

# P5-VDX AC/DC

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-VDX is a highly alloyed low carbon electrode. It 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 type deposit from the very first layer. P5-VDX has an extra thin coating, providing an excellent weldability when welding thin plates in the vertical-down position, e.g. corner welds, butt welds and overlap welds.

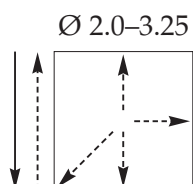
## Welding data

DC+ or AC	Diam. mm	Current, A
	2.0	35 – 55
	2.5	50 – 70
	3.25	95 – 105

## Weld deposit data

Metal recovery approx. 105%.

## Welding positions



## Typical analysis % (All weld metal)

C	Si	Mn	Cr	Ni	Mo
0.02	0.9	0.9	22.5	13.5	2.5

Ferrite 20 FN WRC-92

## Mechanical properties

	Typical values (IIW)	Min. values EN 1600
Yield strength $R_{p0.2}$	545 N/mm <sup>2</sup>	350 N/mm <sup>2</sup>
Tensile strength $R_m$	685 N/mm <sup>2</sup>	550 N/mm <sup>2</sup>
Elongation $A_5$	30 %	25 %
Impact strength KV +20°C	40 J	
Hardness approx.	225 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 type 316L. The corrosion resistance obtained on the first layer when surfacing corresponds to that of ASTM 316.

## Approvals

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