

For welding steel such as:

Outokumpu	EN	ASTM	SS*	BS*	NF*
4301	1.4301	304	2333	304S31	Z7 CN 18-09
4541	1.4541	321	2337	321S31	Z6 CNT 18-10
-	1.4550	347	2338	347S31	Z6 CNNb 18-10

* Obsolete national standards, replaced by EN 10088.

Characteristics

AVESTA 308/308H AC/DC has a rutile-acid coating which ensures very good weldability when working with both positive pole DC and AC.

AVESTA 308/308H is used for welding ASTM 304 and 304H type of steels. The elevated carbon content has a positive effect on the creep resistance, which is an advantage for applications with service temperatures exceeding 752°F (400°C).

AVESTA 308/308H may also be used for welding titanium and niobium stabilised steels, such as ASTM 321 and 347, in cases where the welded component will be operating at temperatures not exceeding 752°F (400°C). For higher temperatures, a stabilised welding consumable (AVESTA 347/MVNb) should be used.

Welding directions

AVESTA 308/308H should be welded using a short arc or with its coating sliding along the workpiece. Direct current (+pole) is preferable. The best result is achieved by using amperage in the upper part of the amperage range given, i.e. somewhat higher than the amperage generally used for other electrode types.

Packaging data

Diam. inch	Diam. mm	Length mm/inch	Weight/capsule, lbs	Electrodes/capsule, approx.	Weight/carton, lbs
3/32	2.5	300 / 12	8.0	182	25
1/8	3.25	350 / 14	9.1	108	27
5/32	4.0	350 / 14	9.1	75	30
3/16	5.0	350 / 14	10.0	58	30

Approvals: -

Standard designations

EN 1600 E 19 9 R
AWS A5.4 E 308H-17

Typical analysis % (All weld metal)

C	Si	Mn	Cr	Ni
0.06	0.7	1.1	20.0	10.0
Ferrite		5 FN DeLong		

Mechanical properties

Typical values (IIW)

Yield strength, R _{p0.2}	450 N/mm ²	65 ksi
Tensile strength, R _m	605 N/mm ²	88 ksi
Elongation, A ₅	37 %	37 %
Impact strength, KV		
+20°C	55 J	41 ft·lb
-40°C	50 J	37 ft·lb
Hardness approx.	210 Brinell	

Welding data

DC+ or AC	Diam. inch	Current A
	3/32	50– 80
	1/8	80–120
	5/32	100–160
	3/16	160–220

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

Heat input: Max. 50.8 kJ/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: Corresponding to ASTM 304, i.e. good resistance to general corrosion. The enhanced carbon content, compared to 308L, makes it slightly more sensitive to intercrystalline corrosion.

Welding positions

