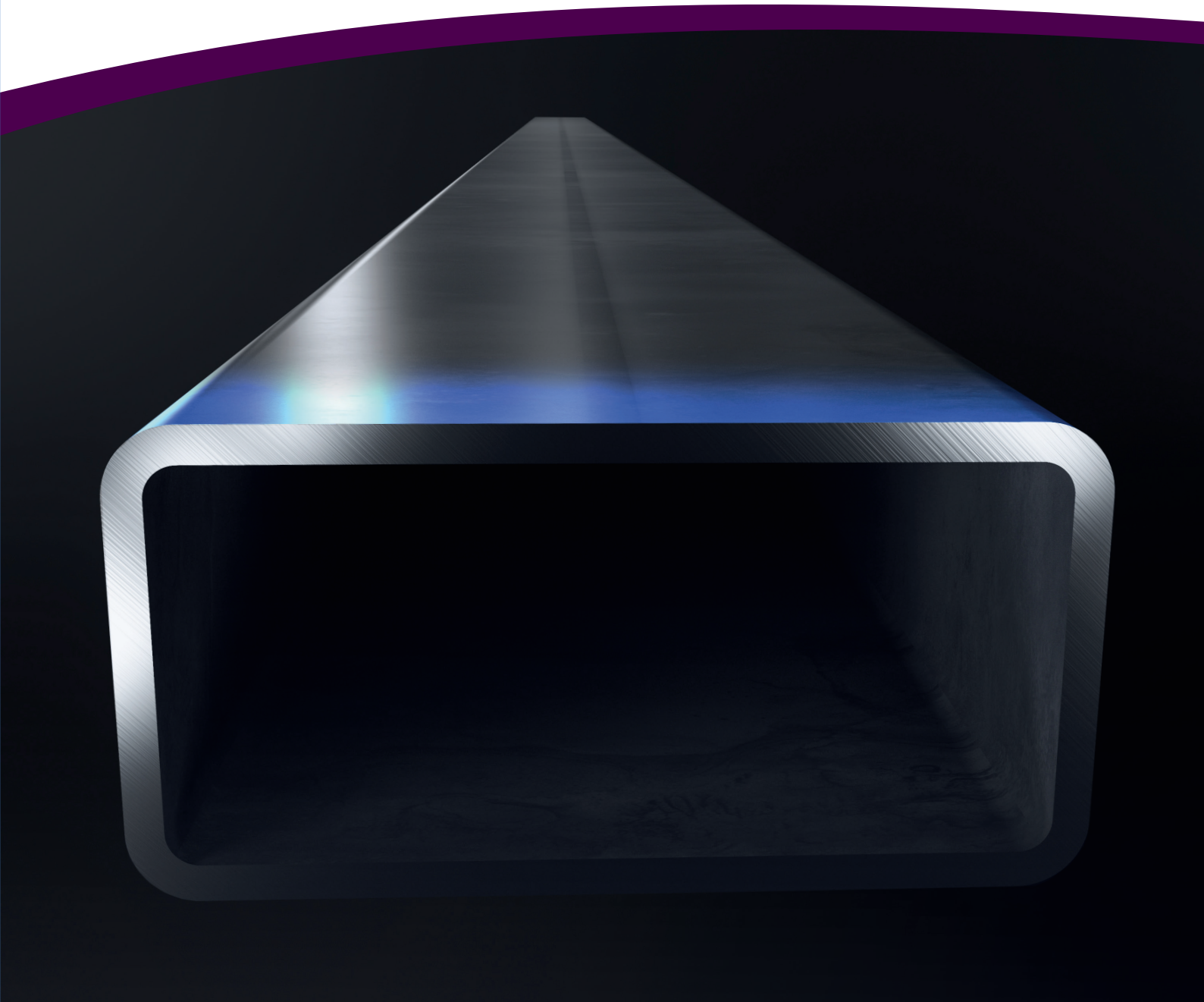
TATA STEEL

TATA

Hybox® TT technical guide

Cold-formed structural welded hollow sections



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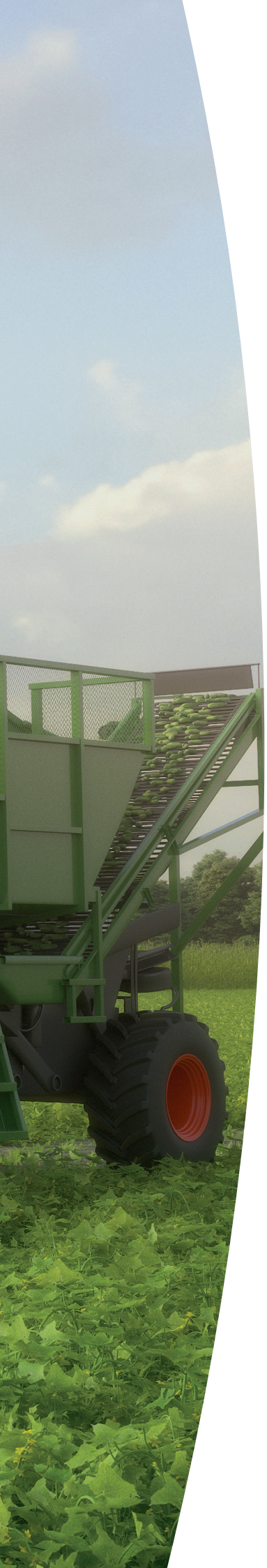


HYBOX® TT

Tight tolerances for efficient manufacturing

Hybox TT is a cold-formed structural welded hollow section with consistently tight tolerances – making it ideal for automated production processes. With an excellent surface finish, Hybox TT can help improve manufacturing efficiency, output and end product quality.

For optimised efficiency in equipment manufacturing, it is essential that tube size and shape are consistently accurate.
Hybox TT meets that demand – with reliably tight tolerances every time.

Hybox TT enables you to:

- **reduce rejection rate and rework**
- **speed up manufacturing for increased output**
- **save time and money on surface preparation**
- **reduce the weight of end products**
- **improve product performance**
- **enhance your brand through great looking products**

TECHNICAL DATA

Structural hollow section with tight tolerances for efficient manufacturing

The external dimensional tolerances of cold-formed Hybox TT are twice as stringent as those defined in European standard EN 10219. Tight tolerances, combined with reliable consistency of shape, make Hybox TT ideal for trouble-free, automated processing. The section can be welded, laser cut, drilled and fitted to a high quality standard – reducing rejection rate and rework, and increasing output.
Due to its good surface finish, Hybox TT does not need to be shot blasted prior to painting – saving time and money. Tube ends are clean and free of burrs. This removes the need for re-cutting prior to processing and allows safer handling and storage. Hybox TT is available in a choice of minimum yield strength from 275 up to 700 MPa. High-strength Hybox TT products enable equipment manufacturers to increase payload or widen a machine's working area at the same weight.

Applications
Agricultural equipment
Trailers
Cranes
Industrial machinery
Construction equipment

Dimensional tolerances for Hybox® TT - S275 to S700

Dimensional tolerances of the cross sections that are **twice as stringent** as the standard EN 10219 - part 2:

	Circular		Square/Rectangular	
	Diameter (mm)	**Tolerance**	**Side length (mm)**	**Tolerance**
Outside dimension (D, B and H)	±0.5%; with min ±0.5 mm and max ±10 mm		H, B < 100	± 0.5% Min; ± 0.25mm
			H, B ≤ 200	± 0.4%
			H, B > 200	± 0.3%
Out of roundness	If D/T < 100	1%		-
	If D/T ≥ 100	To be agreed		
Concavity / Convexity (independent tolerance on outside dimension	-		Max 0.4% with a min of 0.25mm	
Squareness of side	-		90° ± 0.5°	
			Thickness (mm)	**Tolerance**
External corner profile	-		T ≤ 6.0	2T ± 0.2T (or 1.8T to 2.2T)
(radius need not be tangential to the sides)			6.0 < T ≤10.0	2.5T ± 0.25T (or 2.25T to 2.75T)
EN 10219: Part 2 Table 3			T > 10.0	3T ± 0.3T (or 2.7T to 3.3T)
Mass (M)	± 6% on individual lengths		± 6% on individual lengths	
Length	-0 +50mm		-0 +50mm	

Dimensional tolerances of the cross sections that meet the **standard** EN 10219 - part 2:

	Circular		Square/Rectangular	
	Diameter (mm)	**Tolerance**	**Thickness (mm)**	**Tolerance**
Thickness (T)	D ≤ 406.4; T ≤ 5	± 10%	T ≤ 5	± 10%
	D ≤ 406.4; T > 5	± 0.50mm		
	D > 406.4	± 10% Max ± 2mm	T > 5	± 0.50mm
Twist (V)	-		2mm plus 0.5mm/m length	
Straightness	0.20% of total length and 3mm over 1m length		0.15% of total length and 3mm over 1m length	

Certification

Hybox TT is supplied with an inspection certificate 3.1 to EN 10204:2004.

HYBOX® TT – S275

Structural hollow section with tight tolerances for efficient manufacturing

Mechanical properties

Grade	Min. yield strength [MPa]	Tensile strength [MPa]		Min. elongation [%]	Min. impact energy KV_2 [J] at test temperature of	
	R_{eH}	R_m		A	-20°C	
		T <3mm	T ≥3mm ≤40mm	Long		Long
S275 J2H	275	430 - 580	410 - 560	20	-	27

For thicknesses >3mm; for section sizes D/T <10 (circular) and (H+B)/(2T) <10 (square and rectangular) the minimum elongation is reduced by 4. For section sizes D/T >10 to <15 (circular) and (H+B)/(2T) >10 to <12.5 (square and rectangular) the minimum elongation is reduced by 2.
For thicknesses <3mm the percentage elongation may be reported for a gauge length of 80mm or 50mm. In this case the values to be achieved shall be agreed between the purchaser and the manufacturer.

Chemical composition

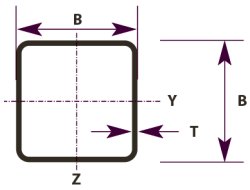
Grade	% per mass														
	C max	Si max	Mn max	P max	S max	Cr max	Mo max	Ni max	Al_{tot} min	Cu max	Nb max	Ti max	V max	N max	CEV max
S275 J2H	0.20	-	1.50	0.030	0.030	-	-	-	0.020	-	-	-	-	-	0.43

Chemistries with lower C, S, P and Si content are available on request

Standards

Steel grade S275 complies with the European Standard for cold formed structural hollow sections, EN 10219:2006 - part 1 and 2.

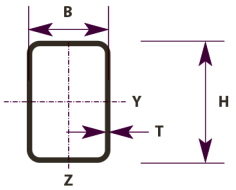
Dimensional window including mass per unit length [kg/m]



Square Hollow Section S275

Size (mm)	Thickness (mm)				
	3.00	4.00	5.00	6.00	8.00
050 x 050	4.25	5.45	6.56		
060 x 060	5.19	6.71	8.13	9.45	
070 x 070	6.13	7.97	9.70	11.30	
080 x 080	7.07	9.22	11.30	13.20	
090 x 090	8.01	10.50	12.80	15.10	
100 x 100	8.96	11.70	14.40	17.00	
120 x 120	10.80	14.30	17.60	20.80	26.40
140 x 140		16.80	20.70	24.50	31.40
150 x 150		18.00	22.30	26.40	34.00
160 x 160		19.30	23.80	28.30	36.50
180 x 180			27.00	32.10	41.50
200 x 200			30.10	35.80	46.50
250 x 250				45.20	59.10

Please enquire for dimensions outside of this table



Rectangular Hollow Section S275

Size (mm)	Thickness (mm)				
	3.00	**4.00**	**5.00**	**6.00**	**8.00**
060 x 040	4.25	5.45	6.56		
060 x 050	4.72	6.08	7.34	8.50	
070 x 040	4.72	6.08	7.34	8.50	
070 x 050	5.19	6.71	8.13	9.45	
080 x 040	5.19	6.71	8.13	9.45	
080 x 050	5.66	7.34	8.91	10.40	
080 x 060	6.13	7.97	9.70	11.30	
090 x 060	6.60	8.59	10.50	12.30	
100 x 040	6.13	7.97	9.70	11.30	
100 x 050	6.60	8.59	10.50	12.30	
100 x 060	7.07	9.22	11.30	13.20	
100 x 080	8.01	10.50	12.80	15.10	
110 x 070	8.01	10.50	12.80		
120 x 040	7.07	9.22	11.30		
120 x 050	7.54	9.85	12.10		
120 x 060	8.01	10.50	12.80	15.10	
120 x 080	8.96	11.70	14.40	17.00	
120 x 100		13.00	16.00	18.90	
140 x 080	9.90	13.00	16.00	18.90	
150 x 100	11.30	14.90	18.30	21.70	27.70
160 x 080	10.80	14.30	17.60	20.80	26.40
160 x 090		14.90	18.30	21.70	27.70
180 x 080	11.80	15.50	19.10	22.60	28.90
180 x 100		16.80	20.70	24.50	31.40
200 x 080		16.80	20.70	24.50	31.40
200 x 100		18.00	22.30	26.40	34.00
200 x 120		19.30	23.80	28.30	36.50
200 x 150		21.20	26.20	31.10	40.20
220 x 120			25.40	30.20	39.00
250 x 100		21.20	26.20	31.10	40.20
250 x 150			30.10	35.80	46.50
300 x 100				35.80	46.50
300 x 200				45.20	59.10

Please enquire for dimensions outside of this table

HYBOX® TT – S355

Structural hollow section with tight tolerances for efficient manufacturing

Mechanical properties

Grade	Min. yield strength [MPa]	Tensile strength [MPa]		Min. elongation [%]		Min. impact energy KV_2 [J] at test temperature of					
	R_{eH}	R_m		A	A	-20°C		-40°C		-50°C	
		T<3mm	T ≥3mm ≤40mm	Long	Trans	Long	Trans	Long	Trans	Long	Trans
S355 J2H	355	510 - 680	470 - 630	20	-	27		-	-	-	-
S355 K2H	355	510 - 680	470 - 630	20	-	40		-	-	-	-
S355 MH	355	450 - 610	450 - 610	22	19	40	20	-	-	-	-
S355 MLH	355	450 - 610	450 - 610	22	19	47	27	31	20	27	16

For thicknesses >3mm; for section sizes D/T <10 (circular) and (H+B)/(2T) <10 (square and rectangular) the minimum elongation is reduced by 4. For section sizes D/T >10 to <15 (circular) and (H+B)/(2T) >10 to <12.5 (square and rectangular) the minimum elongation is reduced by 2.
For thicknesses <3mm the percentage elongation may be reported for a gauge length of 80mm or 50mm. In this case the values to be achieved shall be agreed between the purchaser and the manufacturer.

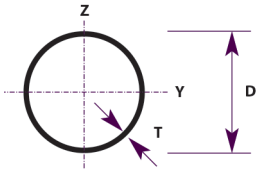
Chemical composition

Grade	% per mass														
	C max	Si max	Mn max	P max	S max	Cr max	Mo max	Ni max	Al_{tot} min	Cu max	Nb max	Ti max	V max	N max	CEV max
S355 J2H	0.22	0.55	1.60	0.030	0.030	-	-	-	0.020	-	-	-	-	-	0.47
S355 K2H	0.22	0.55	1.60	0.030	0.030	-	-	-	0.020	-	-	-	-	-	0.47
S355 MH	0.16	0.50	1.60	0.030	0.025	0.30	0.10	0.50	0.020	0.55	0.090	0.060	0.10	0.015	0.40
S355 MLH	0.16	0.50	1.60	0.025	0.020	0.30	0.10	0.50	0.020	0.55	0.090	0.060	0.10	0.015	0.40

Chemistries with lower C, S, P and Si content are available on request

Standards

Steel grade S355 complies with the European Standard for cold formed structural hollow sections, EN 10219:2006 - part 1 and 2.

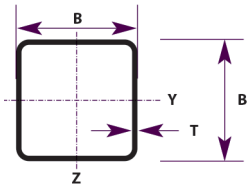


Dimensional window including mass per unit length [kg/m]

Circular Hollow Section S355

Outside diameter (mm)	Thickness (mm)									
	2.90	3.00	3.20	3.60	4.00	5.00	6.30	7.10	8.00	10.00
060.3	4.11	4.24	4.51	5.03	5.55	6.82				
070	4.80	4.96	5.27	5.90	6.51	8.01				
076.1	5.24	5.41	5.75	6.44	7.11	8.77				
088.9	6.15	6.36	6.76	7.57	8.38	10.40	12.80			
101.6	7.06	7.29	7.77	8.70	9.63	11.90	14.80			
108	7.52	7.77	8.27	9.27	10.30	12.70	15.80			
114.3	7.97	8.23	8.77	9.83	10.90	13.50	16.80			
121		8.73	9.30	10.40	11.50	14.30	17.80			
127		9.17	9.77	11.00	12.10	15.00	18.80			
139.7				12.10	13.40	16.60	20.70	23.20	26.00	32.00
159					15.30	19.00	23.70	26.60	29.80	36.80
168.3					16.20	20.10	25.20	28.20	31.60	39.00
193.7					18.70	23.30	29.10	32.70	36.60	45.30
219.1					21.20	26.40	33.10	37.10	41.70	51.60
244.5					23.70	29.50	37.00	41.60	46.70	57.80
273					26.50	33.10	41.40	46.60	52.30	64.90
323.9					31.60	39.30	49.30	55.50	62.30	77.40

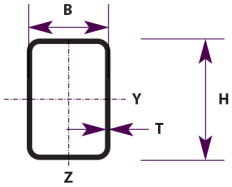
Please enquire for dimensions outside of this table



Square Hollow Section S355

Size (mm)	Thickness (mm)					
	3.00	4.00	5.00	6.00	8.00	10.00
050 x 050	4.25	5.45	6.56			
060 x 060	5.19	6.71	8.13	9.45		
070 x 070	6.13	7.97	9.70	11.30		
080 x 080	7.07	9.22	11.30	13.20		
090 x 090	8.01	10.50	12.80	15.10		
100 x 100	8.96	11.70	14.40	17.00	21.40	
120 x 120	10.80	14.30	17.60	20.80	26.40	31.80
140 x 140		16.80	20.70	24.50	31.40	38.10
150 x 150		18.00	22.30	26.40	34.00	41.30
160 x 160		19.30	23.80	28.30	36.50	44.40
180 x 180			27.00	32.10	41.50	50.70
200 x 200			30.10	35.80	46.50	57.00
250 x 250				45.20	59.10	72.70

Please enquire for dimensions outside of this table



Rectangular Hollow Section S355

Size (mm)	Thickness (mm)					
	3.00	4.00	5.00	6.00	8.00	10.00
060 x 040	4.25	5.45	6.56			
060 x 050	4.72	6.08	7.34	8.50		
070 x 040	4.72	6.08	7.34	8.50		
070 x 050	5.19	6.71	8.13	9.45		
080 x 040	5.19	6.71	8.13	9.45		
080 x 050	5.66	7.34	8.91	10.40		
080 x 060	6.13	7.97	9.70	11.30		
090 x 060	6.60	8.59	10.50	12.30		
100 x 040	6.13	7.97	9.70	11.30		
100 x 050	6.60	8.59	10.50	12.30		
100 x 060	7.07	9.22	11.30	13.20		
100 x 080	8.01	10.50	12.80	15.10		
120 x 040	7.07	9.22	11.30			
120 x 060	8.01	10.50	12.80	15.10		
120 x 080	8.96	11.70	14.40	17.00	21.40	
120 x 100		13.00	16.00	18.90	23.90	
140 x 080	9.90	13.00	16.00	18.90	23.90	28.70
150 x 100	11.30	14.90	18.30	21.70	27.70	33.40
160 x 080	10.80	14.30	17.60	20.80	26.40	31.80
160 x 090		14.90	18.30	21.70	27.70	33.40
180 x 080	11.80	15.50	19.10	22.60	28.90	35.00
180 x 100		16.80	20.70	24.50	31.40	38.10
200 x 080		16.80	20.70	24.50	31.40	38.10
200 x 100		18.00	22.30	26.40	34.00	41.30
200 x 120		19.30	23.80	28.30	36.50	44.40
200 x 150		21.20	26.20	31.10	40.20	49.10
220 x 120			25.40	30.20	39.00	47.50
250 x 100		21.20	26.20	31.10	40.20	49.10
250 x 150			30.10	35.80	46.50	57.00
300 x 100				35.80	46.50	57.00
300 x 200				45.20	59.10	72.70

Please enquire for dimensions outside of this table

HYBOX® TT – S420, S460, S500

Structural hollow section with tight tolerances for efficient manufacturing

Mechanical properties

Grade	Min Yield Strength [MPa]	Tensile Strength [MPa]	Min. elongation [%]		Min. impact energy KV_2 [J] at test temperature of					
	R_{eH}	R_m	A	A	-20°C		-40°C		-50°C	
		T<3mm T>-3mm <-40mm	Long	Trans	Long	Trans	Long	Trans	Long	Trans
S420 MH	420	500 - 660	19	17	40	20	-	-	-	-
S420 MLH	420	500 - 660	19	17	47	27	31	20	27	16
S460 MH	460	530 - 720	17	15	40	20	-	-	-	-
S460 MLH	460	530 - 720	17	15	47	27	31	20	27	16
S500 MH	500	580 - 760	15	13	40	20	-	-	-	-
S500 MLH	500	580 - 760	15	13	47	27	31	20	27	16

For thicknesses >3mm; for section sizes D/T <10 (circular) and (H+B)/(2T) <10 (square and rectangular) the minimum elongation is reduced by 4. For section sizes D/T >10 to <15 (circular) and (H+B)/(2T) >10 to <12.5 (square and rectangular) the minimum elongation is reduced by 2. For thicknesses <3mm the percentage elongation may be reported for a gauge length of 80mm or 50mm. In this case the values to be achieved shall be agreed between the purchaser and the manufacturer.

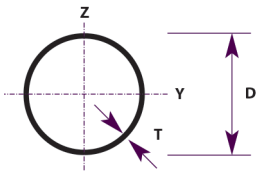
Chemical composition

Grade	% per mass														
	C max	Si max	Mn max	P max	S max	Cr max	Mo max	Ni max	Al_{tot} min	Cu max	Nb max	Ti max	V max	N max	CEV max
S420 MH	0.16	0.50	1.70	0.030	0.025	0.30	0.20	0.80	0.020	0.55	0.090	0.060	0.12	0.025	0.44
S420 MLH	0.16	0.50	1.70	0.025	0.020	0.30	0.20	0.80	0.020	0.55	0.090	0.060	0.12	0.025	0.44
S460 MH	0.16	0.60	1.70	0.030	0.025	0.30	0.20	0.80	0.020	0.55	0.090	0.060	0.12	0.025	0.46
S460 MLH	0.16	0.60	1.70	0.025	0.020	0.30	0.20	0.80	0.020	0.55	0.090	0.060	0.12	0.025	0.46
S500 MH	0.16	0.60	1.70	0.030	0.020	0.30	0.20	0.80	0.020	0.55	0.090	0.060	0.12	0.025	0.47
S500 MLH	0.16	0.60	1.70	0.025	0.015	0.30	0.20	0.80	0.020	0.55	0.090	0.060	0.12	0.025	0.47

Chemistries with lower C, S, P and Si content are available on request

Standards

Steel grades S420, S460 and S500 comply with the European Standard for cold formed structural hollow sections, EN 10219:2006 - part 1 and 2.

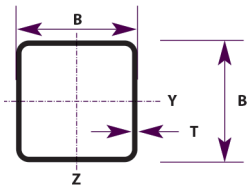


Dimensional window including mass per unit length [kg/m]

Circular Hollow Section S420 S460 S500

Outside diameter (mm)	Thickness (mm)											
	3.00	3.20	3.60	4.00	4.50	5.00	5.60	6.00	6.30	7.10	8.00	10.00
060.3	4.24	4.51	5.03	5.55	6.19	6.82						
070	4.96	5.27	5.90	6.51	7.27	8.01						
076.1	5.41	5.75	6.44	7.11	7.95	8.77						
088.9	6.36	6.76	7.57	8.38	9.37	10.40						
101.6	7.29	7.77	8.70	9.63	10.80	11.90	13.30	14.20	14.80			
108	7.77	8.27	9.27	10.30	11.50	12.70	14.10	15.10	15.80			
114.3	8.23	8.77	9.83	10.90	12.20	13.50	15.00	16.00	16.80			
121	8.73	9.30	10.40	11.50	12.90	14.30	15.90	17.00	17.80			
127	9.17	9.77	11.00	12.10	13.60	15.00	16.80	17.90	18.80			
139.7			12.10	13.40	15.00	16.60	18.50	19.80	20.70	23.20	26.00	
159				15.30	17.20	19.00	21.20	22.60	23.70	26.60	29.80	36.80
168.3				16.20	18.20	20.10	22.50	24.00	25.20	28.20	31.60	39.00
193.7					21.00	23.30	26.00	27.80	29.10	32.70	36.60	45.30
219.1						26.40	29.50	31.50	33.10	37.10	41.70	
244.5							33.00	35.30	37.00	41.60	46.70	
273									41.40	46.60	52.30	
323.9											62.30	

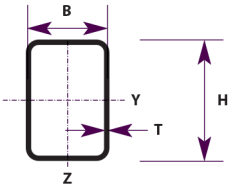
Please enquire for dimensions outside of this table



Square Hollow Section S420 S460 S500

Size (mm)	Thickness (mm)					
	3.00	4.00	5.00	6.00	8.00	10.00
050 x 050	4.25	5.45				
060 x 060	5.19	6.71	8.13	9.45		
070 x 070	6.13	7.97	9.70	11.30		
080 x 080	7.07	9.22	11.30	13.20		
090 x 090	8.01	10.50	12.80	15.10		
100 x 100	8.96	11.70	14.40	17.00	21.40	
120 x 120		14.30	17.60	20.80	26.40	
140 x 140			20.70	24.50	31.40	38.10
150 x 150			22.30	26.40	34.00	41.30
160 x 160			23.80	28.30	36.50	
180 x 180				32.10	41.50	
200 x 200				35.80	46.50	
250 x 250					59.10	

Please enquire for dimensions outside of this table



Rectangular Hollow Section S420 S460 S500

Size (mm)	Thickness (mm)					
	3.00	4.00	5.00	6.00	8.00	10.00
060 x 040	4.25	5.45				
060 x 050	4.72	6.08				
070 x 040	4.72	6.08				
070 x 050	5.19	6.71	8.13	9.45		
080 x 040	5.19	6.71	8.13	9.45		
080 x 050	5.66	7.34	8.91	10.40		
080 x 060	6.13	7.97	9.70	11.30		
090 x 060	6.60	8.59	10.50	12.30		
100 x 040	6.13	7.97	9.70			
100 x 050	6.60	8.59	10.50	12.30		
100 x 060	7.07	9.22	11.30	13.20		
100 x 080	8.01	10.50	12.80	15.10		
120 x 040	7.07	9.22	11.30			
120 x 060	8.01	10.50	12.80	15.10		
120 x 080	8.96	11.70	14.40	17.00	21.40	
120 x 100		13.00	16.00	18.90	23.90	
140 x 080		13.00	16.00	18.90	23.90	
150 x 100		14.90	18.30	21.70	27.70	33.40
160 x 080		14.30	17.60	20.80	26.40	
160 x 090		14.90	18.30	21.70	27.70	33.40
180 x 080		15.50	19.10	22.60	28.90	35.00
180 x 100			20.70	24.50	31.40	38.10
200 x 080			20.70	24.50	31.40	38.10
200 x 100			22.30	26.40	34.00	41.30
200 x 120			23.80	28.30	36.50	
200 x 150			26.20	31.10	40.20	
220 x 120			25.40	30.20	39.00	
250 x 100			26.20	31.10	40.20	
250 x 150				35.80	46.50	
300 x 100				35.80	46.50	
300 x 200					59.10	

Please enquire for dimensions outside of this table

HYBOX® TT – S550, S600, S650, S700

Structural hollow section with tight tolerances for efficient manufacturing

Mechanical properties

Grade	Min. yield strength [MPa] R_{eH}	Tensile Strength [MPa] R_m	Min. elongation [%] A	A	Min. impact energy KV_2 [J] at test temperature of -20°C		-40°C		-50°C	
			Long	Trans	Long	Trans	Long	Trans	Long	Trans
S550 MH	550	600 - 760	14	12	40	20	-	-	-	-
S550 MLH	550	600 - 760	14	12	47	27	31	20	27	16
S600 MH	600	650 - 820	13	11	40	20	-	-	-	-
S600 MLH	600	650 - 820	13	11	47	27	31	20	27	16
S650 MH	650	700 - 880	12	10	40	20	-	-	-	-
S650 MLH	650	700 - 880	12	10	47	27	31	20	27	16
S700 MH	700	750 - 950	10	8	40	20	-	-	-	-
S700 MLH	700	750 - 950	10	8	47	27	31	20	27	16

For thicknesses >3mm; for section sizes D/T <10 (circular) and (H+B)/(2T) <10 (square and rectangular) the minimum elongation is reduced by 4. For section sizes D/T >10 to <15 (circular) and (H+B)/(2T) >10 to <12.5 (square and rectangular) the minimum elongation is reduced by 2. For thicknesses <3mm the percentage elongation may be reported for a gauge length of 80mm or 50mm. In this case the values to be achieved shall be agreed between the purchaser and the manufacturer.

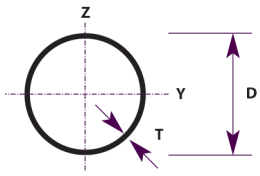
Chemical composition

Grade	% per mass														
	C max	Si max	Mn max	P max	S max	Cr max	Mo max	Ni max	Al_{tot} min	Cu max	Nb max	Ti max	V max	N max	CEV max
S550 MH	0.16	0.60	1.80	0.020	0.015	0.30	0.50	0.80	0.015	0.55	0.090	0.15	0.20	0.025	0.47
S550 MLH	0.16	0.60	1.80	0.020	0.012	0.30	0.50	0.80	0.015	0.55	0.090	0.15	0.20	0.025	0.47
S600 MH	0.16	0.60	1.90	0.020	0.015	0.30	0.50	0.80	0.015	0.55	0.090	0.22	0.20	0.025	0.47
S600 MLH	0.16	0.60	1.90	0.020	0.012	0.30	0.50	0.80	0.015	0.55	0.090	0.22	0.20	0.025	0.47
S650 MH	0.16	0.60	2.00	0.020	0.015	0.30	0.50	0.80	0.015	0.55	0.090	0.22	0.20	0.025	0.47
S650 MLH	0.16	0.60	2.00	0.020	0.012	0.30	0.50	0.80	0.015	0.55	0.090	0.22	0.20	0.025	0.47
S700 MH	0.16	0.60	2.10	0.020	0.015	0.30	0.50	0.80	0.015	0.55	0.090	0.22	0.20	0.025	0.47
S700 MLH	0.16	0.60	2.10	0.020	0.012	0.30	0.50	0.80	0.015	0.55	0.090	0.22	0.20	0.025	0.47

Chemistries with lower C, S, P and Si content are available on request

Standards

Steel grades S550, S600, S650 and S700 comply with the European Standard for cold formed structural hollow sections, prEN10219:2016 - part 1 and 2.

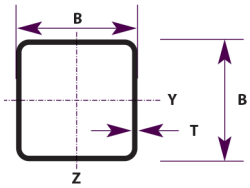


Dimensional window including mass per unit length [kg/m]

Circular Hollow Section S550 S600 S650 S700*

Outside diameter (mm)	Thickness (mm) 3.60	4.00	4.50	5.00	5.60	6.00	6.30	7.10	8.00
101.6		9.63							
108.0		10.30							
114.3		10.90							
121.0		11.50							
127.0		12.10							
139.7	12.10	13.40	15.00						
159		15.30	17.20	19.00					
168.3			18.20	20.10					
193.7				23.30					
219.1					29.50	31.50	33.10		
244.5							37.00	41.60	
273								46.60	52.30

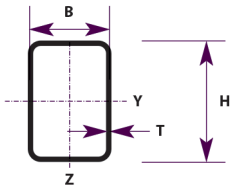
* Please contact us on the exact capabilities



Square Hollow Section S550 S600 S650 S700*

Size (mm)	Thickness (mm)			
	4.00	5.00	6.00	8.00
080 x 080	9.22			
090 x 090	10.50			
100 x 100	11.70			
120 x 120	14.30			
140 x 140		20.70		
150 x 150		22.30	26.40	
160 x 160			28.30	
180 x 180			32.10	
250 x 250				59.10

* Please contact us on the exact capabilities



Rectangular Hollow Section S550 S600 S650 S700*

Size (mm)	Thickness (mm)			
	4.00	5.00	6.00	8.00
120 x 100	13.00			
140 x 080	13.00			
150 x 100	14.90	18.30		
160 x 080	14.30			
160 x 090	14.90	18.30		
180 x 080		19.10		
180 x 100		20.70		
200 x 080		20.70		
200 x 100		22.30	26.40	
200 x 120			28.30	
200 x 150			31.10	
220 x 120			30.20	
250 x 100			31.10	
300 x 200				59.10

* Please contact us on the exact capabilities

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