**SIDEX**

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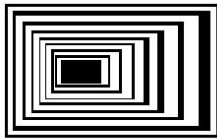
IQ-0120-01

EN 10219 – WELDED TUBES FOR STRUCTURAL PURPOSES – TOLERANCES

CHARACTERISTIC	CIRCULAR HOLLOW SECTIONS	SQUARE AND RECTANGULAR HOLLOW SECTION	
OUTSIDE DIMENSIONS (D, B and H)	± 1% with minimum ± 0,5mm and maximum ± 10mm	SIDE LENGTH mm	TOLERANCE
		H, B < 100 100 ≤ H, B ≤ 200 H, B > 200	± 1% with min. ± 0,5mm ± 0,8% ± 0,6%
THICKNESS (T)	For D ≤ 406,4 mm: T ≤ 5mm: ± 10% T > 5mm ± 0,50 mm For D > 406,4 mm: ± 10%, with a maximum of ± 2 mm	T ≤ 5 mm: ± 10% T > 5 mm: 0,50 mm	
OUT OF ROUNDNESS (O)	2% for hollow sections having a diameter to thickness ratio not exceeding 100 ⁽¹⁾	-	
CONCAVITY/CONVEXITY ⁽²⁾	-	0,8% max, with a minimum of 0,5 mm	
SQUARENESS OF SIDE	-	90° ± 1°	
EXTERNAL CORNER PROFILE	-	See table below	
TWIST (V)	-	2mm plus 0,5 mm for each meter length	
STRAIGHTNESS	0,20 % of total length and +3 mm for each meter of length	0,15 % of total length and +3 mm for each meter of length	
MASS PER UNIT LENGTH (M)	± 6 % on individual delivered lengths		
1) Where the diameter to thickness ration exceeds 100 the tolerance on out-of-roundness shall be agreed. 2) The tolerance on convexity and concavity is independent of the tolerance on outside dimensions.			

EXTERNAL CORNER PROFILE

THICKNESS T mm	EXTERNAL CORNER PROFILE C1, C2 or R ^a
T ≤ 6	1,6 T to 2,4 T
6 < T ≤ 10	2,0 T to 3,0 T
10 ≤ T	2,4 T to 3,6 T
a)The side need not be tangential to the corner arcs.	



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TOLERANCES ON LENGTH		
TYPE OF LENGTH	RANGE OF LENGTH or LENGTH L	TOLERANCE
RANDOME LENGTH	$4.000 \leq L \leq 16.000$ with a range of 2.000 per order item	10% of sections supplied may be below the minimum for the ordered range but not shorter than 75% of the minimum range length
APPROXIMATE LENGTH	≥ 4.000	+ 50 /-0 mm
EXACT LENGTH	< 6.000 $6.000 \leq L \leq 10.000$ > 10.000	+5 / -0 mm + 15 /-0mm +5/-0 mm + 1 mm/M