

For welding steel such as:

Outokumpu	EN	ASTM	BS*	NF*	SS*
4301	1.4301	304	304S31	Z7 CN 18-09	2333
4307	1.4307	304L	304S11	Z3 CN 18-10	2352
4311	1.4311	304LN	304S61	Z3 CN 18-10 Az	2371
4541	1.4541	321	321S31	Z6 CNT 18-10	2337

* Obsolete national standards, replaced by EN 10088.

Characteristics

AVESTA FCW E308LT0-1 is a type of flux-cored wire with high deposition rates and very good weldability in flat and horizontal welding positions. The wire operates with a very stable arc producing a smooth weld bead surface and self-releasing slag.

E308LT0-1 is designed for welding austenitic stainless steel type 19 Cr 10 Ni, but can also be used for welding titanium and niobium stabilised steels such as ASTM 321 and ASTM 347 in cases where the construction will be operating at temperatures below 752° F (400°C). For higher temperatures a niobium consumable should be used.

The chemical composition and mechanical properties of the weld metal meet the requirements of both EN 12073:1999 and AWS A5.22-95.

Welding directions

AVESTA FCW E308LT0-1 should be welded using direct current positive polarity (DC+) with a recommended wire stick-out of 15–20 mm. Compared to the MIG-method, the range of welding current and voltage is considerably wider.

Welding data

Ø Inch	Flat/Horizontal	
	A	V
0.045	150–300	26–35

The above parameters are intended for straight CO₂ shielding gas.

For further recommendations, please contact Avesta Welding.

Shielding gas recommendations

Welding should be done using straight CO₂ shielding gas. For non-critical applications, argon with addition of 15–25%CO₂ can be used. When using mixed gas, deduct from 1–2 V for the settings listed in the table above.

Gas flow rate is typically 20–25 l/min.

Standard designations

EN 12073 T 19 9 L R M/C 3
AWS A5.22 E308LT0-1

Chemical composition - Typical values, %

C	0.02	Cr	18.9
Si	0.6	Ni	10.2
Mn	1.5		
Ferrite:	9 FN DeLong		
	7 FN WRC-92		

Mechanical properties – Typical values, IIW

	Typ. values		
Yield strength, Rp _{0.2}	360 N/mm ²	52 ksi	
Tensile strength, R _m	540 N/mm ²	78 ksi	
Elongation, A ₅	41 %	41 %	
Impact strength, KV	+20°C	51 J	38 ft·lb
	–196°C	31 J	23 ft·lb
Hardness	200 Brinell	–	

Interpass temperature: Max. 300°F (150°C)

Heat input: Max. 50.8kJ/in (2.0 kJ/mm)

Heat treatment: Generally none. In special cases quench annealing at 1922°F (1050°C).

Structure: Austenite with 5–10 % ferrite.

Scaling temperature: Approx. 1562°F (850°C) (air).

Corrosion resistance: Very good. Equivalent to that of ASTM 304L, i.e. fairly good under severe conditions such as oxidising and cold dilute reducing acids.

Approvals: –