Thermanit 30/10

Solid wire, high-alloyed, austenitic stainless, special applications

Classifications

EN ISO 14343-A	AWS A5.9 / SFA-5.9
G 29 9	ER312

Characteristics and typical fields of application

Solid wire of G 29 9 / ER312 type for joining and surfacing applications with matching / similar steels and cast steel grades. For fabricating tough joints (one layer) on unalloyed / low-alloyed structural steels of higher strength on high manganese steel and CrNiMn steels. High resistance to hot cracking, good toughness and strength properties. The weld metal also work hardens making it suitable for wear resisting build-ups on clutches, gear wheels, shafts, etc. It is also suitable for repair welding of tools.
Application temperature max. 300ºC.

Base materials

For welding of unalloyed steels with limited weldability and low-alloyed steels of higher strength. Used as stress-relieved buffer layer when cladding cold and warm machine tools. For joining of high manganese and CrNiMn-steels and combinations of steels of different chemical composition or strength.
1.3401 X120Mn12, 1.4006 X10Cr13, 1.4339 GX32CrNi28-10, 1.4340 GX49CrNi27-4, 1.4347 GX8CrCrNiN26-7, 1.4460 X3CrNiMoN27-5-2
UNS S41000, AISI 329, 410, S235, E295

Typical analysis

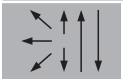
	C	Si	Mn	Cr	Ni
wt.-%	0.15	0.5	1.6	30	9.0

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	500 (≥ 450)	750 (≥ 650)	20 (≥ 15)	(≥ 27)

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

Operating data



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

Dimension mm
0.8
1.0
1.2

Suggested heat input max. 2.0 kJ/mm and interpass temperature max. 150ºC. Preheating and interpass temperature as required by the base metal.
Shielding gas: Ar + 1 – 2% O2, Ar + 2 – 3% CO2

Approvals

-