

RANGE OF DIMENSIONS AND TOLERANCES

GEOMETRIC PROPERTIES AND PROCESSABILITY

Benchmarking of standards on the example of a hollow section 120/120x8

	EN 10219:2019 Cold formed welded steel structural hollow sections from unalloyed structural steel and fine-grained structural steel		EN 10210:2019 Hot-finished steel structural hollow sections from unalloyed structural steel and fine-grained structural steel		endurance[®] dynamic	
Outer radii R	2,0 to 3,0 T	16 - 24	3T max. per rounding	max. 24	-	-
Edges C1, C2	2,0 to 3,0 T	16 - 24	3T max. per rounding	max. 24	nom. 1,5 x T	max. 12
Straightness deviation	0,15% over total length; max. 3mm/m		0,2% over total length; 3mm/m		0,15% over total length	
Twisting deviation	2mm + 0,5 mm /m		2mm + 0,5 mm /m		0,8°/m	
Perpendicularity	± 1°	89 - 91	± 1°	89 - 91	± 1°	89 - 91
Camber concave/convex of the sides	max. 0,8%; but at least 0,5 mm		1%		Camber within the dimension tolerance	
Wall thickness tole- rance	T>5mm: ± 0,5mm	7,5 - 8,5	-10%	min. 7,2*	± 0,5 mm	7,5 - 8,5
Wall thickness tole- rance in weld seam area	Wall thickness in the weld seam area not restricted (area 4xT)		Wall thickness in the weld seam area not restricted (area 4xT)		≥ 85% of the base material thickness	≥ 6,8
Dimension tolerance height	100 ≤ H ≤ 200: ± 0,8%	119,04 - 120,96	± 1%, but at least ± 0,5 mm	118,8 - 121,2	± 0,5 mm	119,5 - 120,5
Dimension tolerance width	100 ≤ H ≤ 200: ± 0,8%	119,04 - 120,96	± 1%, but at least ± 0,5 mm	118,8 - 121,2	± 0,5 mm	119,5 - 120,5
Weld seam centricity	no restriction		no restriction		±15% of the side length	102 - 138

* The upper limiting dimension is given by the limiting deviation of the mass.

Excellent fatigue strength of endurance[®] dynamic hollow sections due to narrowest chamfer dimensions ≤ 1,8xT.
Restricted tolerances compared to the hollow section standard EN 10219 enable
repeatable automated processability.

AVAILABLE DIMENSIONS FOR SQUARE HOLLOW SECTIONS

In the table below you can find all technically producible rectangular tubes up to a yield strength of 600MPa according to the endurance dynamic factory standard. The difference in color indicates the surface finish.

The symbols indicate the possible forming technologies.

For special dimensions, please contact your contact person in our sales team.

endurance dynamic

square tubes S355M - S600M

Dimensions [mm]		Wall thickness [mm]																
Height	Width	3,0	3,5	4,0	4,5	5,0	5,5	6,0	6,3	6,5	7,0	7,1	7,5	8,0	8,5	9,0	9,5	10,0
30	30	○/□	○	○														
35	35	○/□	○	○														
40	40	○/□	○	○	○	○												
45	45	○/□	○	○	○	○												
50	50	□	□	□	□	□	○*	○**	○**									
55	55	□	□	□	□	□	○*	○**	○**									
60	60	□	□	□	□	□	□*	□*	□*									
65	65	□	□	□	□	□	□*	□*	□*									
70	70	□	□	□	□	□	□	□	□	□	□	□						
75	75	□	□	□	□	□	□	□	□	□	□	□	□	□				
80	80	□	□	□	□	□	□	□	□	□	□	□	□	□	□			
85	85	□	□	□	□	□	□	□	□	□	□	□	□	□	□			
90	90	□	□	□	□	□	□	□	□	□	□	□	□	□	□			
95	95	□	□	□	□	□	□	□	□	□	□	□	□	□	□			
100	100	□	□	○/□	○/□	○/□	○/□	○/□	○/□	○/□	○/□	○/□	○/□	○/□	○	○	○	○
105	105	□	□	○/□	○/□	○/□	○/□	○/□	○/□	○/□	○/□	○/□	○/□	○/□	○	○	○	○
110	110	□	□	○/□	○/□	○/□	○/□	○/□	○/□	○/□	○/□	○/□	○/□	○/□	○	○	○	○
115	115	□	□	○/□	○/□	○/□	○/□	○/□	○/□	○/□	○/□	○/□	○/□	○/□	○	○	○	○
120	120	□	□	○/□	○/□	○/□	○/□	○/□	○/□	○/□	○/□	○/□	○/□	○/□	○	○	○	○
127	127	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
130	130	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
135	135			○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
140	140			○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
145	145			○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
150	150			○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
155	155			○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
160	160			○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
170	170			○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
180	180			○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
190	190			○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
200	200			○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
210	210					○	○	○	○	○	○	○	○	○	○	○	○	○
220	220										○	○	○	○	○	○	○	○

Surface
unpickled

upon
request

Forming Technologies

○ Round tube forming □ Direct forming ○/□ Both available

* For steel grades up to S550M

** For steel grades up to S500M

AVAILABLE DIMENSIONS FOR RECTANGULAR HOLLOW SECTIONS

In the table below you can find all technically producible rectangular tubes up to a yield strength of 600MPa according to the endurance dynamic factory standard. The difference in color indicates the surface finish.

The symbols indicate the possible forming technologies.

For special dimensions, please contact your contact person in our sales team.

endurance dynamic

rectangular tubes S355M - S600M

Dimensions [mm]		Wall thickness [mm]																	
Höhe	Breite	3,0	3,5	4,0	4,5	5,0	5,5	6,0	6,3	6,5	7,0	7,1	7,5	8,0	8,5	9,0	9,5	10,0	
40	30	O/□	○	○															
50	30	O/□	○	○	○	○													
60	30	O/□	○	○	○	○													
60	40	□	□	□	□	□	○*	○*	○**										
70	40	□	□	□	□	□	○*	○*	○**										
80	40	□	□	□	□	□	○*	○*	○**										
80	50	□	□	□	□	□	□	□	□										
80	60	□	□	□	□	□	□	□	□										
90	50	□	□	□	□	□	□	□	□										
100	50	□	□	□	□	□	□	□	□										
100	60	□	□	□	□	□	□	□	□										
100	80	□	□	□	□	□	□	□	□	□	□	□	□	□					
110	60	□	□	□	□	□	□	□	□										
120	60	□	□	□	□	□	□	□	□										
120	80	O/□	O/□	O/□	O/□	O/□	O/□	O/□	O/□	O/□	O/□	O/□	O/□	O/□	○	○	○	○	
140	70	O/□	O/□	O/□	O/□	O/□	O/□	O/□	O/□	O/□	O/□	O/□	O/□	O/□	○	○	○	○	
140	80	O/□	O/□	O/□	O/□	O/□	O/□	O/□	O/□	O/□	O/□	O/□	O/□	O/□	○	○	○	○	
150	50	□	□	□	□	□	□	□	□										
150	75	O/□	O/□	O/□	O/□	O/□	O/□	O/□	O/□	O/□	O/□	O/□	O/□	O/□	○	○	○	○	
150	100	O/□	O/□	O/□	O/□	O/□	O/□	O/□	O/□	O/□	O/□	O/□	O/□	O/□	○	○	○	○	
160	80	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
160	90	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
180	100			○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
200	100			○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
200	120			○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
200	150			○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
220	120			○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
250	150			○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
260	140			○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
260	180									○	○	○	○	○	○	○	○	○	

Surface unpickled	upon request	Forming Technologies
		○ Round tube forming □ Direct forming O/□ Both available

* For steel grades up to S550M

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 ONE STEP AHEAD.