Thermanit 310

Solid wire, high-alloyed, stainless, heat resistant

Classifications

EN ISO 14343-A	AWS A5.9 / SFA-5.9
G 25 20	ER310

Characteristics and typical fields of application

Solid wire of G 25 20 / ER310 type for joining and surfacing of matching / similar heat resistant steels / cast steel grades, ferritic chromium steels, 14 %-Mn steels. Provides a fully austenitic weld metal and is therefore somewhat more sensitive to hot cracking than 316 grades. Welding should be performed with low heat input, interpass temperature and dilution with parent metal. Corrosion resistance: Initially intended for constructions running at high temperatures. Wet corrosion properties are moderate.

Max. application temperature	Sulfur-free	Max. 2 g S/Nm^3
Air and oxidizing combustion gases	1150°C	1100°C
Reducing combustion gases	1080°C	1040°C

Base materials

1.4841 X15CrNiSi25-21, 1.4845 X8CrNi25-21, 1.4846 X40CrNi25-21
UNS S31000, S31400
AISI 310, 310S, 314

Typical analysis

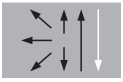
	C	Si	Mn	Cr	Ni
wt.-%	0.13	0.4	1.8	25.8	20.8

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

Condition	Yield strength $R_{p0.2}$	Tensile strength R_m	Elongation A (L_0=5d_0)	Impact energy ISO-V KV J	Hardness
	MPa	MPa	%	20°C	Hardness Brinell
u	360 (≥350)	570 (≥ 550)	25 (≥ 20)	100 (≥ 47)	210

u untreated, as-welded – shielding gas Ar + 2.5% CO_2

Operating data



Polarity	DC+
Shielding gas (EN ISO 14175)	M12 M13

Dimension mm
1.0
1.2

Suggested heat input is max. 1.0 kJ/mm, interpass temperature max. 100°C.
Preheating and post-weld heat treatment not necessary.
Shielding gas: Ar + 2 – 3% CO_2 (M13) or Ar + 1 – 2% O_2 (M12)

Approvals

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