

Classification

EN ISO 14343	AWS A5.9
S 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 the wire and of all-weld metal (wt.-%)

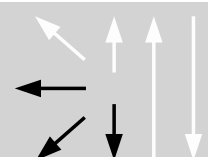
	C	Si	Mn	Cr	Ni	Ferrite
Wire	0.11	0.45	1.9	30.0	9.5	60 FN (WRC-92)
Flux 801	0.11	0.9	1.2	30.5	9.0	60 FN (WRC-92)
Flux 805	0.11	0.6	1.5	31.0	9.0	60 FN (WRC-92)

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
	MPa	MPa	%	+20 °C
u, Flux 805	640	770	22	35

u untreated

Operating data

	Polarity DC (+)	Re-drying of the flux: 300 – 350 °C / min. 2 h	ø (mm) 2.4
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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

mit Flux 801: DNV