

NIFIL 600 is an S Ni 6082 / ER NiCr-3 type solid MIG welding wire, supplied precision layer wound, depositing Ni-20Cr3Mn2.5Nb weld metal. Suitable for use with inert shielding gases.

NIFIL 600 is used for 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 3%, 5% and 9% nickel steels to give good strength and toughness in LPG and LNG processing or storage plant. In sulphurous atmosphere the weld metal can be used <500°C. The thermal expansion coefficient between austenitic and ferritic steels, therefore this wire electrode is also suited for joining ferritic to austenitic steels (dissimilar) with operating temperatures or postweld heat treatment higher than 300°C. Also used for cladding of steels.

NIFIL 600 retains all-weld metal toughness -196°C, creep-resistant <800°C and is non-scaling <1000°C. Even at higher temperatures there is only limited carbon diffusion in the weld metal thus avoiding crack-prone carbide commissures in 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: ArHeH+C 30/2/0.12


Shielding Gas - EN ISO 14175 : I1, I3

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+

PA PB PC PD PE PF PG

Packaging data

Packaging Type	BS300
Diam(mm) / weight(kg)	15
1.0	●
1.2	●
1.6	●