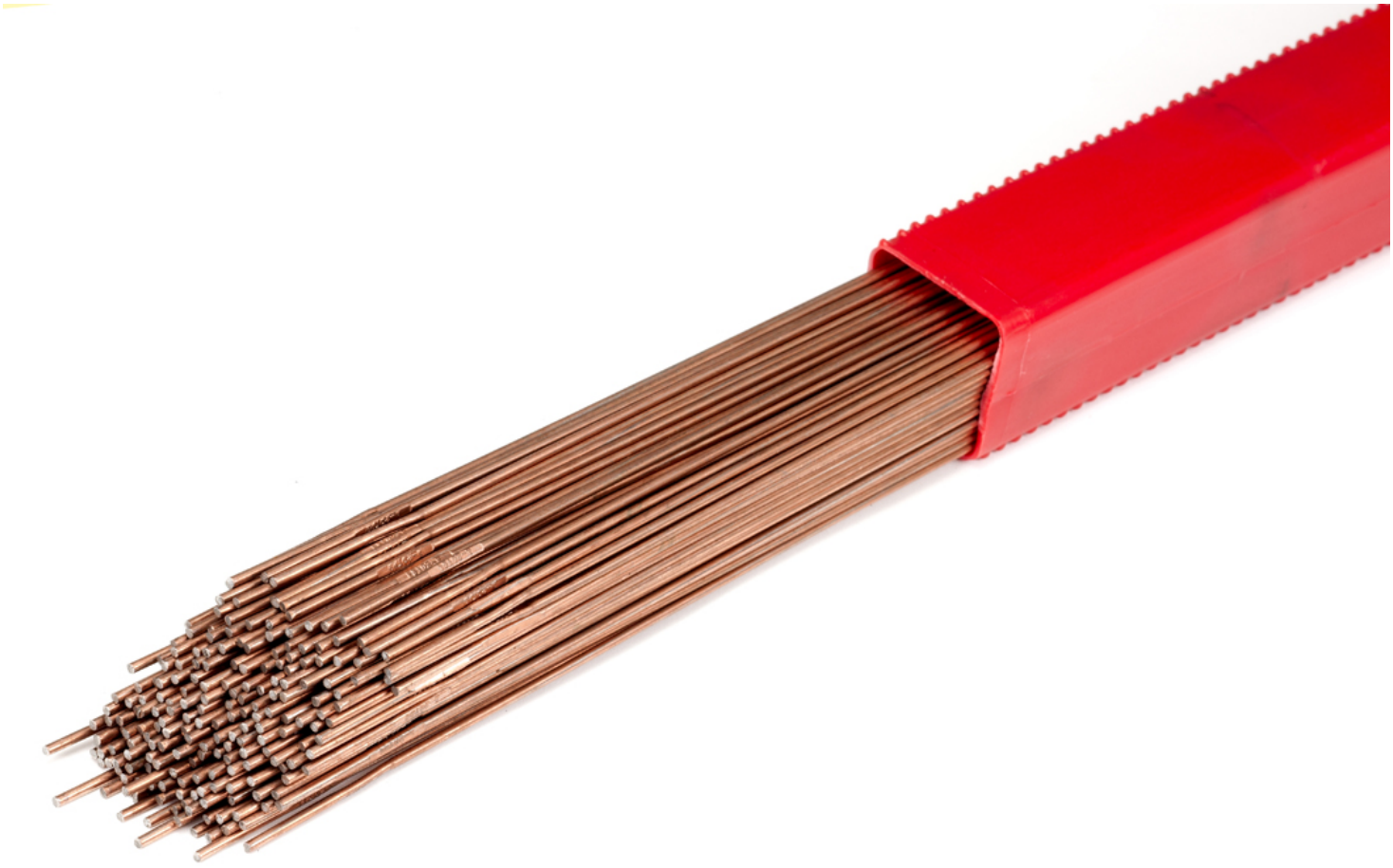
TIG rods for non- and low alloyed steels



NST Carbotig 2F
NST TIG ER80S-Ni1

NST Carbotig 2F

AWS: A5-18: ER70S-6
EN ISO 636-A: W 46 5 W3Si1

TIG rod for welding unalloyed steels.

General description:

NST Carbotig 2F is a copper coated TIG wire rod for welding unalloyed steels with pure argon shielding gas.

Welding positions:

Current:

DC-

Gas flow:

12-20 l/min.

Chemical composition of welding rod:

C	Mn	Si	P	S	Cu	Ni	Cr	Mo	V	Al	Ti+Zr		
0,06-0,14	1,40-1,60	0,80-1,00	Max 0.025	Max 0.025	Max 0.35	Max 0.15	Max 0.15	Max 0.15	Max 0.03	Max 0.02	Max 0.15		

Type of gas:

Argon

Mechanical properties of all-weld-metal:

Yield and Tensile Strength			Charpy Impact Test	
Yield Mpa	Tensile Mpa(Rm)	Elongation %	Charpy V (J) -50 ºC	
≥460	530-680	Min. 22	≥47	

Packaging information:

1,6mm x 1000mm x 2,5Kg
2,0mm x 1000mm x 2,5Kg
2,4mm x 1000mm x 2,5Kg
3,2mm x 1000mm x 2,5Kg

Approvals:

CE

Reference / date:

NST Carbotig 2F,
English, 15.02.2016.

NST TIG ER80S-Ni1

AWS A5-28: ER80S-Ni1
EN ISO 636-A: W 46 6 W3Ni1

Low alloyed Tig rod for welding in low temperature applications.

General description:

NST TiG ER80S Ni1 is a copper coated solid wire rod for TIG welding.
Typical usage is within offshore and Oil & Gas pipe welding with low temperature requirements.
Max. Ni content is 1,0%
Can be used for applications where service temperature is down to –60 °C.

Welding positions:

Welding current:

DC-

Gas flow:

10-15 l/min.

Typical chemical composition of welding wire:

C	Si	Mn	P	S	Cr	Mo	Ni	Cu	V
0,09	0,67	1,08	0,006	0,014	0,01	0,00	0,87	0,015	0,002

Type of gas:

Argon

Mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test	
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -60 °C	
>470	550 - 680	≥24	≥ 47	

Guidance - Ampere (DC-):

Wire diameter	1,6	2,0	2,4

Packaging information:

1,6mm x 500m x 1,5 kg
2,0mm x 500m x 1,5 kg
2,4mm x 500m x 1,5 kg

1,6mm x 1000mm x 3,0 kg
2,0mm x 1000mm x 3,0 kg
2,4mm x 1000mm x 3,0 kg

Approvals:

CE

Reference / date:

NST TIG ER80S-Ni1
English, 19.02.2016.

TIG rods for high alloyed steels

NST TIG 309LSi
NST TIG 316LSi
NST TIG 309LMo
NST TIG Duplex 2209
NST TIG ErNiCrMo-3(625)

NST TIG 309 LSi

AWS: A5.9 ER 309LSi
EN ISO 14343: 2009 23 12 LSi

Tig-rod for welding of corrosion resistant material against carbon steels.

General description:

NST TIG 309LSi is a TIG-rod for welding corrosion resistant materials against carbon steel and for cladding of carbon steel.
The filler rod is used for manual welding of both pipes and plates.
Normally, Argon or Argon/Helium mix is used as the shielding gas.
Level of gas flow is dependent upon diameter and specific application.
NST TIG 309LSi gives a ductile and crack resistant weld metal.
The TIG-rods are being supplied in 1000mm lengths, colour coded in orange with zebra stripes, and with the AWS designation embossed, according to the requirements of the NORSOK standard.
"Purity" is the keyword when welding high alloyed materials. Impurities in the weld, will cause porosity.
When cladding carbon steel, the analysis of the weld metal will be equivalent of AISI 304 in the first layer.
Inter-pass temperature should not exceed 150 °C, and heat input should not exceed 2.0kJ/mm.

Welding positions:

Welding current:

DC-

Gas flow:

8-20 l/min.

Chemical composition of welding rod:

C	Si	Mn	P	S	Cu	Ni	Cr		
Max 0.03	0.65-1.0	1.0-2.5	Max 0.03	Max 0.02	Max 0.30	12.0-14.0	23.0-25.0		

Shielding gas:

Shielding gas: Ar, Ar+He.
Root gas/purge gas: Ar.

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths				
Yield Mpa(Rp0.2)	Tensile Mpa(Rm)	Elongation %		
410	570	38		

Ferrite content:

WRC	De Long	Schaeffler	
8.7FN	12.8%	9.6%	

Packaging information:

1,6 mm x 1000mm x 5Kg
2,0 mm x 1000mm x 5Kg
2,4 mm x 1000mm x 5Kg

Colour coding: Orange with zebra stripes.

Approvals:

TÜV, CE

Reference / date:

NST TIG 309LSi,
English, 28.01.2016.

NST TIG 316LSi

AWS: A5.9 ER 316LSi
EN ISO 14343: 2009 19 12 3 LSi

TIG-rod for stainless steel welding.

General description:

NST TIG 316LSi is used for welding of "stainless" materials as AISI 316L, EN 14404 and similar.
Argon or Argon/Helium mix is used as the shielding gas.
The TIG-rod is used for manual welding of both pipes and plates.
Level of gas flow depends upon diameter and specific application. The filler rod ensures a crack resistant Austenitic weld metal with some Ferrite content (typical 4-10%). The rod is also suitable for welding Ni and Titanium stabilized steels with operating temperatures up to 400 °C.

The TIG-rods are supplied colour coded in blue with the AWS designation embossed, according to the requirement of the NORSOK standard.
"Purity" is the keyword when welding high alloyed materials. Impurities in the weld, will cause porosity. Welding of pipes require use of purge gas in order to ensure a stainless root face of the weld.
Inter-pass temperature should not exceed 150 °C, and heat input should not exceed 2.5kJ/mm.

Welding positions:

Welding current:

DC-

Gas flow:

10-20 l/min.

Chemical composition of welding rod:

C	Si	Mn	P	S	Cu	Ni	Cr	Mo	
Max 0.03	0.65-1.0	1.0-2.5	Max 0.03	Max 0.02	Max 0.30	11.0-14.0	18.0-20.0	2.5-3.0	

Shielding gas:

Shielding gas: Ar, Ar+He.
Root gas/purge gas: Ar.

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths				
Yield Mpa(Rp0.2)	Tensile Mpa(Rm)	Elongation %		
414	592	40		

Ferrite content:

WRC	De Long	Schaeffler	
8.4FN	11.2%	10.1%	

Packaging information:

1,0mm x 1000mm x 5kg
1,2mm x 1000mm x 5kg
1,6mm x 1000mm x 5kg / 1,6mm x 500mm x 2,5kg
2,0mm x 1000mm x 5kg / 2,0mm x 500mm x 2,5kg
2,4mm x 1000mm x 5kg / 2,4mm x 500mm x 2,5kg
3,2mm x 1000mm x 5kg
4,0mm x 1000mm x 5kg

Colour coding: Blue

Approvals:

TÜV, CE

Reference / date:

NST TIG 316LSi,
English, 29.06.2017.

NST TIG 309LMo

AWS: A5.9 ER 309LMo*
EN ISO 14343: 2009 23 12 2 L

TIG-rod for stainless steel welding.

General description:

NST TIG 309LMo is used for welding of stainless materials against carbon steel and for cladding of carbon steel. Normally, Argon or Argon/Helium mix is used as the shielding gas.
The wire is used for manual welding of both pipes and plates.
Level of gas flow will depend upon diameter and specific application.
NST TIG 309LMo gives a ductile and crack resistant weld metal.
The TIG-rods are supplied colour coded in orange, with the AWS designation embossed, according to the requirement of the NORSOK standard.
"Purity" is the keyword when welding high alloyed materials.
Impurities in the weld, will cause porosity.
When cladding carbon steel, the analysis of the weld metal is the equivalent of AISI 304 in the first layer.
Welding of pipes require use of purge gas in order to ensure a corrosion resistant root face of the weld.
Inter-pass temperature should not exceed 150 °C, and heat input should not exceed 2.0kJ/mm.

*Cr can be lower and Ni higher than the AWS standard.

Welding positions:

Welding current:

DC-

Gas flow:

8-20 l/min.

Chemical composition of welding rod:

C	Si	Mn	P	S	Cu	Ni	Cr	Mo	
Max 0.03	Max 0.65	1.0-2.5	Max 0.03	Max 0.02	Max 0.30	11.0-15.5	21.0-25.0	2.0-3.0	

Shielding gas:

Shielding gas: Ar, Ar+He.
Root gas/purge gas: Ar.

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths				
Yield Mpa(Rp0.2)	Tensile Mpa(Rm)	Elongation %		
430	625	43		

Ferrite content:

WRC	De Long	Schaeffler	
8.2FN	10.6%	7.0%	

Packaging information:

1,6mm x 500mm x 2,5kg
2,0mm x 500mm x 2,5kg
2,4mm x 500mm x 2,5kg

Colour coding: Orange

Approvals:

CE

Reference / date:

NST TIG 309LMo,
English, 04.02.2016.

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NST TIG Duplex 2209

AWS: A5.9 ER 2209
EN ISO 14343: 2009 22 9 3 N L

TIG-rod for stainless steel welding.

General description:

NST TIG Duplex 2209 is used for welding Duplex materials such as SAF2205, EN 14462 and similar.
Normally Argon or Argon/N_2 mix is used as the shielding gas.
The TIG-rod is used for manual welding of both pipes and plates.
Level of gas flow is dependent upon TIG-rod diameter and specific application.
The balance between Austenite and Ferrite in the weld metal will depend upon welding parameters, choice of gas and cooling rate.
The rod is also suitable for welding of corrosion-resistant and stainless materials against Duplex materials and also for welding 'Lean' Duplex grades.
The TIG-rods are supplied colour coded in yellow with the AWS designation embossed, according to the requirement of the NORSOK standard.
"Purity" is the keyword when welding high alloyed materials.
Impurities in the weld, will cause porosity.
Welding of pipes require use of purge gas in order to ensure a stainless root face of the weld.
Inter-pass temperature should not exceed 150 °C, and heat input should not exceed 1.5kJ/mm.

Welding positions:

Welding current:

DC-

Gas flow:

10-20 l/min.

Chemical composition of welding rod:

C	Si	Mn	P	S	Cu	Ni	Cr	Mo	
Max 0.03	Max 0.90	Max 2.0	Max 0.03	Max 0.02	Max 0.30	7.5-9.5	21.0-23.5	2.5-3.5	

Shielding gas:

Shielding gas: Ar, Ar+N_2.
Root gas/purge gas: Ar, Ar+N_2, N_2.

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test	
Yield Mpa(Rp0.2)	Tensile Mpa(Rm)	Elongation %	Charpy V -46°C	
660	830	28	105	

Ferrite content:

WRC	De Long	Schaeffler	
50.0FN	28.6%	55.6%	

Packaging information:

1,6mm x 500mm x 2,5 Kg
2,0mm x 500mm x 2,5 Kg
2,4mm x 500mm x 2,5 Kg
1,6mm x 1000mm x 5 Kg
2,0mm x 1000mm x 5 Kg
2,4mm x 1000mm x 5 Kg

Colour coding: Yellow

Approvals:

Reference / date:

NST TIG Duplex 2209,
English, 11.04.2016.

NST TIG ERNiCrMo-3

AWS A5.14/A5.14M ERNiCrMo-3
EN ISO 18274:NiCr22Mo9Nb

Tig-rod for welding of 6Mo alloy (i.e 254 SMO and Inconell 625).

General description:

NST TIG ERNiCrMo-3 is used for welding of 6Mo alloy (i.e. 254 SMO and Inconell 625) and for cladding of mild steel and other stainless steels.
The filler metal is used for manual welding of both pipes and plates. Normally, pure Argon or Argon/Helium mix is used as the shielding gas.
Level of gas flow will depend upon TIG-rod diameter and specific application.
When welding pure Austenite materials, it is recommended to use very low heat input, low mixture with parent material and low inter-pass temperature.

Each TIG-rod is colour coded in black and has the AWS designation embossed according to the requirements of the NORSOK standard.
"Purity" is the keyword when welding high alloyed materials. Impurities in the weld, will cause porosity.
Welding of pipes require use of purge gas in order to ensure a stainless root face of the weld.
Please contact us for further details on purge equipment.
Inter-pass temperature should not exceed 150 °C, and heat input should not exceed 1.5kJ/mm.

Welding positions:

Current:

DC-

Gas flow:

8-20 l/min.

Chemical composition of welding rod:

C	Mn	Si	P	S	Cu	Ni	Cr	Mo	Fe	Ti	Al	Nb+Ta	
Max 0.10	Max 0.50	Max 0.50	Max 0.02	Max 0.015	Max 0.50	Min 58.0	20.0-23.0	8.0-10.0	Max 0.5	Max 0.40	Max 0.40	3.15-4.15	

Shielding gas:

Shielding gas: Ar or Ar/He
Root gas/Purge gas: Ar

Mechanical properties of all-weld-metal:

Yield and Tensile Strength				
Yield Mpa(Rp0.2)	Tensile Mpa(Rm)	Elongation %		
>565	>785	≥39		

Ferrite content:

WRC	De Long	Schaeffler	
-	-	-	

Packaging information:

1,6mm x 500mm x 2,5 Kg
2,0mm x 500mm x 2,5 Kg
2,4mm x 500mm x 2,5 Kg

1000mm on special order.

Approvals:

Reference / date:

NST TIG ERNiCrMo-3,
English, 06.10.2016.