

Classifications

EN ISO 14343-A

G 21 10 N

Characteristics and typical fields of application

Solid wire of G 21 10 N type type designed for welding the high temperature steel 253 MA[®] (1.4835 / UNS S30815), used for example in furnaces, combustion chambers, burners, etc. Both the steel and the consumable provide excellent properties at 850 – 1100°C. The composition of the consumable is balanced to ensure crack resistant weld metal. The resulting microstructure is austenite with 2 – 8% ferrite. Scaling resistance up to 1150°C (Air). Excellence resistance to high temperature corrosion. Not intended for applications exposed to wet corrosion.

The base material 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.

Micro structure: Austenite with 2 – 8% ferrite.

Base materials

1.4835 X9CrNiSiNc21-11-2, 1.4818 X6CrNiSiNc19-10

UNS S30815, S30415

253 MA[®], 153 MATM

Typical analysis


	C	Si	Mn	Cr	Ni	N	FN
wt.-%	0.07	1.6	0.5	21	10.7	0.16	2

Mechanical properties of all-weld metal - typical values (min. values)

Condition	Yield strength R _{0.2}	Tensile strength R _m	Elongation A (L ₀ =5d ₀)	Impact energy ISO-V KV J	Hardness
	MPa	MPa	%	20°C	HB
u	440 (≥420)	680 (≥600)	36 ≥30)	130 (≥80)	210

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

Operating data

	Polarity	DC+	Dimension mm
	Shielding gas (EN ISO 14175)	Ar (pulsed arc)	0.8
	Ar + 30% He + 2 - 3% CO ₂	1.0	
	Ar + 2 - 3% CO ₂	1.14	
	Ar + 1 - 2% O ₂	1.2	
		1.6	

Preheating and heat treatment are generally not necessary.

Suggested heat input is max. 1.5 kJ/mm, interpass temperature max. 150°C.

Approvals

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