

Hygienics

SPECIFICATIONS

ASTM A270

SEAMLESS AND WELDED AUSTENITIC STAINLESS STEEL SANITARY (HYGIENIC) TUBING

This specification covers seamless and welded austenitic stainless steel hygienic tubing having special surface finishes.

DIMENSIONS AND TOLERANCES

- **DIMENSIONS:** Tube sizes normally furnished to this specification are ≤ 4 in (101.6mm) OD.
- **CUT LENGTHS** shall be no less than specified and not more than $\frac{1}{8}$ in (3.2mm) over that specified.

CROSS-SECTIONAL TOLERANCES

Outside Diameter (OD)		Variations in OD				Variation in t	
		Under		Over		Under	Over
in	mm	in	mm	in	mm	%	%
≤ 1	≤ 25.4	0.005	0.13	0.005	0.13	12.5	12.5
>1 to 2	>25.4 to 50.8	0.008	0.20	0.008	0.20	12.5	12.5
>2 to 3	>50.8 to 76.2	0.010	0.25	0.010	0.25	12.5	12.5
>3 to 4	>76.2 to 101.6	0.015	0.38	0.015	0.38	12.5	12.5

NOTES

- 1 For $t < 0.049$ in (1.24mm) tolerances to be agreed with purchaser
- 2 There are no ovality requirements

CHEMICAL COMPOSITION

Grade	UNS	Composition Percentage, Max or Range								Note
		Carbon C	Manganese Mn	Phosphorus P	Sulphur S	Silicon Si	Nickel Ni	Chromium Cr	Molybdenum Mo	
TP304	S30400	0.08	2.00	0.045	0.030	1.00	8.00-11.00	18.00-20.00	-	
TP304L	S30403	0.035	2.00	0.045	0.030	1.00	8.00-12.00	18.00-20.00	-	I
TP316	S31600	0.08	2.00	0.045	0.030	1.00	10.00-14.00	16.00-18.00	2.00-3.00	
TP316L	S31603	0.035	2.00	0.045	0.030	1.00	10.00-14.00	16.00-18.00	2.00-3.00	I

NOTES

- 1 Carbon 0.040% max is necessary for tubes where many drawing passes are required, as with outside diameter < 0.5 in (12.7mm) or nominal wall thickness < 0.049 in (1.2mm) (minimum wall thickness < 0.044 in (1.12mm))

BS 4825 PART 1 / EN20286 - DIMENSIONS AND TOLERANCES

- **O/D TOLERANCE:** $\pm 0.5\%$ or 0.1mm whichever is the greater.
- **WALL THICKNESS TOLERANCE:** $\pm 12.5\%$.
- **SURFACE FINISH:** Internal 1.0Ra Maximum / External 2.5Ra Maximum.
- **LENGTH:** For lengths up to and including 6m +3mm -0mm / For lengths over 6m +6mm -0mm.