

For welding steel such as:

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

\* Obsolete national standards, replaced by EN 10088.

#### Characteristics

AVESTA 308L/MVR-HX AC/DC is a high recovery electrode offering good welding properties both with positive pole DC and AC. The slag and weld pool produced are easily controlled and slag removal is excellent.

AVESTA 308L/MVR-HX is an economical electrode particularly suitable for welding heavy constructions, e.g. in cases where automatic welding is uneconomical due to long set-up times.

AVESTA 308L/MVR-HX produces weld beads with very good geometry. Due to its special, high recovery properties, this electrode produces a large amount of weld metal in a short time, with a relatively low heat effect on the parent metal.

AVESTA 308L/MVR-HX is primarily designed for welding austenitic type 18/10 steels such as ASTM 304 and 304L, but can also be used with good results for welding niobium and titanium stabilised steels such as ASTM 321 and 347. However, if the welded component is to be used at temperatures exceeding 752°F (400°C), stabilised welding electrodes (AVESTA 347/MNVb) should be used.

#### Welding directions

AVESTA 308L/MVR-HX is mainly designed for flat position welding, but other welding positions may also be used, provided that the parent metal thickness is sufficient.

AVESTA 308L/MVR-HX should be welded using a short arc or with its coating sliding along the workpiece.

#### Packaging data

Diam. inch	Diam. mm	Length mm/inch	Weight/ capsule, lbs	Electrodes/ capsule, approx.	Weight/ carton, lbs
5/32	4.0	450 / 18	12.1	61	36
3/16	5.0	450 / 18	10.6	33	32

#### Standard designations

EN 1600	E 199 L R
AWS A5.4	E 308L-17

#### Typical analysis % (All weld metal)

C	Si	Mn	Cr	Ni
0.03	0.7	0.9	20.0	10.5

Ferrite 10 FN DeLong

#### Mechanical properties

	Typical values (IIW)	
Yield strength, Rp <sub>0.2</sub>	395 N/mm <sup>2</sup>	57 ksi
Tensile strength, R <sub>m</sub>	550 N/mm <sup>2</sup>	80 ksi
Elongation, A <sub>5</sub>	41 %	41 %
Impact strength, KV		
+20°C	65 J	48 ft-lb
-40°C	55 J	41 ft-lb
Hardness approx.	210 Brinell	

#### Welding data

	Diam. inch	Current A
DC+ or AC	5/32	110-170
	53/16	170-130

**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:** Very good under fairly severe conditions, e.g. in oxidising acids and cold or dilute reducing acids.

**Approvals:** -

#### Welding positions

Ø 4.0-5.0

