


P5-2D

For welding steels such as
Outokumpu

EN

ASTM

BS

NF

SS

Over-alloyed electrode for surfacing unalloyed steel, joint welding molybdenum-alloyed stainless steel to unalloyed steel and welding clad material.

Standard designations

EN 1600 E 23 12 2 L R

AWS A5.4 E309MoL-17

Characteristics

AVESTA P5-2D is a highly alloyed low carbon electrode corresponding to AWS A5.4 E309MoL-17. The electrode is designed for dissimilar welding between stainless and mild or low-alloy steels but can also be used for overlay welding, providing an 18 Cr 8 Ni 2 Mo deposit from the very first layer.

It can also be used for welding high-strength steels such as Hardox® and Armox®. P5-2D has an extra thick coating providing a high deposition rate with a metal recovery of about 150%. This electrode is a very cost-effective alternative for overlay welding in horizontal position.

Welding data

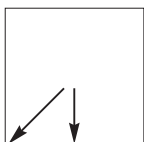
DC+ or AC	Diam. mm	Current, A
	4.0	110 – 170
	5.0	170 – 230

Weld deposit data at maximum welding current

Electrode diam. mm	length mm					Metal recov. ~ %
		N	B	H	T	
4.0	450	0.67	16	3.26	69	151
5.0	450	0.65	11	4.08	82	144

Welding positions

Ø 4.0–5.0

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

C	Si	Mn	Cr	Ni	Mo
0.03	0.8	1.0	22.0	13.5	2.7

Ferrite 20 FN WRC-92

Mechanical properties

	Typical values (IIW)	Min. values EN 1600
Yield strength $R_{p0.2}$	450 N/mm ²	350 N/mm ²
Tensile strength R_m	625 N/mm ²	550 N/mm ²
Elongation A_5	30 %	25 %
Impact strength KV +20°C	35 J	
Hardness approx.	220 Brinell	

Interpass temperature: Max. 150°C.**Heat input:** Max. 2.0 kJ/mm.**Heat treatment:** Generally none.

For constructions that include low-alloy steels in mixed joints, a stress-relieving annealing stage may be advisable. However, this type of alloy may be susceptible to embrittlement-inducing precipitation in the temperature range 550 – 950°C.

Structure: Austenite with 15 – 20% ferrite.**Scaling temperature:** Approx. 950°C (air).

Corrosion resistance: Superior to 316L. The corrosion resistance obtained in the first layer when surfacing welding corresponds to that of ASTM 316.

Approvals

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