

**Tolleranze Dimensionali Norme
Dimensional Standard Tolerances**
ASTM A213 - 269 - A450 - A1016

Seamless and Welded Tubes	Outside Diameter	Thickness Minimum Wall	Average Wall
<25,40 mm.	+0,10 - 0,10 mm.	+20% - 0	+10% - 10%
25,50 mm. - 38,10 mm.	+0,15 - 0,15 mm.	+20% - 0	+10% - 10%
38,10 mm. - 50,80 mm.	+0,20 - 0,20 mm.	+22% - 0	+11% - 11%

ASTM 269 - A450 - A1016

Seamless and Welded Tubes	Outside Diameter	Thickness
Up to 12,70 mm.	+0,13 - 0,13 mm.	+15% - 15%
12,70 mm. to 38,10 mm.	+0,13 - 0,13 mm.	+10% - 10%
From 38,10 mm. to 50,80 mm.	+0,25 - 0,25 mm.	+10% - 10%

ASTM A312 - A530 - A1016

Seamless and Welded Tubes	Outside Diameter	Thickness
From 10,26 mm. to 48,26 mm.	+0,40 - 0,80 mm.	+20% - 12,5%
From 48,26 mm. to 60,30 mm.	+0,80 - 0,80 mm.	+22% - 12,5%

ASTM A249 - A450 - A1016

Seamless and Welded Tubes	Outside Diameter	Thickness Minimum Wall	Average Wall
<25,40 mm.	+0,10 - 0,10 mm.	+20% - 0	+10% - 10%
25,50 mm. - 38,10 mm.	+0,15 - 0,15 mm.	+20% - 0	+10% - 10%
38,10 mm. - 50,80 mm.	+0,20 - 0,20 mm.	+22% - 0	+11% - 11%

ASTM A789/790 – S31803 - A1016

Seamless and Welded Tubes	Outside Diameter	Thickness
Up to 12,70 mm.	+0,13 - 0,13 mm.	+15% - 15%
12,70 mm. to 38,10 mm.	+0,13 - 0,13 mm.	+10% - 10%
From 38,10 mm. to 50,80 mm.	+0,25 - 0,25 mm.	+10% - 10%

GENERAL ISO TOLERANCES – DIN 2462

Tolerances Class	Maximum tolerance outside diameter
D1	+/- 1,50% with min. +/-0,75 mm
D2	+/- 1,00% with min. +/-0,50 mm
D3	+/- 0,75% with min. +/-0,30 mm
D4	+/- 0,50% with min. +/-0,10 mm

Tolerances Class	Maximum tolerance outside diameter
T1	+/- 15,00% with min. +/-0,60 mm
T2	+/- 12,50% with min. +/-0,40 mm
T3	+/- 10,00% with min. +/-0,20 mm
T4	+/- 7,50% with min. +/-0,15 mm

