

Classification

EN ISO 14343	AWS A5.9
-	-

Characteristics and typical fields of application

Avesta P54 is an iron-based fully austenitic filler metal designed for welding of Outokumpu 254 SMO[®] and similar 6-Mo and 7-Mo steels. This filler metal was especially developed for applications exposed to highly oxidising chloride containing environments, such as D-stage bleachers in pulp mills, where nickel base filler will suffer from trans passive corrosion. It also offers a very high resistance to localised corrosion.

Avesta P54 produces a fully austenitic high alloyed weld metal and is therefore somewhat more sensitive to hot cracking than, for example 304-types.

Corrosion resistance:

Superior resistance in near neutral chloride dioxide containing environments, such as D-stage bleachers.

Structure: fully austenitic

Scaling temperature: 1100 °C (air)

Base materials

Outokumpu 254 SMO[®], 4565, EN 1.4565, 1.4547, UNS S34565, S31254

Typical analysis of solid wire (wt.-%)

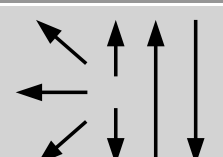
	C	Si	Mn	Cr	Ni	Mo	N	Cu
wt.-%	0.02	0.2	5.1	26.0	22.0	5.5	0.35	0.9

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	480	750	35	90	220

u untreated, Shielding gas Ar (99.95 %)

Operating data

	Polarity DC (+)	Shielding gas Ar (99.95 %) Ar + 30 % He and 2.5 % CO ₂ Gas flow rate 12 – 16 l	ø (mm) 0.8 1.2
---	-----------------------------	---	-----------------------------

Interpass temperature: max. 100°C

Heat input: max. 1.0 kJ/mm

Heat treatment: Generally none

Approvals

TÜV, DB, DNV, CE