

# NERTALIC 210

## MIG/MAG solid wires-TIG rods

Nickel and Copper alloys

NERTALIC 210 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.

NERTALIC 210 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 <math>< 500^{\circ}\text{C}</math>. 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  $300^{\circ}\text{C}$ . Also used for cladding of steels.

NERTALIC 210 retains all-weld metal toughness  $-196^{\circ}\text{C}$ , creep-resistant  $< 800^{\circ}\text{C}$  and is non-scaling  $< 1000^{\circ}\text{C}$ . 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.

Solid wire for welding or facing inconel 600 or incoloy 800 alloys. Indicated when welding dissimilar or hard-to-weld steels.



### 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	$\leq 0.020$	$\leq 0.015$	20	Rest	2.5	2	0.5

### All-weld metal Mechanical Properties

Heat Treatment	Yield Strength (N/mm <sup>2</sup> )	Tensile Strength (N/mm <sup>2</sup> )	Elongation A5 (%)	Impact Energy ISO - V (J)	
				+20 °C	-196 °C
As Welded	$\geq 380$	$\geq 620$	$\geq 35$	$\geq 100$	$\geq 55$

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+



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*Nickel and Copper alloys*



## Packaging data

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

# NERTALIC 625

## MIG/MAG solid wires-TIG rods

Nickel and Copper alloys

NERTALIC 625 is an S Ni 6625 / ER NiCrMo-3 type solid MIG welding wire, supplied precision layer wound, depositing Ni-22Cr9Mo3.5Nb weld metal. Suitable for use with inert shielding gases.

NERTALIC 625 is used for 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 as X1NiCrMoCuN25-20-7 and cold-tough nickel steels. In sulphur-free atmospheres the weld metal is non-scaling <math><1200^{\circ}\text{C}</math>, in sulphurous atmospheres the weld metal can be used <math><500^{\circ}\text{C}</math>. 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 >math>300^{\circ}\text{C}</math>. Also used for the cladding of steels.

NERTALIC 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 <math>-196^{\circ}\text{C}</math>. Even at higher temperatures only limited carbon diffusion in the weld metal thus avoiding crack susceptible carbides in the weld interface of dissimilar joints.

Solid wire for welding 9%Ni steels. Good inter-crystal corrosion resistance.



### Classification

EN	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/mm <sup>2</sup> )	Tensile Strength (N/mm <sup>2</sup> )	Elongation A5 (%)	Impact Energy ISO - V (J)	
				+20 °C	-196 °C
As Welded	≥ 460	≥ 720	≥ 30	≥ 100	≥ 40

Gas test: ArHeH+C 30/2/0.12

**Shielding Gas** - EN ISO 14175 : I1, I3

### Materials

UNS N06625; UNS N08825  
2.4856; 2.4839

### Storage

Keep dry and avoid condensation

### Current condition and welding position

DC+



# NERTALIC 625

MIG/MAG solid wires-TIG rods

*Nickel and Copper alloys*

## Packaging data

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