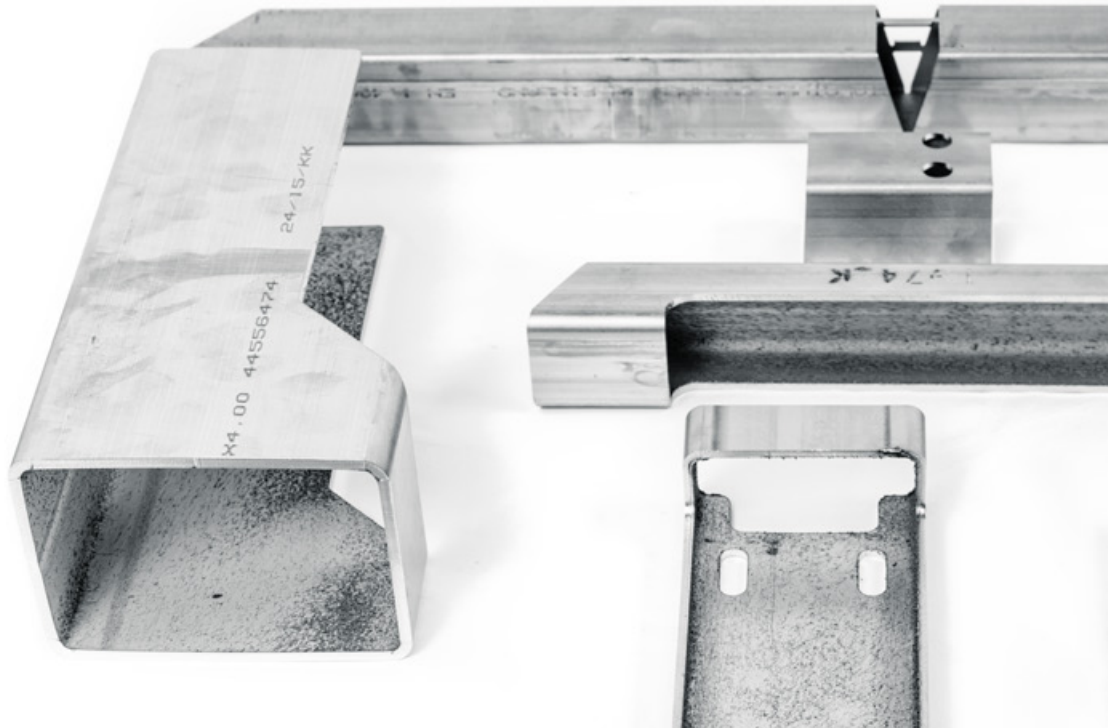


^a This dimension is maximum when measuring B or H and minimum when measuring T

SPECIAL DIMENSIONS BY REQUEST

**500
kg**

OFF?



High strength and energy absorption properties,
superior fatigue and corrosion resistance

MECHANICAL PROPERTIES OF TUBES

Strength class	Steel grade	EN	UNS	Rp0.2 min. (MPa)	Rm min. (MPa)	A5 min. (%)
Standard	4003	1.4003	S40977	320	450	10
Stala400F	4003	1.4003	S40977	400	450	10
Standard	DX2202/LDX2101	1.4062/1.4162	S32202/S32201	500	680	20
Stala630D	DX2202/LDX2101	1.4062/1.4162	S32202/S32201	630	750	20

CHEMICAL COMPOSITION (% BY MASS, MAXIMUM VALUES UNLESS INDICATED OTHERWISE)

Steel grade	EN	UNS	C	Si	Mn	P	S	N	Cr	Mo	Ni	Others
4003	1.4003	S40977	0.030	1.00	1.50	0.040	0.015	0.030	10.5-12.5		0.30-1.00	
DX2202	1.4062	S32202	0.030	1.00	2.00	0.040	0.010	0.16-0.28	21.5-24.0	0.45	1.00-2.90	
LDX2101	1.4162	S32201	0.040	1.00	4.00-6.00	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

Chemical composition and mechanical properties of material fulfill the standard EN 10088-2.

ENHANCED
STRENGTH CLASS

**Stala
400F**

ENHANCED
STRENGTH CLASS

**Stala
630D**

Lean Duplex EN 1.4062, 1.4162

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

All dimensions are available in steel grade 1.4162. Maximum thickness for steel grade 1.4062 is 5 mm. Steel grades 1.4362 and 1.4462 are possible for thickness ≥ 3 mm and B, H ≥ 60 mm.

SQUARE		Weight [kg/m]								
H x B [mm]		1.5	2.0	2.5	3.0	3.5	4.0	5.0	6.0	8.0
25	25	1.055								
30	30	1.289	1.667							
32	32	1.382	1.792							
35	35	1.523	1.979							
38	38	1.663	2.166							
40	40	1.757	2.291	2.799						
50	50	2.225	2.915	3.579						
60	60	2.693	3.539	4.359	5.154	5.923	6.667			
70	70		4.163	5.139	6.090	7.015	7.915			
75	75		4.475	5.529	6.558	7.561	8.539			
80	80		4.787	5.919	7.026	8.107	9.163	11.197		
100	100			7.479	8.898	10.291	11.659	14.317	16.872	
120	120				10.770	12.475	14.155	17.437	20.616	
150	150				13.578	15.751	17.899	22.117	26.232	
200	200					21.211	24.139	29.917	35.592	46.635
250	250							37.717	44.952	59.115
300	300							45.517	54.312	71.595

RECTANGULAR		Weight [kg/m]								
H x B [mm]		1.5	2.0	2.5	3.0	3.5	4.0	5.0	6.0	8.0
30	20	1.055								
40	20	1.289	1.667							
40	30	1.523	1.979							
50	20	1.523	1.979							
50	25	1.640	2.135							
50	30	1.757	2.291							
50	40	1.991	2.603							
60	20	1.757	2.291							
60	30	1.991	2.603							
60	40	2.225	2.915	3.579						
70	50	2.693	3.539	4.359	5.154					
80	40	2.693	3.539	4.359	5.154	5.923	6.667			
80	60		4.163	5.139	6.090	7.015	7.915			
100	40		4.163	5.139	6.090	7.015	7.915			
100	50		4.475	5.529	6.558	7.561	8.539			
100	60		4.787	5.919	7.026	8.107	9.163			
120	40		4.787	5.919	7.026	8.107	9.163			
150	100				11.238	13.021	14.779	18.217	21.552	
200	100				13.578	15.751	17.899	22.117	26.232	
250	150				18.258	21.211	24.139	29.917	35.592	
300	100					21.211	24.139	29.917	35.592	
300	200					26.671	30.379	37.717	44.952	59.115
400	200							45.517	54.312	71.595

SURFACE CONDITION

Brushed (Stalazzo), when tube dimension is $\leq 100 \times 100 \times 6$ mm

As welded (unpol), when tube dimension is $> 100 \times 100 \times 6$ mm

BUNDLE PACKING

Plastic bands

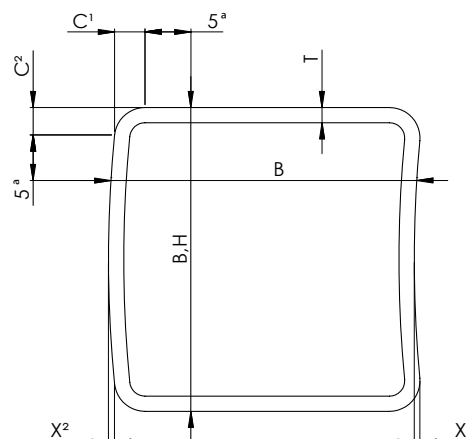
Plastic foil

TOLERANCES (ACCORDING TO EN 10219-2)

Characteristic	Tolerance	
Outside dimensions, B and H (1)	B, H < 100 mm: $\pm 1\%$, min ± 0.5 mm B, H ≥ 100 mm: $\pm 0.8\%$	
Concavity / Convexity (X^1/X^2)	Max. 0.8 % with minimum of 0.5 mm	
Wall thickness, T	$\pm 10\%$	
Squareness of side	$90^\circ \pm 1^\circ$	
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	

¹⁾ Exception from standard

SPECIAL DIMENSIONS BY REQUEST

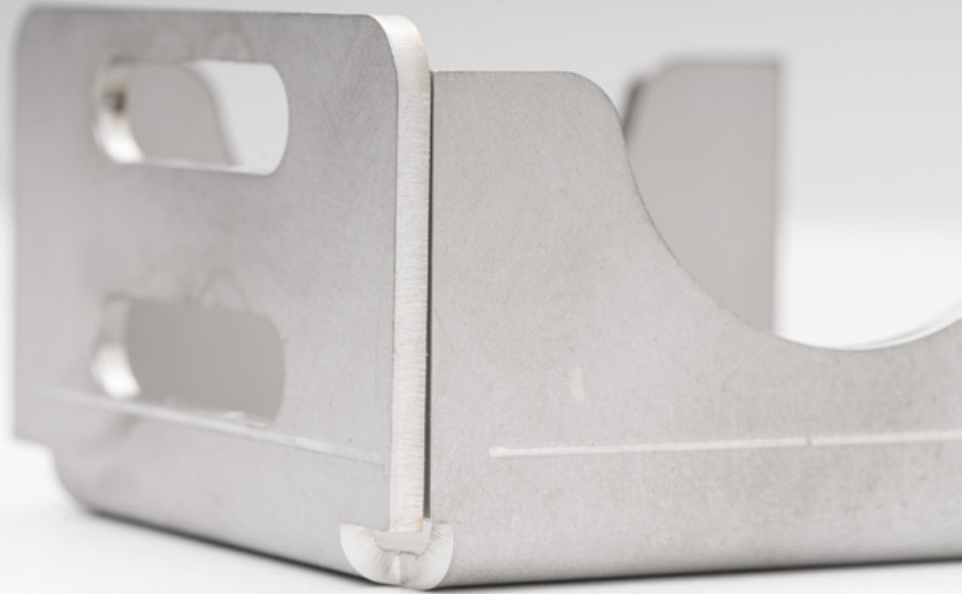


^a This dimension is maximum when measuring B or H and minimum when measuring T

Bolded dimensions are available as Stal630D enhanced strength class.

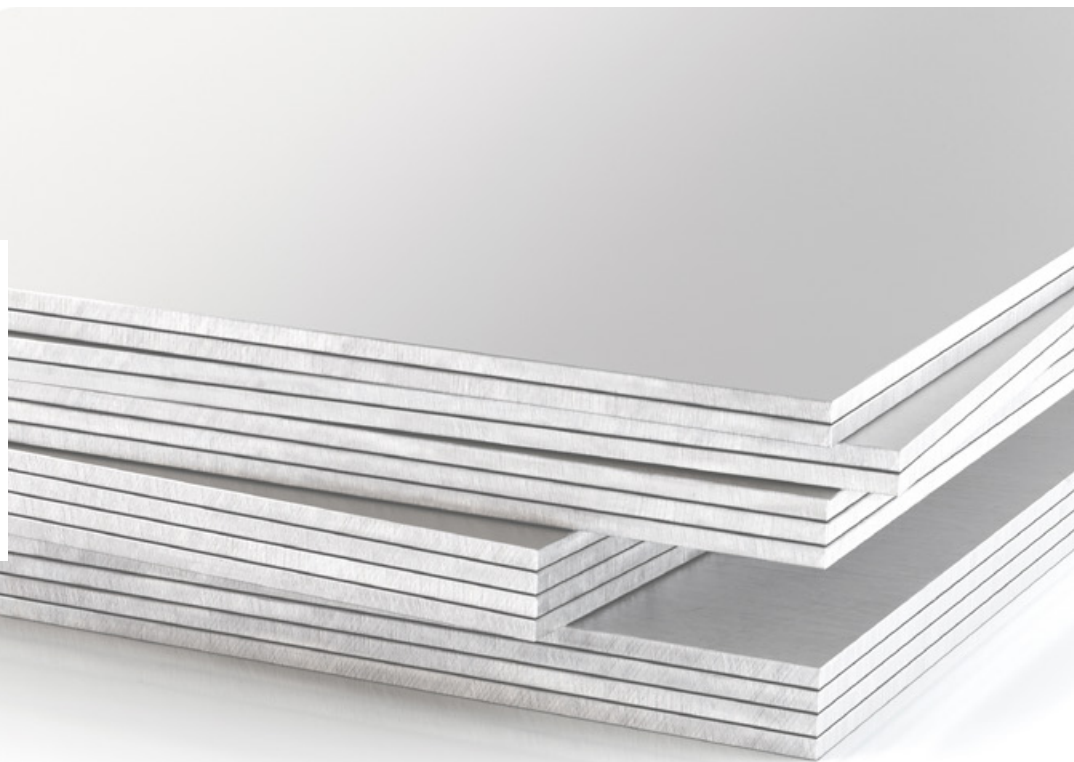
Ferritic sheets and sheet metal components,
tube components and welded structures

TAILOR-MADE PRODUCTS



TAILOR MADE PRODUCTS | VERSATILE DESIGN POSSIBILITIES | STOCKING SERVICES | SHORT DELIVERY TIME
HIGH ENERGY ABSORPTION PROPERTIES | SPECIAL DIMENSIONS CAN BE ORDERED BY REQUEST.

FERRITIC SHEETS



T = 1–10 mm.
1250 x 2500 and 1500 x 3000 in stock – other sizes by request.

About Stalatube

Stalatube, a leading supplier of stainless steel products for the transport industry, offers the most lightweight bus body material concept. Our tubes, sheets, sheet metal components and welded structures are manufactured from a variety of stainless steel grades, such as strength class STALA400F for stronger ferritics and STALA630D for stronger Lean Duplex. They can significantly decrease the weight of the bus, leading to reduced fuel costs and emissions and increased passenger capacity without compromising on travel safety. We deliver anything from standard products to fully tailored solutions, including bending, laser cutting, component welding and ready-made component kits.

With head office and main production in Finland, sales offices in the Netherlands, Poland, Germany, USA, India and a new production facility for further processed products in Poland, we serve our customers on all continents and over 50 countries.

Stalatube – Use our strength!



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