Thermanit 690

Solid wire, high-alloyed, nickel-base

Classifications

EN ISO 18274	AWS A5.14 / SFA-5.14
E Ni 6052 (NiCr30Fe9)	ENiCrFe-7

Characteristics and typical fields of application

Solid wire of S Ni 6052 (NiCr30Fe9) / ERNiCrFe-7 type for joining matching and similar steels, surfacing with low-alloyed and stainless steels. Particularly suited for the conditions in nuclear fabrication. High resistance to stress corrosion cracking in oxidizing acids and water at high temperatures.

Base materials

2.4642 NiCr29Fe
UNS N06690
Alloy 690

Typical analysis

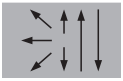
	C	Si	Mn	Cr	Ni	Mo	Co	Fe
wt.-%	0.03	0.3	0.3	29	Bal.	0.1	< 0.1	9.0

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
	MPa	MPa	%	20°C
u	350	600	35	80

u untreated, as-welded – shielding gas Ar + 30% He + 0.5% CO_2

Operating data



Polarity	DC+
Shielding gas (EN ISO 14175)	I1 Ar + 30% He + 0.5% CO2

Dimension mm
1.2

To minimize the risk of hot cracking when welding fully austenitic and nickel-base alloys, heat input and interpass temperature must be low and there must be as little dilution as possible from the parent metal. Suggested heat input is max. 1.5 kJ/mm and interpass temperature max. 100ºC. No preheating or post-weld heat treatment needed for matching alloys.
For MIG welding: Polarity: DC+. Shielding gas: Ar + 30% He + 0.5% CO_2 and pulsed arc. Gas flow: 15 – 20 l/min.
For automatic TIG welding: Polarity: DC-. Shielding gas: Ar. Gas flow: 5 – 12 l/min.

Approvals

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