

P10 basic

For welding steels such as Outokumpu	EN	ASTM	BS	NF	SS
All-round electrode suitable for many difficult-to-weld combinations.					

Standard designations

EN ISO 14172	E Ni Cr 15 Fe 6 Mn
AWS A5.11	ENiCrFe-3

Characteristics

AVESTA P10 basic is a nickel base electrode for welding Inconel 600 and similar nickel alloys. P10 provides high resistance to cracking and is well suited for dissimilar welds between stainless and nickel alloys to mild steel. The P10 electrode can also be used for welding nickel base alloys for use in high temperature applications.

Welding data

DC+	Diam. mm	Current, A
	2.5	45 – 70
	3.25	70 – 110
	4.0	100 – 140
	5.0	130 – 190

Weld deposit data at maximum welding current

Electrode diam. mm	length mm					Metal recov. ~ %
		N	B	H	T	
2.5	300					
3.25	350	0.67	43	1.38	61	110
4.0	350	0.73	28	2.11	62	114
5.0	350	0.75	18	3.14	63	110

Typical analysis % (All weld metal)

C	Si	Mn	Cr	Nb	Fe	Ni
0.03	0.3	7.0	16.0	2.2	5.0	bal.

Ferrite 0 FN

Mechanical properties

	Typical values (IIW)	Min. values EN ISO 14172
Yield strength $R_{p0.2}$	380 N/mm ²	360 N/mm ²
Tensile strength R_m	630 N/mm ²	600 N/mm ²
Elongation A_5	39 %	22 %
Impact strength KV		
+20°C	115 J	
-196°C	80 J	
Hardness approx.	180 Brinell	

Interpass temperature: Max. 100°C.

Heat input: Max. 1.5 kJ/mm.

Heat treatment: Generally none (in special cases quench annealing at 1050°C).

Structure: Fully austenitic.

Scaling temperature: Approx. 1100°C (air).

Corrosion resistance: Very good resistance to stress corrosion cracking. Also very good resistance to intergranular corrosion due to the low carbon content and absence of sigma phase.

Approvals

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Welding positions

