

NIROD 600 is an S Ni 6082 / ER NiCr-3 type solid TIG welding rod depositing Ni-20Cr3Mn2.5Nb weld metal. Suitable for use with inert shielding gases.

NIROD 600 is used for the welding of highly creep-resistant, heat and corrosion-resistant Ni-Cr alloys, where good toughness and ductility properties are required after post-weld heat treatment or prolonged operation at high temperatures. Use for joining 3%, 5% and 9% nickel steels to give good strength and toughness in LPG and LNG processing or storage plant. In sulphurous atmospheres the weld metal can be used <500°C. The dissimilar thermal coefficient of expansion between austenitic and ferritic steels means that NIROD 600 is also used for joining ferritic to austenitic steels (dissimilar) with operating temperatures or postweld heat treatment >300°C. Also used for cladding of steels.

NIROD 600 has cryogenic all-weld metal toughness down to -196°C, creep-resistant <800°C and non-scaling <1000°C. Even at elevated temperatures, there is only limited carbon diffusion in the weld metal thus avoiding crack-prone carbide commissures at the weld interface of dissimilar joints.

### Classification

EN ISO	18274: S Ni 6082 (NiCr20Mn3Nb)
AWS	A5.14: ER NiCr 3

### Chemical analysis (Typical values in %)

C	Mn	Si	P	S	Cr	Ni	Nb	Fe	Ti
0.050	3	0.3	≤ 0.020	≤ 0.015	20	Rest	2.5	2	0.5

### All-weld metal Mechanical Properties

Heat Treatment	Yield Strength (MPa)	Tensile Strength (MPa)	Elongation A5 (%)	Impact Energy ISO - V (J)	
				+20 °C	-196 °C
As Welded	≥380	≥620	≥35	≥100	≥55

Gas test: 100% Ar

**Shielding Gas** - EN ISO 14175 : I1

### Materials

UNS N06600; UNS N08800; UNS N08810  
2.4816; 1.4876; 1.4958

### Storage

Keep dry and avoid condensation

### Current condition and welding position

DC-

