

SSAB Domex Double Grade Imperial

General Product Description

SSAB Domex Tube Double Grade is structural hollow section.

It meets or exceeds the requirements of standard EN 10219 and includes two separate modern steel grades: S355J2H and S420MH. The choice of grade depends on the customer's or designer's application and requirements.

When your main goal is excellent usability or simplicity of design, grade S355 presents the best choice. If you are looking for considerable weight reduction and longer spans, consider selecting grade S420MH.

Welding and other workshop instructions and regulations like welding procedure test (ISO 15614-1), material classification (ISO 15608), welding qualification (EN 287-1; ISO 9606-1) and EN 1090 certification procedure must follow the appropriate steel grade S355 or S420 selected.

Welding in corner areas is always permitted when using SSAB steels.

Imperial Dimensions / Minimum Order Quantity (tons)

H		B		T			
inch	mm	inch	mm	3/16 inch 0.188 inch 4.78 mm	1/4 inch 0.25 inch 6.35 mm	5/16 inch 0.313 inch 7.95 mm	3/8 inch 0.375 inch 9.53 mm
4	101.6	4	101.6		30	30	30
6	152.4	4	101.6	15	15	15	15
6	152.4	6	152.4		15	15	15
7	177.8	7	177.8	15	15	15	15
8	203.2	4	101.6	50	15	15	15
10	254	4	101.6	15	15	15	15
8	203.2	8	203.2	15	15	15	15
9	228.6	7	177.8	50	50	50	15
10	254	6	152.4	15	15	15	15

For other dimensions, please contact Technical Support.

Mechanical Properties

	Thickness (mm)	Yield strength R _{p0.2} (min MPa)	Tensile strength R _m (MPa)	Elongation A ₅ ¹⁾ (min %)	Charpy-V -40°C 10x10 mm test specimen ²⁾ (J)
S355J2H	2 - 2.99	355	510 - 680	20	27
	3 - 12.5	355	470 - 630	20	27
S420MH	2 - 12.5	420	500 - 660	19	40

Mechanical properties meet or exceed the requirements of EN 10219.

The mechanical properties for rectangular hollow sections are tested by SSAB on the longer side of the cross section.

¹⁾ The hollow sections with D/T < 15 (round) or (B + H)/2T < 12,5 (rectangular and square), the minimum value of elongation is reduced by 2.

²⁾ Impact testing according to EN ISO 148-1 is performed on thicknesses ≥ 6mm. The specified minimum value corresponds to a full-size specimen.

Chemical Composition (ladle analysis)

	C (max %)	Si (max %)	Mn (max %)	P (max %)	S (max %)
S355J2H	0.16 ¹⁾	0.25 ²⁾	1.60	0.020 ¹⁾	0.012 ¹⁾
S420MH	0.16 ¹⁾	0.25 ²⁾	1.60	0.020 ¹⁾	0.012 ¹⁾

Chemical composition meets or exceeds the requirements of EN 10219.

Chemical analyses enables welding in the corner area without restrictions (EN 1993-1-8).

The steel is aluminium-killed.

¹⁾ Value **exceed** the requirements of EN 10219.

²⁾ Si content guaranteed at 0.15–0.25 %.

Carbon Equivalent

Wall Thickness (mm)	2.0 - 12.5
CEV (max %)	0.39

CEV value exceeds the requirements of EN 10219.

$$CEV = C + \frac{Mn}{6} + \frac{Cr + Mo + V}{5} + \frac{Cu + Ni}{15}$$

Tolerances

Tolerance Square

Characteristic	Square hollow sections Tolerances meet or exceed the requirements of EN 10219
Outside dimensions (B, H) ¹⁾	When B, H < 100 mm ±1 % minimum ±0.5 When 100 mm ≤ B, H ≤ 200 mm: ±0.8% When B, H > 200 mm: ±0.6%
Thickness (T)	-5% / +10 %, with a minimum of ±0.2 mm and maximum ±0.5 mm
External corner profile	When T ≤ 6 mm: 1.6 x T-2.4 x T When 6 mm < T ≤ 10 mm: 2.0 x T-3.0 x When T > 10 mm: 2.4 x T-3.6 x T
Squareness of side	90° ±1°
Concavity/convexity	0.8%, with a minimum of 0.5 mm
Twist	2 mm + 0.5 mm/m
Straightness	0.15% of total length and 3 mm over any 1 m length
Mass per unit length	Individual tube: ±6%
Mill length	0/+50 mm, 6000 ≤ L ≤ 12000 - 18000 mm (standard lengths 6000 & 12000 mm)
Exact length	Agreed at the time of enquiry and order

¹⁾ All external dimensions are measured with a minimum distance from the end of the section. The distance must be a minimum of 100 mm.

Tolerance Rectangular

Characteristic	Rectangular hollow sections Tolerances meet or exceed the requirements of EN 10219
Outside dimensions (B, H) ¹⁾	When B, H < 100 mm ±1% minimum ±0.5 When 100 mm ≤ B, H ≤ 200 mm: ±0.8% When B, H > 200 mm: ±0.6%
Thickness (T)	-5% / +10 %, with a minimum of ±0.2 mm and maximum ±0.5 mm
External corner profile	When T ≤ 6 mm: 1.6 x T-2.4 x T When 6 mm < t ≤ 10 mm: 2.0 x t-3.0x When T > 10 mm: 2.4 x T-3.6 x T
Squareness of side	90° ±1°
Concavity/convexity	0.8%, with a minimum of 0.5 mm
Twist	2 mm + 0.5 mm/m
Straightness	0.15% of total length and 3 mm over any 1 m length
Mass per unit length	Individual tube: ±6%
Mill length	0/+50 mm, 6000 ≤ L ≤ 12000 - 18000 mm (standard lengths 6000 & 12000 mm)
Exact length	Agreed at the time of enquiry and order

¹⁾ All external dimensions are measured with a minimum distance from the end of the section. The distance must be a minimum of 100 mm.

Contact Information

www.ssab.com/contact