ALIN 82

TIG Rods

Nickel and Copper alloys

ALIN 82 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.

ALIN 82 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 tuoghness 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 ALIN 82 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.

ALIN 82 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 (NiCr20Mn3Nb2.5)
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 (N/mm²)	Tensile Strength (N/mm²)	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-

ALIN 625

TIG Rods

Nickel and Copper alloys

ALIN 625 is an S Ni 6625 / ER NiCrMo-3 type solid TIG welding wire depositing Ni-22Cr9Mo3.5Nb weld metal. Suitable for use with inert shielding.

ALIN 625 is used for the welding of highly corrosion-resistant Cr-Mo-Nickel base alloys such as alloy 625, alloy 825 and similar alloys. Also suitable for molybdenum alloyed corrosion-resistant steels with e.g. 7% Mo such as X1NiCrMoCuN25-20-7 and cryogenic-tough nickel steels. In sulphur-free atmospheres the deposit is non-scaling <1200°C, in sulphurous atmospheres the weld metal can be used <500°C. The dissimilar coefficient of thermal expansion between austenitic and ferritic steels means, that ALIN 625 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.

ALIN 625 is very resistant to stress corrosion cracking and pitting corrosion in a range of media including phosphoric acid, organic acids, sea water and polluting environments. Cryogenic toughness down to -196°C. Even at elevated temperatures only limited carbon diffusion in the weld metal thus avoiding crack susceptible carbides in the weld interface of dissimilar joints.

TIG rod for cryogenic welding and welding 9% Ni steels.

Classification	
EN ISO	18274: S Ni 6625 (NiCr22Mo9Nb3.5)
AWS	A5.14: ER NiCrMo-3

Chemical analysis (Typical values in %)

C	Si	P	S	Cr	Ni	Mo	Nb	Fe	Ti
0.025	0.3	≤ 0.020	≤ 0.015	21	Rest	9	3.5	0.3	0.3

All-weld metal Mechanical Properties

Heat Treatment	Yield Strength (N/mm²)	Tensile Strength (N/mm²)	Elongation A5 (%)	Impact Energy ISO - V (J)	
				+20 °C	-196 °C
As Welded	≥ 460	≥ 720	≥ 30	≥ 120	≥ 40

Gas test: 100% Ar

Shielding Gas - EN ISO 14175 : I1

Materials

UNS N06625; UNS N08825

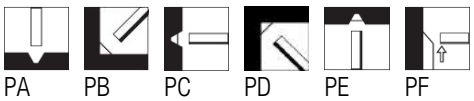
2.4856; 2.4839

Storage

Keep dry and avoid condensation

Current condition and welding position

DC-



Packaging data

Diam. (mm)	Packaging Type	Weight (kg)	Code
1.6	TUB	5	●
2.0	TUB	5	●
2.4	TUB	5	●