Avesta P7

Solid wire, high-alloyed

Classification

EN ISO 14343	AWS A5.9
G 29 9	ER312

Characteristics and typical fields of application

Avesta P7 is designed for welding of C/Mn – steels, high strength steels, spring steels, creep resistant steels and other difficult-to-weld steels. P7 is also suitable for dissimilar joints between stainless and mild steels.

The all-weld metal provides a high tensile strength and wear resistance as well as an excellent resistance to cracking.

Corrosion resistance:

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

Structure: Austenite with 40 – 60 % ferrite

Scaling temperature at 850 °C (air)

Base materials

Universally suitable for joints of difficult-to-weld steels like Mn-steels, tool steels or creep resistant steels.

Typical analysis of solid wire (wt.-%)

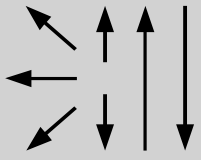
	C	Si	Mn	Cr	Ni	Ferrit
wt.-%	0.11	0.45	1.9	30.0	9.5	60 FN (WRC-92)

Mechanical properties of all-weld metal

Heat treatment	Yield strength $R_{p0.2}$	Tensile strength R_m	Elongation A (L_0=5d_0)	Impact work ISO-V KV J	Hardness
	MPa	MPa	%	+20 °C	Brinell
u	560 (≥ 450)	750 (≥ 650)	25 (≥ 15)	40	240

u untreated, Shielding gas Ar + 2 % O_2

Operating data



Polarity	Shielding gas	ø (mm)
DC (+)	Ar + 2 % O_2 or Ar + 2 – 3 % CO_2 Gas flow rate 12 – 16 l	1.0 1.2

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

For base materials which are susceptible for hardening, some pre-heating may be required.

Interpass temperature: Max. 150 °C.

Heat input: 0.5 – 2.5 kJ/mm.

Approvals

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All information provided is based upon careful investigation and intensive research.
However, we do not assume any liability for correctness and information is subject to change without notice.