

Classification

EN ISO 18274	AWS A5.14
G Ni Cr 22 Mo 9 Nb	ERNiCrMo-3

Characteristics and typical fields of application

Avesta P12 is a nickel base alloy designed for welding of 6-Mo steels such as alloy 625 or 825 or Outokumpu 254 SMO® as well as for dissimilar joints of nickel base alloys and stainless steels.

Welding of fully austenitic and nickel base steels should be performed taking grate care to minimise the heat input, interpass temperature and dilution with parent metal.

Corrosion resistance:

Excellent resistance to general, pitting and intercrystalline corrosion in chloride containing environments.

Structure: fully austenitic

Scaling temperature 1100 °C (air)

Base materials

1.4547, 1.4529, Alloy 625, 825, UNS S31254.

Outokumpu 254 SMO®, 20-25-6

Typical analysis of solid wire (wt.-%)

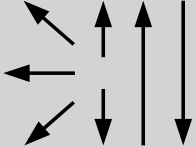
	C	Si	Mn	Cr	Ni	Mo	Nb	Fe
wt.-%	0.01	< 0.1	< 0.1	22.0	65.0	9.0	3.6	<1.0

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	- 40 °C
u	480	750	42	170	150

u untreated, Shielding gas Ar (99,95 %)

Operating data

	Polarity DC (+)	Shielding gas	ø (mm)
		Ar (99,95 %) or	0.8
		Ar + 30 % He and 2.5 % CO ₂	1.0
		Gas flow rate 12 – 16 l	1.2

Heat treatment: Generally none (in special cases quench annealing at 1050 °C).

Interpass temperature: Max. 100 °C.

Heat input: 1.5 kJ/mm.