

BS EN 10210-2 : 1997

Hot finished structural hollow sections of non-alloy and fine grain structural steels

Part 2. Tolerances, dimensions and sectional properties

Tolerances

Tolerances on the dimensions and mass of hot finished hollow sections shall not exceed the values given in table 1 for shape and mass, table 2 for length and table 3 for the height of the internal and external weld bead of submerged arc welded hollow sections.

The internal corners of square and rectangular hollow sections shall be rounded.

NOTE: The internal corner profile is not specified.

Table 3. Tolerance on height of internal and external weld bead for submerged arc-welded hollow sections - dimensions in mm

Thickness (T)	Maximum weld bead height
≤14.2	3.5
>14.2	4.8

Table 1. Tolerances

Characteristic	Circular hollow sections	Square and rectangular hollow sections
Outside dimensions (D, B and H)	±1% with a minimum of ± 0.5mm and a maximum of ± 10mm	±1% with a minimum of ± 0.5mm
Thickness (T)	-10% (1) (2)	
Out-of-roundness (O)	2% for hollow sections having a diameter to thickness ratio not exceeding 100(3)	–
Concavity/convexity (4)	–	1%
Squareness of side	–	90°±1°
External corner profile (c1, C2 or R) (5)	–	3T maximum at each corner
Twist (V)	–	2mm plus 0.5 mm/m length
Straightness	0.2% of total length	
Mass (M)	±6% on individual lengths (6)	

(1) The positive deviation is limited by the tolerance on mass.
 (2) For seamless sections thicknesses of less than 10% but not less than 12.5% of the nominal thickness may occur in smooth transition areas over not more than 25% of the circumference.
 (3) Where the diameter to thickness ratio exceeds 100 the tolerance on out-of-roundness shall be agreed.
 (4) The tolerance on convexity and concavity is independent of the tolerance on outside dimensions.
 (5) The sides need not be tangential to the corner arcs.
 (6) The positive tolerance on the mass of seamless hollow sections shall be 8%.

Table 2. Tolerances on length - dimensions in mm

Type of length	Range (mm)	Tolerances
Approximate length	4000 to 16 000	500 mm (2)
Exact length	≥2000 to 6000	+10 0 mm
	≥6 000	+15 0 mm

1)The purchaser shall indicate in the enquiry and order the type of length required and the length range or length required as appropriate.
 (2) Option 2.1. The tolerance on approximate length shall be 0 mm.

