

P54

For welding steels such as Outokumpu	EN	ASTM	BS	NF	SS
4565	1.4565	S34565	–	–	–
254 SMO®	1.4547	S31254	–	–	2378

Standard designations

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Characteristics and welding directions

AVESTA P54 is an iron-based fully austenitic consumable designed for welding Outokumpu 254 SMO and other similar 6Mo and 7Mo-steels.

AVESTA P54 is specially developed for applications exposed to highly oxidising chloride containing environments, such as D-stage bleachers in pulp mills where a nickel base filler will suffer from trans-passive corrosion. The consumable also offers very high resistance to localised corrosion.

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 – 12
2.40	130 – 160	16 – 18

Shielding gas

Ar (99.95%) or Ar with an addition of 2% nitrogen (N₂).

Gas flow rate 4 – 8 l/min.

Chemical composition, wire (typical values, %)

C	Si	Mn	Cr	Ni	Mo	N	Cu
0.02	0.20	5.1	26.0	22.0	5.5	0.35	0.9

Ferrite 0 FN

Mechanical properties

	Typical values (IIV)	Min. values EN ISO 14343
Yield strength R _{p0,2}	450 N/mm ²	–
Tensile strength R _m	750 N/mm ²	–
Elongation A ₅	30 %	–
Impact strength KV +20°C	90 J	–
Hardness	220 Brinell	–

Interpass temperature: Max. 100°C.

Heat input: Max. 1.0 kJ/mm.

Heat treatment: Generally none.

Structure: Fully austenitic.

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

Corrosion resistance: Superior resistance in near neutral chloride dioxide containing environments, e.g. D-stage bleachers.

Approvals

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