Thermanit C Si

Solid wire, high-alloyed

Classifications

EN ISO 14343-A	AWS A5.9	Mat. No.
G 25 20 Mn	ER310(mod.)	1.4842

Characteristics and typical fields of application

Resistant to scaling up to 1150 °C (2102 °F). For surfacing and joining on matching / similar heat resistant steels / cast steel grades. For tough fill layers beneath cap passes made with Thermanit L when welding thicker cross-sections of Cr steels / cast steel grades to permit use of such steels in sulphureous atmospheres.

Atmosphere	**max. application temperature in °C (°F)**	
	sulphur-free	max. 2 g S/Nm^3
Air and oxidizing combustion gases	1150 (2102)	1100 (2012)
Reducing combustion gases	1080 (1976)	1040 (1904)

Base materials

1.4837 –GX40CrNiSi25-12; 1.4840 – GX15CrNi25-20; 1.4841 – X15CrNiSi25-20
AISI 305, 310, 314; ASTM A297 HF, A297HJ

Typical analysis of solid wire (wt.-%)

	C	Si	Mn	Cr	Ni
wt-%	0.13	1.0	3.2	25.0	20.5

Structure: Austenite

Mechanical properties of all-weld metal

Heat-treatment	Yield strength $R_{p0.2}$	Yield strength $R_{p1.0}$	Tensile strength R_m	Elongation A (L_0=5d_0)	Impact work ISO-V KV J
	MPa	MPa	MPa	%	+20 °C
aw	350	380	550	25	80

Creep rupture properties: In the range of matching heat resistant parent metals

Operating data

Polarity:	**Shielding gas:**	**ø (mm)**	**Spool:**
DC (+)	(EN ISO 14175) M13, M12	0.8	BS300
		1.0	B300
		1.2	B300

Welding instruction

Materials	Preheating	Postweld heat treatment
Heat resistant Cr steels / cast steel grades	According to parent metal	According to parent metal
Heat resistant matching/ similar steels / cast steel grades	None	None