

248 SV

For welding steels such as Outokumpu	EN	ASTM	BS	NF	SS
248 SV	1.4418	–	–	Z6 CND 16-05-01	2387

Standard designations

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Characteristics and welding directions

AVESTA 248 SV is designed for welding Outokumpu 248 SV and steel castings with the corresponding composition. Applications include propellers, pumps, valves and shafts.

AVESTA 248 SV offers high safety against cracking, superior to many other martensitic consumables. The weld metal properties on the whole are similar to those of the steel.

Preheating is normally unnecessary. In case of heavy wall thickness or when considerable shrinkage stresses are to be expected, preheating up to 75 – 150°C is recommended.

Welding data

Diameter, mm	Current, A	Voltage, V
2.40	300 – 400	29 – 33
3.20	350 – 500	29 – 33

Welding flux: AVESTA Flux 801, 805 and 807.

Corrosion resistance: The resistance to general and pitting corrosion corresponds to that of ASTM 304.

Approvals

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Chemical composition, wire (typical values, %)

C	Si	Mn	Cr	Ni	Mo
0.02	0.35	1.3	16.0	5.5	1.0

Ferrite 10%

Chemical composition, all weld metal (typical values in combination with flux, %)

Flux	C	Si	Mn	Cr	Ni	Mo	FN
801	0.02	0.9	0.7	16.0	5.0	1.0	–
805	0.02	0.6	0.8	16.5	5.0	1.0	–
807	0.02	0.6	0.8	15.5	5.0	1.0	–

Mechanical properties

Typical values* (IIW) in combination with flux

	801
Yield strength $R_{p0,2}$	520 N/mm ²
Tensile strength R_m	880 N/mm ²
Elongation A_5	16 %
Impact strength KV +20°C	30 J

* Annealed at 590°C for 4h.

Interpass temperature: Max. 150°C.

Heat input: Max. 2.0 kJ/mm.

Heat treatment: To stabilise the structure and to minimise the content of brittle martensite an annealing at 590°C for 4 hours followed by air cooling is recommended.

Structure: Austenite balanced with ferrite and martensite.

Scaling temperature: Approx. 850°C (air).