Datasheet:

EN 1.4404/316L – Austenite Welded Elbow Tubes - Stainless Steel

Alumeco ApS
15-08-2025

Internal alloy name:	**1.4404**
Alloy type:	**Acid-resistance Austenite**
Chemical Symbol:	**X2CrNiMo17-12-2**
EN:	**EN 1.4404**
AISI:	**316L**
UNS:	**S31603**
SS:	**2348**
JIS:	**SUS316L**
GB:	**S31603**

Main usage:

- Food processing industry
- Petrochemical equipment
- Chemical and pharmaceutical industry
- Construction sector
- Automotive and aerospace industry
- Electronical equipment

Main properties:

- Great weldability
- High corrosion resistance to non-oxidising acids and chlorine-containing materials
- Good formability, both cold and hot
- Higher thermal expansion and lower heat conductivity compared to other carbon steels

Important norms and literature:

General Standards
EN 10088-1: List of stainless Steel

Product standards:
EN 10253-4A: Butt-welding pipe fittings - Part 4: Wrought austenitic and austenitic-ferritic (duplex) stainless steels with specific inspection requirements

Tolerances:
EN 10253-4A: Butt-welding pipe fittings - Part 4: Wrought austenitic and austenitic-ferritic (duplex) stainless steels with specific inspection requirements

Chemical composition in %: EN 10088-1

C	Si	Mn	P	S	Cr	Mo	Ni	Remarks	Rest
≤ 0,030	≤ 1,00	≤ 2,00	≤ 0,045	≤ 0,030*	16,5-18,5	2,0-2,5	10,0-13,0	N ≤ 0,10	Fe

*** For machinability, a controlled sulfur content of 0,015%-0,030% is recommended & permitted. For weldability a controlled sulfur content of 0,008%- 0,030% is recommended & permitted. For polishability, a controlled sulfur content of 0,015% is recommended.**

Mechanical properties: EN 10253-4A

Hardness*	Tensile properties at room temperature					Reference heat treatment conditions	Resistance to intergranular corrosion	Limit temp.
	Proof strength Min. MPa		Tensile strength	Elongation Min. A%				
HB	$R_{p0,2}$	$R_{p1,0}$	R_m MPa	*l*	*t*	Solution temp. °C		°C
Max. 215	190	225	490 – 700	40	30	1020 – 1120	Yes	400

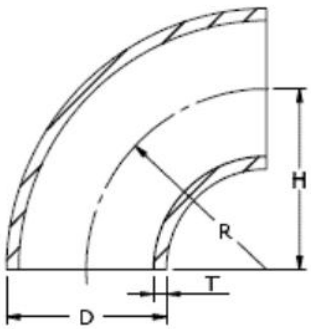
*** Information values only;**

Physical properties:

Density g/cm³	Electrical resistivity Ω mm² / m	Thermal conductivity W/m K	Thermal expansion (µm m^{-1} K^{-1})	Specific heat (J kg^{-1} K^{-1})	E - modulus (N / mm²)	Magnetizable	PREN (Min.)
8,0	0,75	15	16,0	500	200.000	No	16,5

Product Overview:

Material nr.	DN	Diameter D (mm)	Thickness T (mm)	Radius R=H (mm)	Weight (kg)
1361994	10	17,2	1,60	28	0,03
1333308	15	21,3	2,00	28	0,04
1333377	20	26,9	2,00	29	0,06
1333411	25	33,7	2,00	38	0,09
1333435	32	42,4	2,00	48	0,15
1333414	40	48,3	2,00	57	0,21
1333459	50	60,3	2,00	76	0,35
1358418	65	76,1	2,00	95	0,55
1333466	80	88,9	2,00	114	0,78
1333261	100	114,3	2,00	152	1,30
1333284	125	139,7	2,00	190	2,07
1333295	150	168,3	2,00	229	3,01
1333310	200	219,1	2,00	305	5,23
1333380	250	273,0	3,00	381	12,14
1358422	300	323,9	3,00	457	17,30
1358425	350	355,6	3,00	533	22,17
1358427	400	406,4	3,00	610	29,04



Tolerances for welded stainless steel elbows for EN 1.4404:

Tolerances on outside diameter

The relevant outside diameters (D-D_1) shall be measured at the welding ends of the fittings.
The tolerance is a follows:

- ±1% or ±0,5 mm, whichever is the greater, but maximum ±5 mm.

* Values are referred from Section 11.2.1 of EN 10253-4:2025

Tolerances on roundness

At the welding ends:

- D ≤ 406,4 is included in the diameter tolerance
- D > 406,4 and D/T ≤ 100, then O_v ≤ 2%

For fittings with a D/T ratio > 100 the values for out-of-roundness shall be agreed at the time of enquiry and order.
On the body for elbows and return bends: ≤ 4%.
The out of roundness shal be calculated as follows:

- $O_v = 100 * (D_{max} – D_{min}) / D$ (in %)

* Values are referred from Section 11.2.2 of EN 10253-4:2025

Tolerances on wall thickness

NOTE: The minus tolerances shown in below table also applies to the body of the fitting, but there is no plus tolerance for the body of the fitting defined.

Diameter *D* (mm)	**Wall thickness *T*** (mm)	**Wall thickness tolerance**	
		minus	plus
≤ 610	all	-12,5 %	+ 20 %
> 610	seamless	-12,5 %	+ 20 %
	welded		
	≤ 10	- 0,35 mm	+ 20 %
	> 10	- 0,5 mm	

* Values are referred from Section 11.2.3 of EN 10253-4:2025