

P16

For welding steels such as Outokumpu	EN	ASTM	BS	NF	SS
4565	1.4565	S34565	–	–	–
254 SMO®	1.4547	S31254	–	–	2378
20-25-6	1.4529	N08926	–	–	–

Also for welding nickel base alloys to stainless steel and mild steel.

Standard designations

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

Characteristics and welding directions

AVESTA P16 is a nickel base alloy designed for welding Outokumpu 4565, 7Mo-steels and similar, offering superior resistance to pitting and crevice corrosion. The consumable is also suitable for the welding of nickel base alloys such as Inconel 625 and Incoloy 825 but also for dissimilar welds between stainless and nickel base alloys to mild steel.

The chemical composition corresponds to that of Alloy 59 (ERNiCrMo-13).

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

Welding data

Diameter, mm	Current, A	Voltage, V
1.20	60 – 80	9 – 11
1.60	80 – 110	10 – 12
2.00	100 – 130	14 – 16
2.40	130 – 160	16 – 18
3.20	160 – 200	17 – 19

Shielding gas

Ar (99.95%).

Gas flow rate 4 – 8 l/min.

Chemical composition, wire (typical values, %)

C	Si	Mn	Cr	Ni	Mo	Nb	Fe
0.01	0.10	0.2	25.0	60.0	15.0	<0.1	<1.0

Ferrite 0 FN

Mechanical properties	Typical values (IIW)	Min. values EN ISO 18274
Yield strength $R_{p0,2}$	510 N/mm ²	370 N/mm ²
Tensile strength R_m	760 N/mm ²	690 N/mm ²
Elongation A_5	43 %	30 %
Impact strength KV +20°C	135 J	

Interpass temperature: Max. 100°C.

Heat input: Max. 1.5 kJ/mm.

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

Structure: Fully austenitic.

Scaling temperature: Approx. 1100°C (air).

Corrosion resistance: Superior resistance to pitting and crevice corrosion (CPT >80°C, ASTM G48-A).

Approvals

- CE
- TÜV