



Tolerances for tube and pipe according to EN 10217-7:2005

8.8.4 Tolerances

8.8.4.1 Tolerance on outside diameter and on wall thickness

The diameter and the wall thickness of the tubes shall be within the relevant tolerance limits given in Table 10. Tolerance classes are according to EN ISO 1127.

Table 10 - Tolerances on outside diameter and wall thickness

Outside diameter D mm	Tolerance on outside diameter D		Tolerance on wall thickness T	
	Tolerance class	Permissible deviation	Tolerance class	Permissible deviation
$D \leq 168,3$	D3	$\pm 0,75\%$ or $\pm 0,3$ mm whichever is the greater	T3	$\pm 10\%$ or $\pm 0,2$ mm whichever is the greater
	D4 ^a	$\pm 0,5\%$ or $\pm 0,1$ mm whichever is the greater		
$D > 168,3$	D2	$\pm 1,0\%$		

^a Option 20: Tolerance class D4 is specified.

8.8.4.2 Height of the weld seam

The height of the external and internal weld seam shall be within the limits indicated in Table 11.

Table 11 - Maximum height of the weld seam

Route (according to Table 1)	Weld condition	Dimensions in millimeters Maximum height of the weld seam	
		$T \leq 8$	$T > 8$
01 and 04	As welded	$0,10 T + 0,5$	$T/6$
02 and 05	Welded, outside ground for $D \leq 114,3$	$0,06 T + 0,3$	---
	Welded, outside ground for $D > 114,3$	$0,05 T + 0,5$	$T/10$
03 and 05	Welded, bead worked	0,15	---

8.8.4.3 Radial offset of plate or strip edges at the weld

The radial offset of the abutting plate or strip edges shall be within 10 % of the specified wall thickness.



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8.8.4.4 Tolerances on exact lengths

The tolerances for exact lengths shall be as given in Table 12.

Table 12 - Tolerances on exact lengths

Length L (mm)	Tolerance on exact length (mm)
$L \leq 6\ 000$	+ 5 0
$6000 < L \leq 12\ 000$	+ 10 0
$L > 12\ 000$	+ by agreement 0

8.8.4.5 Out of roundness

The out-of-roundness (θ) shall be calculated using the following equation:

$$\theta = \frac{D_{\max} - D_{\min}}{D} \times 100 \quad (1)$$

where:

θ = out-of-roundness, in %;

D_{\max}, D_{\min} = maximum and minimum outside diameter, measured in the same plane, in mm;

D = specified outside diameter, in mm.

For tubes of outside diameter $D \leq 406,4$ mm, out-of-roundness, shall be included in the limits of the diameter tolerances.

For tubes of outside diameter $D > 406,4$ mm and with $D/T \leq 100$, out-of-roundness shall not exceed 2 %.

For tubes with a D/T ratio > 100 the values for out-of-roundness shall be agreed at the time of enquiry and order.