308L/MVR basic

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Covered electrodes

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 basic has a basic coating and produces a weld metal that effectively prevents the formation of pores and cracks and possesses very good mechanical properties. The composition of the coating, characteristic of basic electrodes, ensures very good penetration and position welding properties.

AVESTA 308L/MVR basic is primarily designed for welding austenitic stainless steel of the ASTM 304 and 304L type. It can also be used with good results for welding titanium and niobium stabilised steels, such as ASTM 321 and 347, except in cases where the welded component is intended to operate at temperatures exceeding 400°C. In the latter case, stabilised welding consumables (AVESTA 347/MVNb) should be used.

Welding directions

AVESTA 308L/MVR basic should be welded using short arc and DC positive polarity. High amperages causing overheating of the electrode should be avoided. To avoid the production of large weld pools, the appropriate amperage and welding speed should be chosen.

Packaging data

Diam. inch	Diam. mm	Length mm/inch	Weight/ capsule, lbs	Electrodes/ capsule, approx.	Weight/ carton, ibs
3/32	2.5	300 / 12	3.7	102	22
1/8	3.25	350 / 14	9.1	131	27
5/32	4.0	350 / 14	10.0	97	30

Standard designations

EN 1600	E 19 9 L B
AWS A5.4	E 308L-15

Typical analysis % (All weld metal)

C	Si	Mn	Cr	Ni
0.03	0.2	1.7	20.0	10.0

Ferrite 5 FN DeLong

Mechanical properties	Typical values (IIW)			
Yield strength, $Rp_{0,2}$	420	N/mm2	61	ksi
Tensile strength, R_m	560	N/mm^2	81	ksi
Elongation, A_5	38	%	38	%
Impact strength, KV				
+20°C	70	J	52	ft·lb
-40°C	55	J	41	ft·lb
Hardness approx.	200	Brinell		

Welding data

DC+	Diam. inch	Current A
	3/32	50– 75
	1/8	70–100
	5/32	100–140

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. 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