

Classification

EN ISO 14343-A	AWS A5.9
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Characteristics and typical fields of application

Avesta 253 MA is designed for welding the high temperature steel Outokumpu 253 MA, used for example in furnaces, combustion chambers, burners etc. Both the steel and the consumable provide excellent properties at temperatures 850 – 1100 °C. MIG welding of 253 MA is best performed using spray arc or pulsed arc. 253 MA has a tendency to give a thick oxide layer during welding and hot rolling. Black plates and previous weld beats should be carefully brushed or ground prior to welding.

Structure: Austenite with 3 – 10 % ferrite.

Scaling temperature: Approx. 1150 °C (air).

Corrosion resistance:

Excellence resistance to high temperature corrosion. Not intended for applications exposed to wet corrosion.

Base materials

Outokumpu	EN	ASTM	BS	NF	SS
153 MA™	1.4818	S30415	-	-	2372
253 MA®	1.4835	S30815	-	-	2368

Typical analysis of the solid wire (wt.-%)

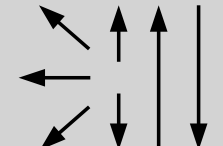
	C	Si	Mn	Cr	Ni	N	Ferrite
wt.-%	0.07	1.6	0.6	21.0	10.0	0.15	2 FN (WRC-92)

Mechanical properties of all-weld metal

Heat treatment	Yield strength R _{p0.2}	Tensile strength R _m	Elongation (L ₀ =5d ₀)	Impact work ISO-V KV J	Hardness
	MPa	MPa	%	+20 °C	Brinell
u	440	680	38	130	210

u untreated, as welded – Shielding gas Ar + 30 % He + 2.5 % CO₂

Operating data

	Polarity DC (+)	Shielding gas: Ar + 20 – 30 % He + max. 2 % CO ₂ Gas flow rate: 12 - 16 l/min.	ø (mm) 0.8 1.0 1.2
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Preheating and Heat treatment are generally not necessary. Interpass temperature: Max. 150 °C.
Heat input: max. 1.5 kJ/mm.