Avesta Welding

310

For welding steels such as Outokumpu	EN	ASTM	BS	NF	SS
4845	1.4845	310S	310S16	Z8 CN 25-20	2361

Standard designations

EN ISO 14343 G 25 20
AWS A5.9 ER310

Characteristics and welding directions

AVESTA 310 is designed for welding high temperature steels such as ASTM 310S.

AVESTA 310 gives a fully austenitic type 26 Cr 21 Ni weld metal and is therefore somewhat more sensitive to hot cracking than 316 type steels. Welding should therefore be performed minimising the heat input, interpass temperature and dilution with parent metal.

Chemical composition, wire (typical values, %)

C	Si	Mn	Cr	Ni
0.12	0.35	1.6	25.5	21.0

Ferrite 0 FN

Mechanical properties	Typical values (IIW)	Min. values EN ISO 14343
Yield strength $R_{p0,2}$	360 N/mm^2	350 N/mm^2
Tensile strength R_m	570 N/mm^2	550 N/mm^2
Elongation A_5	35 %	20 %
Impact strength KV +20°C	120 J	
Hardness	210 Brinell	

Welding data

	Diameter mm	Current A	Voltage V
Spray arc	1.00	180 – 240	25 – 29
	1.20	190 – 250	26 – 30
Pulsed arc	1.20	I_{peak} = 350 – 380 A I_{bkg} = 100 – 150 A Freq = 100 – 120 Hz	

Shielding gas

Welding is best performed using pulsed arc with a shielding gas of pure argon or Ar + 30% He + 2.5% CO_2.
Gas flow rate 12 – 16 l/min.

Interpass temperature: Max. 100°C.

Heat input: Max. 1.0 kJ/mm.

Heat treatment: Generally none.

Structure: Fully austenitic.

Scaling temperature: Approx. 1150°C (air).

Corrosion resistance: Initially intended for constructions running at high temperatures. Wet corrosion properties are moderate.

Approvals

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