

316L Stainless Steel Plumbing Tube Data Sheet



The Lawton 316L Stainless Steel Tube range is available in sizes 15mm - 168.3mm. Manufactured to EN 10312 and WRAS approved, the range is suitable for potable water, heating, cooling, and fuel gas applications. Designed for use with Lawton M-Profile press fittings for a fast, flame-free, permanent connection.



Lawton Stainless Steel Tube	15mm - 168.3mm
Applications	Potable water, Heating and Cooling
Market Segment	Domestic, Industrial and Commercial
Materials	1.4404 (AISI 316L) Stainless Steel
Material Standards	EN 10088
Delivery Lengths	3m and 6m straight lengths, capped with blue cap
Surface Finish	Bright, smooth and clean external surfaces
Dimensions and Tolerances	See Webpage
Product Marking	Size, LTC Logo, Material, MFG Date, DVGW
Minimum Bending Radius	3.5 x Outside Diameter
Warranty	50 Years (See website for T&Cs)
Suitable for potable water, heating, cooling, chilled water, compressed air, vacuum, rainwater harvesting. Suitable for Family 2 and Family 3 fuel gas systems (with Lawton gas press fittings)	

Compatible Lawton Press Fittings

- 316L Plumbing Press Fittings (EPDM, PN16, 15-168.3mm)
- 304 Plumbing Press Fittings (EPDM, PN16, 15-168.3mm)
- 316L Gas Press Fittings (HNBR, PN5, 15-108mm)
- 304 Gas Press Fittings (HNBR, PN5, 15-108mm)

Note: While fittings and tubes of material grades 304 and 316L can be mixed, the corrosion resistance of the system shall be determined by the least resistant component. 304 fittings and tube are not recommended for potable water applications due to risk of chlorine-induced corrosion, but safe for contact with water.

Dissimilar metals:

Installations containing mixed metals are generally to be avoided. Metals that are not close to each other on the galvanic scale can corrode when connected directly together.

If dissimilar metals are required in the same system, we recommend the Water Regulations Guide is adhered to.

Technical Data

OD (mm)	Wall (mm)	ID (mm)	Weight (kg/m)	Water capacity (l/m)	EN 10312 Series
15	0.6	13.8	0.217	0.150	1
18	0.7	16.6	0.304	0.216	1
22	0.7	20.6	0.375	0.333	1
28	0.8	26.4	0.547	0.547	1
35	1.0	33.0	0.855	0.855	1
42	1.1	39.8	1.131	1.244	1
54	1.2	51.6	1.592	2.091	1
66.7	1.2	64.3	1.975	3.247	1
76.1	2.0	72.1	3.725	4.083	2
88.9	2.0	84.9	4.368	5.661	2
108	2.0	104.0	5.328	8.495	2
139.7	2.6	134.5	8.959	14.208	2
168.3	2.6	163.1	10.828	20.893	2

Physical Properties

Property	Value
Density	8.0 kg/dm ³
Thermal expansion coefficient α (20–100°C)	0.0165 mm/(m·K)
Thermal conductivity λ (20°C)	15 W/(m·K)
Specific heat capacity c (20°C)	500 J/(kg·K)
Surface roughness k	$\leq 1.5 \mu\text{m}$
Electrical resistivity (20°C)	0.75 $\Omega \cdot \text{mm}^2/\text{m}$
Building material class	A1 per EN 13501

Mechanical Properties — 1.4404 (AISI 316L) per EN 10088

Property	Value
Tensile strength R_m	510–710 N/mm ²
0.2% proof stress $R_{p0.2}$	$\geq 220 \text{ N/mm}^2$
Elongation at break A_5	$> 40\%$
Delivery condition	As-welded

Water quality

The chloride ion content in potable water must not exceed 250 mg/l to avoid localised corrosion. Where chlorine-based disinfection is used, the application duration and concentration must be strictly observed. 316L (1.4404) can tolerate chloride levels up to 1000 mg/l, but sustained exposure to excessive concentrations - particularly at elevated temperatures - may cause pitting or crevice corrosion.

For more details, please refer to our website or contact us by e-mail at technical@lawtontubes.co.uk

Maximum Operating Pressures

OD x Wall (mm)	Minimum Wall (mm)	Maximum operating pressure (bar)								
		20°C	50°C	100°C	150°C	200°C	250°C	300°C	350°C	400°C
15 x 0.6	0.54	94	90	82	75	68	63	58	56	53
18 x 0.7	0.63	91	88	80	73	66	61	57	54	52
22 x 0.7	0.63	74	71	65	59	53	49	46	44	42
28 x 0.8	0.72	66	64	58	53	48	44	41	39	38
35 x 1.0	0.90	66	64	58	53	48	44	41	39	38
42 x 1.1	0.99	61	58	53	48	44	40	37	36	34
54 x 1.2	1.08	51	49	45	41	37	34	32	30	29
66.7 x 1.2	1.08	41	39	36	33	30	27	25	24	23
76.1 x 2.0	1.85	63	60	55	50	45	42	39	37	35
88.9 x 2.0	1.85	53	51	47	43	38	35	33	32	30
108 x 2.0	1.85	44	42	38	35	31	29	27	26	25
139.7 x 2.6	2.34	43	41	37	34	31	28	26	25	24
168.3 x 2.6	2.34	35	34	31	28	25	23	22	21	20

- If the tubes are to be used with the Lawton Stainless Steel Press system, the pressure and temperature rating of the press system governs in service and can be found on the datasheet for the respective stainless steel press fitting range. Values above the seal temperature limit apply to welded or flanged joining only.
- The guideline intergranular corrosion limit temperature for 1.4404 is 400°C (BS EN 10217-7:2014, Table 8). Where the intended system exceeds that temperature, sensitisation risk against the medium must be assessed.
- Vacuum rating -0.8 bar (gauge) across the range.
- Ratings apply to the bare tube under static internal pressure, calculated to BS EN 13480-3 with design stress $f = R_p0.2(T)/1.5$ (BS EN 10217-7:2014, Tables 6 and 8), joint coefficient $z = 1.0$, the minimum wall tabulated above and zero corrosion allowance. No allowance is included for water hammer, external loads, bending or fatigue.