Avesta P16

Solid wire, high-alloyed, high corrosion resistant

Classification

EN ISO 18274	AWS A5.14
G Ni Cr 25 Mo 16	ERNiCrMo-13

Characteristics and typical fields of application

Avesta P16 is designed for welding of 7-Mo steels like 1.4565 or Outokumpu 654 SMO®.

This alloy type offers superior resistance to pitting and crevice corrosion and is also suitable for welding of the nickel base alloy 625 and alloy 825 or for dissimilar joints between nickel base steels and stainless steels. The chemical composition is equal to alloy 59 (ERNiCrMo-13).

Welding of fully austenitic and nickel base steels should be performed taking grate care to minimise the risk of hot or solidification cracking.

Corrosion resistance:

Superior resistance to pitting and crevice corrosion (CPT acc. to ASTM G48 A > 80 °C).

Structure: fully austenitic

Scaling temperature 1100 °C (air)

Base materials

Outokumpu 4565, 254 SMO®, 4529, EN 1.4565, 1.4547, 1.4529, UNS S 34565, S31254, N08926, as well as dissimilar joints between nickel base alloys and stainless steels.

Typical analysis of solid wire (wt.-%)

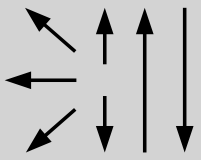
	C	Si	Mn	Cr	Ni	Mo	Nb	Fe
wt.-%	0.01	0.1	0.2	25.0	60	15	< 0.1	< 0.1

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	470	700	33	120	220

u untreated, Shielding gas Ar (99,5 %)

Operating data



Polarity	Shielding gas	ø (mm)
DC (+)	Ar (99,5 %) or	1.0
	Ar + 30 % He and 2.5 % CO_2	1.2
	Gas flow rate 12 – 16 l	1.6

Heat treatment: Generally none (in special cases quench annealing at 1150 - 1200 °C.

Interpass temperature: max. 100°C

Heat input: max. 1.5 kj/mm