

P7

For welding steels such as Outokumpu	EN	ASTM	BS	NF	SS
AVESTA P7 is an all-round wire for difficult-to-weld steels such as Mn-steels, tool steels and high temperature grades.					

Standard designations

EN ISO 14343 W 29 9

AWS A5.9 ER312

Characteristics and welding directions

AVESTA P7 is a high-alloy consumable designed for welding C/Mn-steels, high-strength steels such as Hardox® and Armox®, tool steels, spring steels, high temperature steels and other difficult-to-weld steels. P7 is also suitable for dissimilar welds between stainless and mild steel connections.

AVESTA P7 provides a weldment with high tensile strength and wear resistance and with excellent resistance to cracking.

Pre-heating is normally unnecessary, but when working with constricted designs and materials susceptible to hardening, some pre-heating may be required.

Welding data

Diameter, mm	Current, A	Voltage, V
2.40	130 – 160	16 – 18

Shielding gas

Ar (99.95%).

Gas flow rate 4 – 8 l/min.

Chemical composition, wire (typical values, %)

C	Si	Mn	Cr	Ni
0.11	0.45	1.9	30.0	9.5
Ferrite 60 FN WRC-92				

Mechanical properties	Typical values (IIW)	Min. values EN ISO 14343
Yield strength $R_{p0,2}$	650 N/mm ²	450 N/mm ²
Tensile strength R_m	810 N/mm ²	650 N/mm ²
Elongation A_5	26 %	15 %
Impact strength KV +20°C	40 J	
Hardness	240 Brinell	

Interpass temperature: Max. 150°C.

Heat input: Max. 2.0 kJ/mm.

Heat treatment: Generally none. Alloys of this type are susceptible to precipitation of the secondary phase in the temperature range 550 – 950°C.

Structure: Austenite with 40 – 60% ferrite.

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

Corrosion resistance: Very good corrosion resistance in wet sulphuric environments, e.g. in sulphate digesters used by the pulp and paper industry.

Approvals

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