Avesta Welding

347/MVNb basic

For welding steels such as Outokumpu	EN	ASTM	BS	NF	SS
4541	1.4541	321	321S31	Z6 CNT 18-10	2337
–	1.4550	347	347S31	Z6 CNNb 18-10	2338

Standard designations

EN 1600 E 19 9 Nb B
AWS A5.4 E347-15

Characteristics

AVESTA 347/MVNb basic is a Nb-stabilised Cr-Ni electrode for welding Ti-stabilised steels such as ASTM 321 and 347 exposed to service temperatures exceeding 400°C. 347/MVNb basic provides better impact strength than the AC/DC type electrodes. Also used for the second layer (first layer 309 type) when cladding mild steel.

Welding data

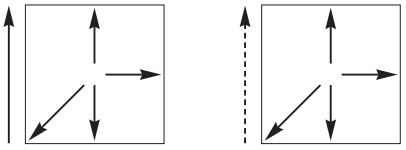
DC+	Diam. mm	Current, A
	2.5	50 – 70
	3.25	70 – 100
	4.0	100 – 140

Weld deposit data

Metal recovery approx. 100%.

Welding positions

Ø 2.5–3.25 Ø 4.0



Typical analysis % (All weld metal)

C	Si	Mn	Cr	Ni	Nb
0.06	0.4	1.0	19.5	10.0	≥10xC

Ferrite 8 FN WRC-92

Mechanical properties	Typical values (IIW)	Min. values EN 1600
Yield strength $R_{p0.2}$	520 N/mm^2	350 N/mm^2
Tensile strength R_m	680 N/mm^2	550 N/mm^2
Elongation A_5	30 %	25 %
Impact strength KV		
+20°C	90 J	
–40°C	65 J	
Hardness approx.	255 Brinell	

Interpass temperature: Max. 100°C.

Heat input: Max. 1.5 kJ/mm.

Heat treatment: Generally none. 347/MVNb can be used for cladding, which normally requires stress relieving at around 590°C. Such a heat treatment will lower the ductility at room temperature. Always consult expertise before performing post-weld heat treatment.

Structure: Approx. 90% austenite and 10% ferrite.

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

Corrosion resistance: 347/MVNb is primarily intended for high temperature service or applications that should be heat treated. However, the corrossion resistance corresponds to that of 308H, i.e. good resistance to general corrosion.

Approvals

• CE • TÜV