

Classifications

EN ISO 18274	AWS A5.14
S Ni 6082 (NiCr20Mn3Nb)	ENiCr3T0-4

Characteristics and typical fields of application

GMAW solid wire for welding nickel-base alloys, high-temperature and creep resisting steels, heat resisting and cryogenic materials, low-alloyed problem steels and dissimilar joints. Ferritic-austenitic joints for service temperatures above +300 °C or for applications where a post weld heat treatment is required. Suitable for pressure vessel fabrication for the service temperature range -196 °C to +550 °C, otherwise resistant to scaling up to +1200 °C (S-free atmosphere). Not susceptible to embrittlement, C-diffusion at elevated temperatures largely inhibited. Resistant to thermal shocks, corrosion resistant, fully austenitic. Low coefficient of thermal expansion (between C-steels and austenitic CrNi (Mo) steel). Both the wire and the deposit satisfy the highest quality requirements.

Base materials

2.4816 Ni Cr 15 Fe, 2.4817 LC-NiCr 15 Fe, Alloy 600, Alloy 600 L

Nickel and nickel alloys, low-temperature steels up to X8Ni9, unalloyed and alloyed, high-temperature, creep resisting, high-alloy Cr- and CrNiMo-steels particularly for joint welding of dissimilar steels, and nickel to steel combinations; also recommended for Alloy 800 (H)

Typical analysis of solid wire (wt.-%)

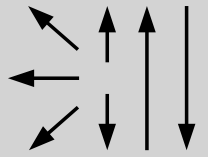
	C	Si	Mn	Cr	Ni	Ti	Nb	Fe
wt.-%	0.02	0.1	3.1	20.5	Bal.	+	2.6	≤ 1.0

Mechanical properties of all-weld metal

Condition	Yield strength R _{p0,2}	Tensile strength R _m	Elongation A (L ₀ =5d ₀)	Impact work ISO-V KV J	
	MPa	MPa	%	+20 °C	-196 °C
u	420 (≥ 400)	680 (≥ 620)	40 (≥ 35)	160	80 (≥ 32)

u untreated, as welded – shielding gas Argon + 40 % Helium

Operating data

	Polarity: DC (+)	Shielding gases: 100 % Argon M12 (Argon + 30 % He + 0.5 % CO ₂) Ar + 28 % He + 2 % H ₂ + 0.05 % CO ₂	∅ (mm) 0.8 1.0 1.2
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Welding with puls technic will be advantageous

Approvals

TÜV-D (04327.), Statoil, NAKS, SEPROZ, CE.
NiCr 70 Nb-IG A: TÜV-D (09402.), CE