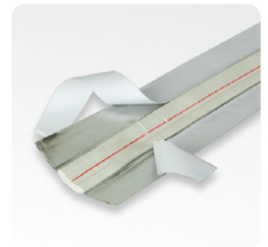


Product Catalogue



- NSSW and NST seamless wires** ■
- FCAW, TIG, MIG, MMA and ESW welding consumables** ■
- Ceramic backing, wire feeding systems** ■

and more ...



NST(Norsk Sveiseteknikk AS) was established in 1991, enabling us to offer you over 20 years of experience in the welding industry.

NST now represents Nippon Steel & Sumikin Welding in three world regions, and we are still growing.

Our main products has been NSSW (Nittetsu) seamless flux cored welding wires and ceramic backing for one sided welding, but our product range has been expanded to meet the growing demands from our customers.

NST will give you good technical and practical support, with safe deliveries from our large warehouse facilities.

Our slogan is "Perfect Welding", and with perhaps the highest quality products available today, we at NST are ready to back this up.

Please note:

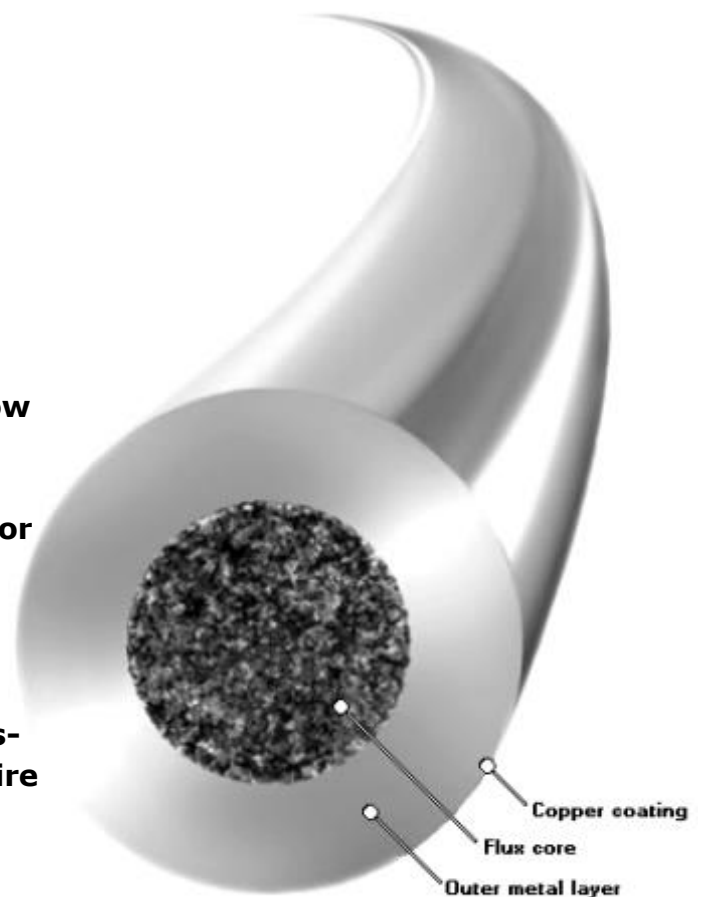
NST does it's utmost to ensure that all information in this catalog is correct. No liability will be undertaken by NST due to misprints, errors or possible changes that may occur after the catalog is printed.

NSSW(Nittetsu) seamless, flux cored and metal cored wires.

Seamless, flux cored wires – from the first time they were developed - have continually been adapted to new conditions and demands from our customers. Our innovative seamless flux, and metal cored wires unique properties have been developed in step with the renewal of production techniques.

The excellent properties are achieved by welding the outer metal layers, joining the seams together and perfectly sealing the flux inside at the time of production. This technique prevents post production atmospheric moisture absorption as well. The biggest advantage with NSSW seamless wires is its extremely low hydrogen content, achieved with heat treatment as an important part of the production process.

- Low hydrogen content.
- Extremely low moisture absorption.
- Low diffusible hydrogen content. Advantageous for the prevention of low temperature cracking.
- Stable targeting properties, suitable for mechanized/robotic welding.
- Excellent wire feeding properties.
- Copper coating and symmetrical cross-sectional shape results in excellent wire feeding properties, and tip abrasion resistance.
- Excellent corrosive resistance.



Flux cored wires.



Storage and handling.

Storage and handling.

NST and NSSW (Nittetsu) seamless flux and metal cored wires are manufactured in a manner which provides wires with no open seams, preventing moisture from penetrating the wire.

NST/NSSW seamless wires provides the customer with a product that has a guaranteed low hydrogen control (the only point of ingress for moisture is at the start and end of the wire).

The seamless manufacturing process has the additional benefit of enabling the wire to be copper coated, this provides extended shelf life due to rust prevention, prevents down time with liner cleaning and provides excellent electrical pick up from the welding tip (copper to copper).

Method of storage

To ensure the wire is used at its optimum the following guidelines should be observed:

- Welding materials shall be stored inside, away from rain, snow and dew.
- Welding materials should be stored off the floor, preferably on wooden pallets which enable air circulation to take place (10cm off the floor, and 10cm off the wall).
- It is desirable to store materials places where the temperature is below 30°C and the relative humidity is less than 80%.
- Environments where rusting tends to occur due to sea breeze, SO₂ gas etc., should be avoided.
- A plan should be devised to use materials on a first in, first out basis.
- The packing shipped from the manufacturer must be kept as it is until just before use.

Period of storage – quality guarantee period

The quality guarantee period of seamless flux cored wire shall be for 24 months after production as long as they have been stored under the conditions specified in "methods of storage" above. However, products can be used even after the lapse of the above mentioned period if no physical or chemical changes such as rusting, discoloration etc. are observed on the surface of the wires.

Handling

It is advised that opened cartons should be used within 5 days.

This period can be extended longer, however wire inspection should take place regularly to check for rust formation (when rust spots are observed the remaining wire should be disposed of).

Hydrogen levels

As part of the manufacturing process hydrogen measurements are taken of all NST and Nittetsu seamless flux cored seamless wires (this data is available on the wire batch certificate).

The following table gives the results of hydrogen levels for wire fresh out of the carton, and wire which have been exposed to normal atmospheric conditions for 5 days.

Fresh from carton	5 days exposed in normal atmosphere
3.2	3.4
3.4	3.6
3.4	3.6
Avg: 3.3	Avg: 3.5

(ml/ 100g weld metal)

Jan 2014 REV:6

Rutile wires for non- and low alloyed steels



- NSSW SF-1E**
- NSSW SF-1A**
- NSSW SF-3E**
- NSSW SF-3M**
- NSSW SF-3A**
- NSSW SF-3AM**
- NSSW SF-3AMSR**
- NSSW SF-50A**
- NSSW SF-36E**
- NSSW SF-47E**
- NSSW SF-47EC x NF-360**
- NSSW SF-80A**
- NST FC-1A**
- NST FC-1E**
- NST FC-3 1Ni**
- NST FC-70**
- NST FC-ACR**

NSSW SF-1E

AWS: A5-20 E71T1-C

EN ISO 17632-A: T 42 2 Z P C 1 H5



General purpose flux cored wire for shipbuilding and structures with 100% CO₂ shielding gas.

General description:

NSSW (Nittetsu) SF-1E is a seamless, rutile flux cored wire for welding with 100% CO₂ shielding gas. Due to the seamless design the wire has an extremely low diffusible hydrogen content, typical 2.7ml/100g weld metal.

The flux cored wire has excellent weldability in all positions and is extremely efficient in the root pass against ceramic backing.

Good penetration in vertical down greatly reduces the risk of imperfections.

It also gives excellent performance against porosity on primed steel plates when using automated

welding such as a fillet welding tractor.

SF-1E has a stable welding arc with less spatter and perfect bead surface.

The flux cored wire has a clean, copper coated surface.

Together with exact diameter and roundness it provides a stable and even wire feeding.

This reduces wear and tear of liners and contact tips.

The wire is classified as a grade 3 (-20 °C)

Welding positions:



Welding current:

DC+

Type of gas / flow:

100% CO₂

18-25 l/min.

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Ni				
0,06	0,38	1,20	0,011	0,007	0,30				

Diffusible hydrogen content (ml/100g):

≤5 ml/100g (2,7 ml/100g typical)

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -20 °C
530	590	27	100

Guidance - Ampere (DC+):

Wire diameter	1,2 mm	1,4 mm	
Ampere / Volt	180-300A / 22-32V	250-350A / 25-33V	

Packaging information:

1,2mm x 5,0kg spool D200
1,2mm x 12,5kg spool D300
1,2mm x 200kg drum Ø51cm
1,4mm x 12,5kg spool D300
1,4mm x 200 kg drum Ø51cm

Approvals:

DNV, LR, ABS, GL, CWB,

Reference / date:

NSSW SF-1E,
English, 09.01.2014.

Perfect Welding

www.nst.no

NSSW SF-1A

AWS: A5-20 E71T1-M

EN ISO 17632-A: T 42 2 Z P M 1 H5



General purpose flux cored wire for shipbuilding and structures with impact test req. at -20 °C.

General description:

NSSW (Nittetsu) SF-1A is a seamless rutile flux cored wire for welding with Argon/CO₂ mixed shielding gas. Being seamless it provides welds with very low diffusible hydrogen content, typical 2.8ml/100g weld metal.

The flux cored wire has excellent weldability in all positions and is extremely efficient in the root pass against ceramic backing.

Good penetration in vertical down greatly reduces the risk of imperfections.

It also gives excellent performance against porosity on primed steel plates when using automated welding such as a fillet welding tractor.

SF-1A has a stable welding arc with less spatter and perfect bead surface.

The flux cored wire has a clean, copper coated surface.

Together with exact diameter and roundness it provides a stable and even wire feeding.

This reduces wear and tear of liners and contact tips.

The wire is classified as a grade 3 (-20 °C).

Welding positions:



Welding current:

DC+

Type of gas / flow:

Ar+18-25% CO₂

18-25 l/min.

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Cu				
0,05	0,41	1,36	0,010	0,008	0,26				

Diffusible hydrogen content (ml/100g):

≤5 ml/100g (2,8 ml/100g typical).

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test	
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -20 °C	
530	590	28	95	

Guidance - Ampere (DC+):

Wire diameter	1,2 mm	1,4 mm	1,6 mm
Ampere / Volt	180-300A / 22-32V	250-350A / 25-33V	300-400A / 25-35V

Packaging information:

1,2mm x 5,0kg spool D200
1,2mm x 12,5kg spool D300
1,2mm x 200kg drum Ø51cm
1,4mm x 12,5kg spool D300
1,4mm x 200kg drum Ø51cm
1,6mm x 12,5kg spool D300
1,6mm x 200kg drum Ø51cm

Approvals:

DNV, LR, ABS, GL, CWB, BV,

Reference / date:

NSSW SF-1A,
English, 09.01.2014.

Perfect Welding

www.nst.no

NSSW SF-3E

AWS: A5-29 E81T1-GC

EN ISO 17632-A: T 46 4 Z P C 2 H5



Flux cored wire for low temperature steels with impact requirements down to -40 °C.

General description:

NSSW (Nittetsu) SF-3E is a seamless rutile flux cored wire for welding with 100% CO₂ shielding gas. The deposited weld metal has excellent mechanical properties down to -40°C.

The wire has a stable arc, minimum spatter, good penetration with excellent visual results.

SF-3E can also be used for root runs against ceramic backing.

Due to its seamless design, the wire has an extremely low hydrogen content which does not pick up moisture from the environment ensuring a very low risk of hydrogen cracks (Typical 3.0ml/100g).

The SF-3E wire has a clean copper coated surface with exact diameter and roundness which ensures stable and even wire feeding.

Mechanical properties have been designed for Charpy impact values ≥ 47 joule at -40 °C.

The wire is CTOD tested.

Welding positions:



Welding current:

DC+

Type of gas / flow:

100% CO₂

18-25 l/min.

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Ni	Mo			
0,05	0,40	1,32	0,015	0,003	0,64	0,01			

Diffusible hydrogen content (ml/100g):

≤ 5 ml/100g (3,0 ml/100g typical)

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -40 °C
564	597	29	121

Guidance - Ampere (DC+):

Wire diameter	1,2 mm	
Ampere / Volt	180-300A / 22-32V	

Packaging information:

1,2mm x 12,5kg spool D300

Approvals:

DNV, LR, ABS, CWB,

Reference / date:

NSSW SF-3E,
English, 09.01.2014.

Perfect Welding

www.nst.no

NSSW SF-3M

AWS: A5.20 E71T-9C-J

EN ISO 17632-A: T 46 4 Z P C 2 H5



Flux cored wire for carbon steel in e.g. shipbuilding and offshore structures with impact requirements down to -40 °C.

General description:

NSSW (Nittetsu) SF-3M is a seamless rutile flux cored wire designed for shipbuilding and offshore structure welding with 100% CO₂ shielding gas.

The wire is CTOD tested.

The deposited weld metal has excellent mechanical properties down to -40°C.

The wire has a stable arc, minimum spatter, good penetration with excellent visual results.

SF-3M can also be used for root runs against ceramic backing.

Due to its seamless design, the wire has an extremely low hydrogen content which does not pick up moisture

from the environment ensuring a very low risk of hydrogen cracks.

The SF-3M wire has a clean copper coated surface with exact diameter and roundness which ensures stable and even wire feeding.

Welding positions:



Welding current:

DC+

Type of gas / flow:

100% CO₂

20-25 l/min.

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Ni				
Max. 0,05	Max. 0,42	1,30	Max. 0,013	Max. 0,004	Max. 0,44				

Diffusible hydrogen content (ml/100g):

≤5 ml/100g (3,0 ml/100g typical)

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test	
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -40 °C	
545	595	28	115	

Guidance - Ampere (DC+):

Wire diameter	1,2 mm		
Ampere / Volt	180-300A / 22-32V		

Packaging information:

1,2mm x 12,5kg spool D300

Approvals:

DNV, ABS(Pending)

Reference / date:

NSSW SF-3M,
English, 07.10.2013.

Perfect Welding

www.nst.no

NSSW SF-3A

AWS: A5-20 E71T-9M-J

EN ISO 17632-A: T 46 4 Z P M 1 H5



Flux cored wire for welding carbon steel with impact requirements down to -40 °C.

General description:

NSSW (Nittetsu) SF-3A is a seamless, rutile flux cored wire designed for welding of steel with impact requirements down to -40 °C such as grade E often used in shipbuilding.

The flux cored wire uses a Argon/CO₂ mixed shielding gas which gives good weldability and a stable arc, minimum spatter, good visual bead and even transition to parent material.

Due to the seamless design the wire has an extremely low hydrogen content, (typical of ≤2.8 ml/100g) which greatly reduces the possibility of cold cracks.

SF-3A emits little welding fume and has great weldability in all positions.

The wire has a clean copper coated surface which together with exact diameter and roundness, ensures stable and even wire feeding.

Wire stick out should be between 15-25mm dependent upon the welding parameters.

Voltage should be approx. 10% of the Ampere, which is 1-3 Volts lower than that of which conventional folded flux cored wires require.

Welding positions:



Welding current:

DC+

Type of gas / flow:

Ar+18-25% CO₂

18-25 l/min.

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Cu	Ni			
0,05	0,50	1,50	0,010	0,006	0,30	0,35			

Diffusible hydrogen content (ml/100g):

≤5 ml/100g (2,8 ml/100g typical).

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test	
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -20 °C	Charpy V (J) -40 °C
547	612	25	110	70

Guidance - Ampere (DC+):

Wire diameter	1,2 mm		
Ampere / Volt	180-300A / 22-32V		

Packaging information:

1,2mm x 5,0kg spool D200
1,2mm x 12,5kg spool D300

Approvals:

DNV, LR, ABS, GL, CWB, DB, TÜV.

Reference / date:

NSSW SF-3A,
English, 09.01.2014.

Perfect Welding

www.nst.no

NSSW SF-3AM

AWS: A5-29 E81T1-G

EN ISO 17632-A: T 46 4 Z P M 2 H5



Flux cored wire for low-alloyed steel, offshore applications, piping etc.

General description:

NSSW (Nittetsu) SF-3AM is a seamless rutile flux cored wire for welding using Argon/CO₂ mixed shielding gas.

This ensures a stable welding arc with less spatter, excellent visual bead shape and smooth transition to the base material.

SF-3AM has acceptable charpy impact values down to -60 °C.

The flux cored wire is CTOD-tested with good results. Due to the seamless design the wire has an extremely low diffusible hydrogen content (typical 3 ml/100g) which greatly eliminates the risk of hydrogen cracks.

SF-3AM has low visible welding fume and has excellent weldability in all welding positions.

The wire has a clean copper coated surface which together with exact diameter and roundness ensures stable and even wire feeding.

Wire stick out should be between 15-25 mm depending upon welding parameters.

Voltage should be about 10% of the Ampere, which is about 1-3 Volts lower than that of which conventional folded flux cored wires require.

Welding positions:



Welding current:

DC+

Type of gas / flow:

Ar+18-25% CO₂

18-25 l/min.

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Cu	Ni			
0,06	0,30	1,27	0,011	0,005	0,26	0,95			

Diffusible hydrogen content (ml/100g):

≤5 ml/100g (3,0 ml/100g typical).

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test	
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -40 °C	Charpy V (J) -60 °C
550	590	29	128	92

Guidance - Ampere (DC+):

Wire diameter	1,2 mm	1,4 mm	1,6 mm
Ampere / Volt	180-300A / 22-32V	250-350A / 25-35V	280-380A / 25-35V

Packaging information:

1,2mm x 5,0kg D200
 1,2mm x 12,5kg D300
 1,2mm x 200kg DrumØ51cm
 1,4mm x 12,5kg D300
 1,4mm x 200 kg DrumØ51cm
 1,6mm x 12,5kg D300

Approvals:

DnV, LR, DB, ABS, CWB, CE,

Reference / date:

NSSW SF-3AM,
 English, 06.01.2014.

Perfect Welding

www.nst.no

NSSW SF-3AMSR

AWS: A5-29 E71T1-GM

EN ISO 17632-A: T 42 4 Z P M 2 H5



Flux cored wire for piping and constructions with PWHT requirements.

General description:

NSSW (Nittetsu) SF-3AMSR is a seamless rutile flux cored wire for welding using Argon/CO₂ mixed shielding gas. This ensures a stable welding arc with less spatter, excellent visual bead shape and smooth transition to the base material. SF-3AM has excellent charpy impact values down to -46 °C. Due to seamless design the wire has an extremely low diffusible hydrogen content (typical 3 ml/100g), which greatly eliminates the risk of hydrogen cracks.

SF-3AMSR has low welding fume and excellent operations in all welding positions. Like all other Nittetsu seamless wires the wire has a clean copper coated surface. This combined with exact diameter and roundness ensures a stable and even wire feeding. Stick out should be between 15-25 mm depending upon welding parameters. Voltage should be about 10% of the ampere, which is about 1-3 Volts lower than what conventional folded flux cored wires requires.

Welding positions:



Welding current:

DC+

Type of gas / flow:

Ar+18-25% CO₂

18-25 l/min.

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Cu	Ni			
0,05	0,28	1,25	0,009	0,005	0,27	0,80			

Diffusible hydrogen content (ml/100g):

≤5 ml/100g (3,0 ml/100g typical)

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test	
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -40 °C (AW)	Charpy V (J) -40 °C (PWHT)
AW 528 / PWHT 512	563/ PWHT 565	AW 30 / PWHT 32	125	118

Guidance - Ampere (DC+):

Wire diameter	1,2 mm		
Ampere / Volt	180-300A / 22-32V		

Packaging information:

1,2mm x 5,0kg D200 / (upon request)
1,2mm x 12,5kg D300

Approvals:

DNV(PWHT)

Reference / date:

NSSW SF-3AMSR,
English, 09.01.2014.

Perfect Welding

www.nst.no

NSSW SF-50A

AWS: A5-29 E91T1-G

EN ISO 17632-A: T 50 4 Z P M 2 H5



Flux cored wire for welding high tensile steels such as Weldox 500.

General description:

NSSW (Nittetsu) SF-50A is a seamless rutile flux cored wire developed for welding high tensile steel such as i.e. Weldox 500.

The wire uses an Argon/CO₂ mixed shielding gas, ensuring a user friendly and stable arc with minimum spatter and good transition to the parent material. SF-50A is CTOD tested with good results.

Due to its seamless characteristic, the wire has an extremely low content of hydrogen (typical 3ml/100g weld metal), something which ensures low risk of cold cracks.

The wire is copper coated and has a clean surface which together with exact diameter and perfect roundness ensures a stable and even wire feeding. The stick out should be between 15-25mm depending upon welding parameters.

Volts should be 10% of the Amperage, this is about 1-3 volts lower than that of which conventional folded flux cored wires require.

Welding positions:



Welding current:

DC+

Type of gas / flow:

Ar+18-25% CO₂

18-25 l/min.

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Cu	Ni			
0,05	0,48	1,22	0,012	0,005	0,31	1,55			

Diffusible hydrogen content (ml/100g):

≤5 ml/100g (2,8 ml/100g typical)

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -40 °C
606	657	27	75

Guidance - Ampere (DC+):

Wire diameter	1,2 mm		
Ampere / Volt	200-300A / 22-32V		

Packaging information:

1,2mm x 12,5kg spool D300

Approvals:

DNV, LR,

Reference / date:

NSSW SF-50A,
English, 09.01.2014.

Perfect Welding

www.nst.no

NSSW SF-36E

AWS: A5-29 E81T1-GC

EN ISO 17632-A: T 46 6 Z P C 2 H5



Flux cored wire for low temperature steels and offshore constructions etc.

General description:

NSSW (Nittetsu) SF-36E is a seamless rutile flux cored wire for welding using 100% CO₂ shielding gas. The deposited weld metal has excellent mechanical properties down to -60 °C.

The wire has a stable arc, minimum spatter, good penetration with excellent visual result.

SF-36E is also perfect for root runs against ceramic backing.

Due to its seamless design, the wire has a very low hydrogen content which ensures very low risk of cold cracks.

SF-36E has been CTOD tested at -40 °C.

The flux cored wire is copper coated, has a clean surface which together with exact diameter and roundness ensures stable and even wire feeding.

Welding positions:



Welding current:

DC+

Type of gas / flow:

100% CO₂

18-25 l/min.

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Cu	Ni			
0,04	0,37	1,32	0,016	0,006	0,24	1,53			

Diffusible hydrogen content (ml/100g):

≤5 ml/100g (3,0 ml/100g typical)

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test	
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -40 °C	Charpy V (J) -60 °C
570	610	29	112	76

Guidance - Ampere (DC+):

Wire diameter	1,2 mm		
Ampere / Volt	180-300A / 22-32V		

Packaging information:

1,2mm x 12,5kg spool D300

Approvals:

DNV, ABS, LR, BV,

Reference / date:

NSSW SF-36E,
English, 09.01.2014.

Perfect Welding

www.nst.no

NSSW SF-47E

AWS: A5-29 E81T1-Ni1C-J

EN ISO 17632-A: T 46 6 Z P C 2 H5



Rutile low alloyed Flux cored wire for welding in all positions with impact requirements down to -60°C using 100% CO₂ shielding gas.

General description:

NSSW SF-47E is a seamless rutile flux cored wire for welding using 100% CO₂ shielding gas. SF-47E has excellent weldability, visual bead shape and smooth transition to the base material. Due to the seamless design the wire has an extremely low diffusible hydrogen content (typical 3 ml/100g) which greatly eliminates the risk of hydrogen cracks. The wire has a clean copper coated surface which together with exact diameter and roundness ensures stable and even wire feeding.

Wire stick out should be kept app'x 20 mm. SF-47E has very good mechanical properties including Charpy impact values down to -60 °C.

Welding positions:



Welding current:

DC+

Type of gas / flow:

100% CO₂

18 - 25 l/min.

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Cu	Ni			
0,05	0,46	1,31	0,012	0,004	0.29	0,96			

Diffusible hydrogen content (ml/100g):

≤5 ml/100g (3,0 ml/100g typical).

Typical Mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Impact Test
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -60 °C
545	600	28	70

Guidance - Ampere (DC+):

Wire diameter	1,2 mm	
Ampere / Volt	180-300 / 22-32	

Packaging information:

1,2mm x 5,0kg D200
1,2mm x 12,5kg D300

Approvals:

DNV, ABS.

Reference / date:

NSSW SF-47E,
English, 13.11.2013.

Perfect Welding

www.nst.no

NSSW SF-47EC x NF-360

AWS: A5-23: F8A6-EC-G

EN ISO 14171-A-S 46 6 Z T3Ni1 / EN ISO 14174-S F Z 1 55 DC



Flux cored wire for SAW in combination with fused flux for welding carbon steel.

General description:

NSSW (Nittetsu) SF-47EC x NF-360 is a combination of seamless flux cored wire and fused flux for SAW welding of carbon steel.

Due to seamless design of wire and the fused flux the hydrogen content in weld metal is very low.

Typically 3.5ml/100g.

The combination is very productive with high deposition rates and is a good choice for twin arc welding on heavy structures.

Good weldability, deep penetration and stable target properties reduce the risk of welding defects.

The NF-360 Flux produces an even weld bead surface. As with all other seamless Nittetsu wires this wire has a clean copper coated surface combined with exact diameter and roundness ensures stable and even wire feeding.

SF-47EC x NF-360 gives simple handling and storage procedures as both the wire and flux do not pick up moisture from the environment.

The combination is classed grade 5 (-60 °C)

Welding positions:



Welding current:

DC+

Flux:

NF-360

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Cu	Ni	Mo		
0,07	0,27	1,61	0,013	0,005	0,26	0,81	0,13		

Diffusible hydrogen content (ml/100g):

3,5 ml/100g.

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	≥20	≥47	

Guidance - Ampere (DC+):

Wire diameter	2,0mm single wire	2,0mm Twin	
Ampere / Volt	320-420A / 25-31V	400-1100A / 27-40V	

Packaging information:

SF-47EC:

2,0mm x 20kg
2,0mm x 270kg

NF-360:

25kg tincans
300kg Drums

Approvals:

DNV

Reference / date:

NSSW SF-47EC x NF-360,
English, 26.08.2013.

Perfect Welding

www.nst.no

NSSW SF-80A

AWS: A5-29 E111T1-GM H 4

EN ISO 18276-A: ≈ T69 4 Z P M 2 H5



Flux cored wire for welding extra high tensile steels min. YP 690, e.g. Weldox 700.

General description:

NSSW (Nittetsu) SF-80A is a seamless, rutile flux cored wire designed for welding extra high tensile steels with min.690 mpa. The flux cored wire uses a Argon/CO₂ mixed shielding gas which gives good weldability and a stable arc, minimum spatter, good visual bead and even transition to parent material. Due to the seamless design the wire has an extremely low hydrogen content (<4 ml/100g) which is very important when welding extra high tensile steels.

The wire has a clean copper coated surface which together with exact diameter and roundness, ensures stable and even wire feeding. Wire stick out should be between 15-20mm dependent upon the welding parameters. Mechanical properties are designed for >47 joule at -40 °C.

Welding positions:



Welding current:

DC+

Type of gas / flow:

M21 (Ar+CO₂)

18-25 l/min.

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Cu	Ni			
0,06	0,46	1,82	0,012	0,005	0,22	2,19			

Diffusible hydrogen content (ml/100g):

≤4 ml/100g (<2,0 ml/100g typical).

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -40 °C
790	816	21	70

Guidance - Ampere (DC+):

Wire diameter			
Ampere / Volt			

Packaging information:

1,2mm x 12,5kg D300

Approvals:

Pending.

Reference / date:

NSSW SF-80A,
English, 14.08.2013.

NST FC-1A

AWS: A5-20 E71T1-M

EN ISO 17632-A: T46 2 P M 1 H5 (EN758: T 46 2 P M 1 H5)



All round rutile FCAW wire for mild and high tensile strength steels.

General description:

NST FC-1A is a seamless rutile flux cored wire for welding with an Argon/CO₂ M21 shielding gas. Main features are excellent usability with minimal spatter and high quality bead appearance. Good mechanical properties in all welding positions. The diffusible hydrogen content is extremely low (H5) typical <3ml/100g, due to the seamless manufacturing process.

Very good weldability in all positions, rapidly solidifying and easy slag removal. Excellent wire feeding due to the copper coated smooth surface and exact diameter and roundness. Stick out should be between 15-25 mm. The mechanical properties are designed for >47 joule at -20 °C.

Welding positions:



Welding current:

DC+

Type of gas / flow:

Ar+18-25% CO₂

18-25 l/min.

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S				
0,06	0,45	1,30	<0,025	<0,025				

Diffusible hydrogen content (ml/100g):

≤5 ml/100g (3,0 ml/100g typical).

Mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -20 °C
≥460	530-660	≥22	≥47

Guidance - Ampere (DC+):

Wire diameter	1,0 mm	1,2 mm
Ampere / Volt	150-250A / 21-32V	180-320A / 22-32V

Packaging information:

1,0mm x 5,0kg D200
1,0mm x 15,0kg D/K300
1,2mm x 5,0kg D200
1,2mm x 12,5kg D/K300

1,4mm / 1,6mm upon request.

Approvals:

DNV,

Reference / date:

NST FC-1A,
English, 04.11.2011

Perfect Welding

www.nst.no

NST FC-1E

AWS: A5-20 E71T-1C H4

EN ISO 17632-A: T42 2 P C 1 H5



Allround rutile FCAW wire for shipbuilding and structures of mild and high tensile steel.

General description:

NST FC-1E is a seamless rutile flux cored wire for welding with 100% CO₂ as shielding gas. Main features are excellent usability with minimal spatter and high quality bead appearance. Good mechanical properties in all welding positions. The diffusible hydrogen content is extremely low (H5) typical 3ml/100g due to the seamless manufacturing process. Very good weldability in all positions, rapidly solidifying and easy slag removal.

Excellent feeding due to the copper coated smooth surface and exact diameter and roundness. Stickout should be between 15–25 mm. The mechanical properties is designed for >47 joule at - 20 °C.

Welding positions:



Welding current:

DC+

Type of gas / flow:

100% CO₂

15-20 l/min.

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Cu				
0,06	0,45	1,30	<0,025	<0,025	<0,15				

Diffusible hydrogen content (ml/100g):

≤4 ml/100g (3,0 ml/100g typical).

Mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test	
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -20 °C	
≥420	500-640	≥22	≥47	

Guidance - Ampere (DC+):

Wire diameter	1,2 mm		
Ampere / Volt	180–320A / 22-32V		

Packaging information:

1,2mm x 5,0kg D200
1,2mm x 15,0kg D/K300

Other diameters and packaging are available upon request.

Approvals:

DNV,

Reference / date:

NST FC-1E,
English, 04.07.2012.

Perfect Welding

www.nst.no

NST FC-3 1Ni

AWS: A5-29 E81T-1 Ni1 M H4

EN ISO 17632-A: T46 6 1Ni P M 1 H5



Seamless copper plated flux cored wire, 1% Ni type for low temperature applications.

General description:

NST FC-3 1Ni is a seamless rutile flux cored wire for welding with Ar/CO₂ (M21) shielding gas. Excellent usability with minimal spatter and high quality bead appearance. Good mechanical properties in all welding positions. The diffusible hydrogen content is extremely low (H4) typical 3ml/100g due to the seamless manufacturing process. Rapidly solidifying and easy slag removal.

Excellent feeding due to the copper coated smooth surface and exact diameter and roundness. Wire stick out should be between 15-20mm. The mechanical properties are designed for >47 joule at -60 °C (all weld metal).

Welding positions:



Welding current:

DC+

Type of gas / flow:

Ar+15-25% CO₂

15-20 l/min.

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Ni				
0,06	0,38	1,30	0,005	0,008	0,95				

Diffusible hydrogen content (ml/100g):

≤4 ml/100g (3,0 ml/100g typical).

Mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -60 °C (M21)
≥470	551-680	≥22	≥47

Guidance - Ampere (DC+):

Wire diameter	1,2 mm		
Ampere / Volt	180-320A / 22-32V		

Packaging information:

1,2mm x 5,0kg D200
1,2mm x 15,0kg D/K300

Approvals:

DNV,

Reference / date:

NST FC-3 1Ni,
English, 07.08.2012.

Perfect Welding

www.nst.no

NST FC-70

AWS: A5-29 E111T1-G MJ H4

EN ISO 18276-A: T69 4 Z P M 1 H5



Rutile Flux cored wire for welding extra high tensile steels min.YP 690, e.g. Weldox 700.

General description:

NST FC-70 is a seamless rutile type wire for welding extra high tensile steels using an Argon/CO₂ (80/20) shielding gas.
Main features are excellent usability with minimal spatter and high quality bead appearance.
The diffusible hydrogen content is extremely low (H5) typical 3ml/100g due to the seamless manufacturing process.

Excellent feeding due to the copper coated smooth surface and exact diameter and roundness.
Stick out should be between 15-25 mm.
Mechanical properties are designed for >47 joule at -40 °C.

Welding positions:



Welding current:

DC+

Type of gas / flow:

Ar+18-25% CO₂

18-25 l/min.

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Cu	Ni	Cr	Mo	Nb
0,056	0,35	1,33	<0,015	<0,015	0,16	2,15	0,042	0,138	0,014

Diffusible hydrogen content (ml/100g):

≤5 ml/100g (3,0 ml/100g typical).

Mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -40 °C
≥690	770-940	≥17	≥47

Guidance - Ampere (DC+):

Wire diameter			
Ampere / Volt			

Packaging information:

1,2mm x 5,0kg D200
1,2mm x 15,0kg D/K300

Approvals:

DNV, IV Y69MS H5,

Reference / date:

NST FC-70,
English, 04.11.2011

Perfect Welding

www.nst.no

NST FC-ACR

AWS: A5-29 E81T-1WG M H4

EN ISO 17632-A: T46 2 Z P M 1 H5



Rutile tubular wire for welding corrosion resistant steels such as corten.

General description:

NST FC-ACR (atmospheric corrosion resistant) is a Tubular rutile basic Ni-Cu alloyed flux cored wire for single or multi-pass welding of atmospheric corrosion resistant steels such as Corten, Resco and ITACOR with Argon/CO₂ shielding gas.

Main features are: excellent weldability, good bead appearance and easy slag removal.

Low hydrogen content (< 5ml/100g).

Clean copper plated surface ensures stable wire feeding.

Welding positions:



Welding current:

DC+

Type of gas / flow:

Ar+18-25% CO₂

18-25 l/min.

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Cu	Ni			
0,06	0,45	1,25	<0,025	<0,025	0,40	1,20			

Diffusible hydrogen content (ml/100g):

≤5 ml/100g (3,0 ml/100g typical).

Mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -20 °C
≥470	590-680	≥22	≥47

Guidance - Ampere (DC+):

Wire diameter	1,2 mm		
Ampere / Volt	190-320A / 21-32V		

Packaging information:

1,2mm x 5,0kg D200
1,2mm x 15,0kg D/K300

Approvals:

Reference / date:

NST FC-ACR,
English, 04.11.2011.

Perfect Welding

www.nst.no

Rutile-basic wires for non- and low alloyed steels



NSSW SF-36EA

NSSW SF-36EA

AWS: A5-29 E81T1-GM

EN ISO 17632-A: T 46 4 Z R M 2 H5



Rutile basic flux cored wire for non- and low alloyed steels with tough requirements in restraint joints.

General description:

NSSW (Nittetsu) SF-36EA is a seamless rutile basic flux cored wire for welding of Argon/CO₂ mixed shielding gas. The wire has good weldability with a stable arc, minimum spatter, good penetration and bead appearance.

SF-36EA is your choice if you want a safe alternative against cracks and has very good mechanical properties down to -60 °C.

Due to its seamless characteristic, the wire has an extremely low content of hydrogen.

One of the benefits with this wire is that it has far

better results against cracks in restraint joints than normal rutile wires.

The wire can also be used as the root run against ceramic backing.

SF-36EA has documented results in PWHT.

The wire has approvals in all positions although it is most suitable in PA/PB and PC.

The wire has a copper coated smooth surface which together with exact diameter and perfect roundness ensures even and safe wire feeding even with extended conduit cables.

Welding positions:



Welding current:

DC+

Type of gas / flow:

Ar+18-25% CO₂

18-25 l/min.

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Cu	Ni			
0,06	0,35	1,27	0,007	0,005	0,27	0,85			

Diffusible hydrogen content (ml/100g):

≤5 ml/100g (2,0 ml/100g typical)

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test	
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -40 °C	Charpy V (J) -40 °C (PWHT)
560	620	30	106	75

Guidance - Ampere (DC+):

Wire diameter	1,2 mm		
Ampere / Volt	200-300A/22-30V		

Packaging information:

1,2mm x 12,5kg spool D300
1,2mm x 5kg spool D200

Approvals:

DNV, LR,

Reference / date:

NSSW SF-36EA,
English, 09.01.2014.

Perfect Welding

www.nst.no

Metal cored wires for non- and low alloyed steels



NSSW SM-3A

NST MC-1

NST MC-70

NST MC-RS

NSSW SM-3A

AWS: A5-18 E70C-G

EN ISO 17632-A: T 42 4 Z M M 1 H5



Metal cored wire without slag for non-alloyed steels and Argon/mix shielding gas.

General description:

NSSW (Nittetsu) SM-3A, is a metal cored seamless wire developed for use with Argon/CO₂ mixed (M21) shielding gas.

The wire is designed to be used both for automated and manual welding of horizontal butt welds plus fillet welds in the spray arc range.

It can also be used successfully in all positional welding in the short arc range (dip transfer mode). SM-3A consists mainly of metal flux which ensures high productivity.

The seamless wire has a stable welding arc with low spatter and excellent visual bead shape.

With only minor surface silica isles this greatly reduces re-ignition problems and ensures the welding of multiple layers without the need for inter run de-slugging.

The metal cored wire has a clean, copper coated surface together with exact diameter and roundness which produces stable and even wire feeding.

This is of great value when long conduit cables are used and when using any automated welding processes.

Mechanical properties have been designed for Charpy impact values ≥ 47 joule at -40 °C.

Welding positions:



Welding current:

DC+

Type of gas / flow:

Ar+8-25% CO₂

18-25 l/min.

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Cu			
0,05	0,56	1,56	0,010	0,013	0,25			

Diffusible hydrogen content (ml/100g):

≤ 5 ml/100g (2 ml/100g typical).

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -40 °C
520	580	29	70

Guidance - Ampere (DC+):

Wire diameter	1,2 mm	1,4 mm
Ampere / Volt	70-330A / 14-32V	80-420A / 23-35V

Packaging information:

1,2mm x 5,0kg spool D200
 1,2mm x 12,5kg spool D300
 1,2mm x 200kg drum Ø51cm
 1,4mm x 12,5kg spool D300
 1,4mm x 200 kg drum Ø51cm

Approvals:

DNV, LR, ABS, BV, GL, DB,

Reference / date:

NSSW SM-3A,
 English, 23.01.2014.

Perfect Welding

www.nst.no

NST MC-1

AWS: A5-18 E70C-6 M H4

EN ISO 17632-A: T46 4 M M 1 H5



An all round Metal cored wire for shipbuilding and structures of mild and high tensile steels.

General description:

NST MC-1 is a seamless metal cored wire for welding with Argon/CO₂ mixed shielding gas. Applications are steel constructions shipbuilding, pressure vessels, pipe welding.
The wire has excellent weldability in a wide range in both short arc and spray arc.
Good mechanical properties in all welding positions.
The diffusible hydrogen content is extremely low (H5) typical 3ml/100g due to the seamless manufacturing process.

Excellent feeding due to the copper coated smooth surface and exact diameter and roundness.
Stick out should be between 15-25 mm.
Mechanical properties are designed for >47 joule at -40 °C.

Welding positions:



Welding current:

DC+

Type of gas / flow:

Ar+15-25% CO₂

15-25 l/min.

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S				
0,06	0,50	1,50	<0,015	<0,015				

Diffusible hydrogen content (ml/100g):

≤4 ml/100g (3,0 ml/100g typical).

Mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -40 °C
≥460	560-650	≥22	≥47

Guidance - Ampere (DC+):

Wire diameter	1,0 mm	1,2 mm	1,4 mm
Ampere / Volt	40-270A / 11-32V	50-320A / 25-35V	60-360A / 14-36V

Packaging information:

1,0mm x 5,0 kg D200
1,0mm x 15,0 kg D/K300
1,2mm x 5,0 kg D200

1,2 / 1,4 / 1,6mm x 15,0 kg D/K300, drums 250Kg, Ø51cm.

Approvals:

DNV, LR, DB, TÜV, GL,

Reference / date:

NST MC-1,
English, 07.08.2012.

Perfect Welding

www.nst.no

NST MC-70

AWS A5.28: E110C-K4H4

EN ISO 18276-A: T69 4 Mn2NiCrMo M M 1 H5



Metal cored wire for welding extra high tensile steels min.YP 690, e.g. Weldox 700.

General description:

NST MC-70 is a seamless metal cored wire for welding extra high tensile steels with Argon/CO₂ (M21) shielding gas.

Main features are excellent usability with minimal spatter, no slag and high quality bead appearance. The diffusible hydrogen content is extremely low (H5) typical 3ml/100g due to the seamless manufacturing process.

Excellent feeding properties due to the copper coated smooth surface combined with exact diameter and roundness.

Stick-out should be between 15-25 mm. Mechanical properties are designed for >47 joule at -40 °C.

Welding positions:



Welding current:

DC+

Type of gas / flow:

80% Ar+20% CO₂

18-25 l/min.

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Ni	Cr	Mo		
0,07	0,40	1,40	Max.0,02	Max.0,02	2,20	0,50	0,48		

Diffusible hydrogen content (ml/100g):

≤5 ml/100g (3,0 ml/100g typical).

Mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test	
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -40 °C	
≥690	770-900	≥17	≥47	

Guidance - Ampere (DC+):

Wire diameter			
Ampere / Volt			

Packaging information:

1,2mm x 5,0kg D200
1,2mm x 15,0kg D/K300

Approvals:

DNV, IV Y69MS H5,

Reference / date:

NST MC-70,
English, 02.11.2012.

Perfect Welding

www.nst.no

NST MC-RS

AWS A5-28: E80C Ni1 M H4

EN ISO 17632-A: T 46 4 1Ni M M 1 H5



Metal cored wire, 1%Ni type for use in both short arc and spray arc.

General description:

NST MC-RS is a metal flux filled seamless cored wire with 1% Ni developed for use with Argon/CO₂ M21 mixed shielding gas. The wire has been designed for welding of root passes in all positions in the short arc range and to automated and manual welding horizontal butt welds and fillet welds in the spray arc range. NST MC-RS is mainly filled with metal flux, which enables high deposition rate. The wire has a very stable arc, minimum with spatter and a good visual bead profile.

Small oxy isles on the surface reduces re-ignition and enables multi pass welding without need of removal of any slag between layers. The wire has an exact diameter and perfect roundness, the surface is copper coated and clean, this ensure stable and even wire feeding which is extremely important when using extended conduit cables and automated welding.

Welding positions:



Welding current:

DC+

Type of gas / flow:

Ar+18-25% CO₂

18-25 l/min.

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Cu	Ni			
0,06	0,40	1,35	0,010	0,009	0,11	0,95			

Diffusible hydrogen content (ml/100g):

≤5 ml/100g (3 ml/100g typical).

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test	
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -46 °C	Charpy V (J) -60 °C
530	610	28	135	95

Guidance - Ampere (DC+):

Wire diameter	1,0 mm	1,2 mm	1,4 mm
Ampere / Volt	40-110A/13-15V > 180-270A/24-29V	80-130/14-16V > 200-300A/25-30V	250-400A / 25-33V

Packaging information:

1,0mm x 5,0kg spool D200
 1,0mm x 15,0kg spool D/K300
 1,2mm x 5,0kg spool D200
 1,2mm x 15,0kg spool D300
 1,2mm x 200kg drum Ø51cm
 1,4mm x 15,0kg spool D300
 1,4mm x 200,0kg drum Ø51cm

Approvals:

DNV,

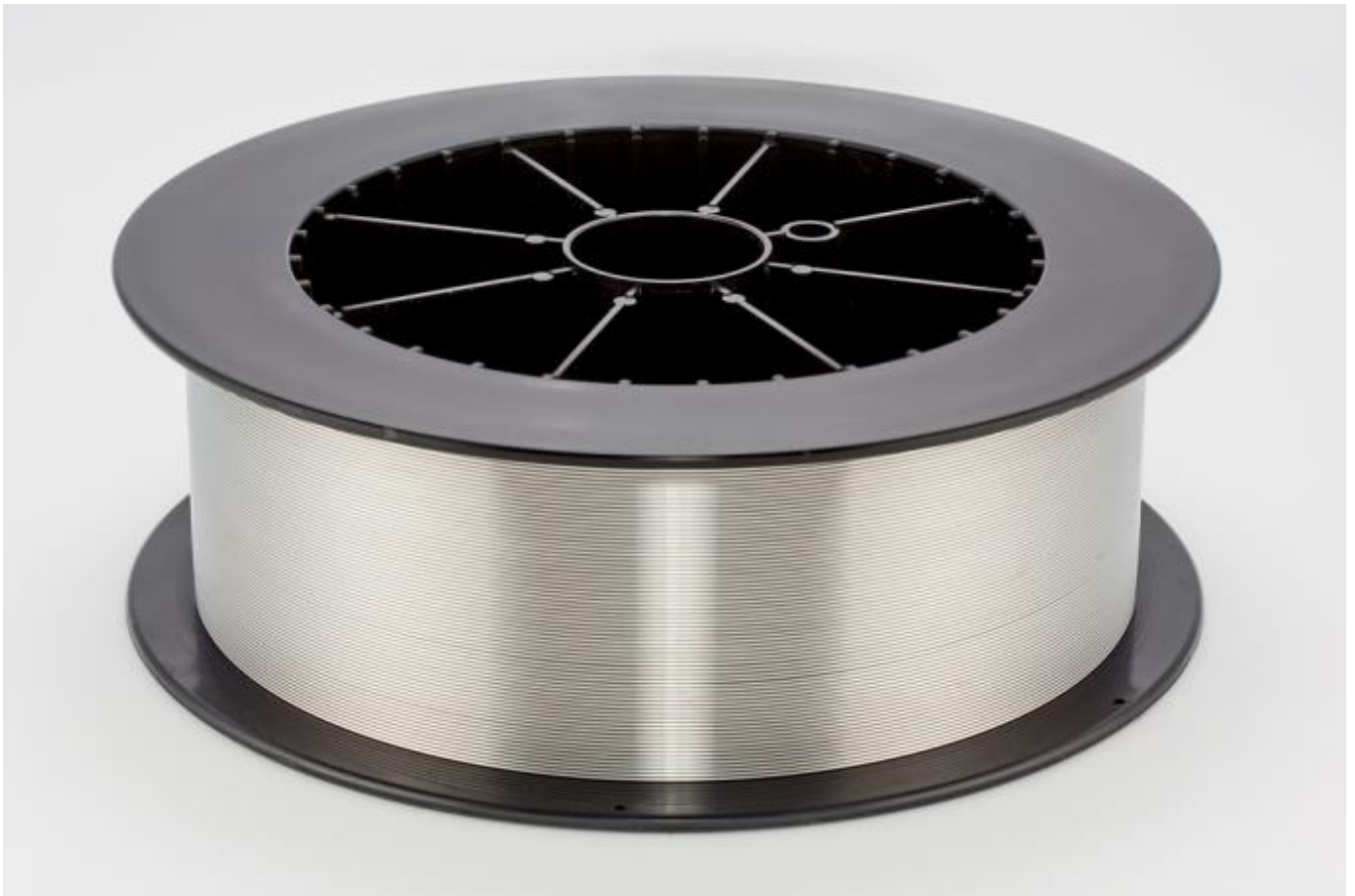
Reference / date:

NST MC-RS,
 English, 02.02.2012.

Perfect Welding

www.nst.no

Flux cored wires for high alloyed steels



NST A-308L

NST A-309L

NST A-316L

NST A-309MoL

NST 329J3L Duplex

NST 329J3L XLT Duplex

NST FCW A625E

NST 309LT

NST 316LT

NST 309MoLT

NST A-308L

AWS: A5.22-95: E308LT 1-4
NS EN ISO 17633-A: T 19 9 L P M 1



Flux cored wire for positional welding of corrosion resistant materials such as AISI 304, EN 1.4301 etc.

General description:

NST A-308L is a rutile flux cored wire for positional welding of corrosion resistant materials such as AISI 304 etc.
The flux cored wire uses an Argon/CO₂ mixed shielding gas.
This ensures a user friendly and stable welding arc, less spatter, good visual bead appearance and smooth transition to the parent materials.
The newly developed slag system gives the welder better control of the weld pool and this wire can now be welded without weaving in all positions

It is also suitable for use with ceramic backing for single sided welding.

Welding positions:



Welding current:

DC+

Gas flow:

15-23 l/min.

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Cu	Ni	Cr	Mo	
0.024	0.60	1.38	0.020	0.003	0.05	9.79	20.44	0.02	

Shielding gas:

Argon+18-25% CO₂.

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths				
Yield Mpa(Rp0.2)	Tensile Mpa(Rm)	Elongation %		
415	603	38		

Guidance - Ampere (DC+):

Electrode diameter			
Ampere / Volt			

Packaging information:

1,2mm x 5,0kg D200
1,2mm x 12,5kg D300

Approvals:

Reference / date:

NST A-308L,
English, 23.01.2014.

Perfect Welding

www.nst.no

NST A-309L

AWS: A5.22 -95: E309LT 1-4

NS-EN ISO 17633-A: T 23 12 L P M1



Flux cored wire for positional welding of corrosion resistant materials against carbon steel, and for cladding of carbon steels.

General description:

NST A-309L is a rutile flux cored wire for positional welding of corrosion resistant materials such as AISI 304 etc. against carbon steel. The flux cored wire uses an Argon/CO₂ mixed shielding gas. This ensures a user friendly and stable welding arc, less spatter, good visual bead appearance and smooth transition to the parent materials. The newly developed slag system gives the welder better control of the weld pool and this wire can now be welded without weaving in all positions

It is also suitable for use with ceramic backing for single sided welding. NST A-309L's chemical composition ensures a weld metal equivalent of AISI 304 in the first layer of a cladding process.

Welding positions:



Welding current:

DC+

Gas flow:

15-23 l/min.

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Cu	Ni	Cr	Mo
0.018	0.58	1.82	0.019	0.002	0.03	12.92	24.17	0.01

Shielding gas:

Argon+18-25% CO₂.

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths		
Yield Mpa(Rp0.2)	Tensile Mpa(Rm)	Elongation %
430	562	41

Guidance - Ampere (DC+):

Electrode diameter		
Ampere / Volt		

Packaging information:

1,2mm x 5,0kg D200
1,2mm x 12,5kg D300

Approvals:

DNV,

Reference / date:

NST A-309L,
English, 23.01.2014.

Perfect Welding

www.nst.no

NST A-316L

AWS: A5.22-95: E316LT 1-4

NS-EN ISO 17633-A: T 19 12 3 L P M1



Flux cored wire for positional welding of corrosion resistant and stainless materials such as AISI 316, EN 1.4404 etc.

General description:

NST A-316L is a rutile flux cored wire for positional welding of corrosion resistant and stainless steel materials such as AISI 316 etc. The wire can be used with an Argon/CO₂ mixed shielding gas. This ensures a user friendly and stable welding arc, with less spatter, good visual bead appearance and smooth transition to the parent material. The newly developed slag system gives the welder better control of the weld pool and this wire can now be welded without weaving in all positions.

It is also suitable for use with ceramic backing for single sided welding. The flux cored wire can be used on Ti- and Nb-stabilized materials as long as the operating temperature does not exceed 400 °C.

Welding positions:



Welding current:

DC+

Gas flow:

15-23 l/min.

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Cu	Ni	Cr	Mo	
0.024	0.51	1.37	0.022	0.005	0.10	11.40	19.25	2.61	

Shielding gas:

Argon+18-25% CO₂.

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths				
Yield Mpa(Rp0.2)	Tensile Mpa(Rm)	Elongation %		
436	580	42		

Guidance - Ampere (DC+):

Electrode diameter			
Ampere / Volt			

Packaging information:

1,2mm x 5,0kg D200
1,2mm x 12,5kg D300

Approvals:

DNV

Reference / date:

NST A-316L,
English, 23.01.2014.

Perfect Welding

www.nst.no

NST A-309MoL

AWS: A5.22-95: E309LMoT 1-4

NS-EN ISO 17633-A: T 23 12 2 L P M1



Flux cored wire for positional welding of dissimilar steels, i.e. carbon steel against stainless materials such as AISI 316 etc.

General description:

NST A-309MoL is a rutile flux cored wire for positional welding of stainless materials such as AISI 316 and similar against carbon steel.

The flux cored wire uses an Argon/CO₂ mixed shielding gas.

This ensures a user friendly and stable welding arc, less spatter, good visual bead appearance and smooth transition to the parent materials.

The newly developed slag system gives the welder better control of the weld pool and this wire can now be welded without weaving in all positions.

It is also suitable for use with ceramic backing for single sided welding.

NST A-309MoL is the right choice for cladding carbon steel with a stainless (Mo alloyed) material.

Welding positions:



Welding current:

DC+

Gas flow:

15-23 l/min.

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Cu	Ni	Cr	Mo
0.027	0.57	1.39	0.021	0.006	0.26	12.8	23.28	2.48

Shielding gas:

Argon+18-25% CO₂.

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths		
Yield Mpa(Rp0.2)	Tensile Mpa(Rm)	Elongation %
503	653	30

Guidance - Ampere (DC+):

Electrode diameter		
Ampere / Volt		

Packaging information:

1,2mm x 5,0kg D200
1,2mm x 12,5kg D300

Approvals:

DNV,

Reference / date:

NST A-309MoL,
English, 23.01.2014.

Perfect Welding

www.nst.no

NST 329J3L Duplex

AWS: A5.22-95: E2209T1-4

NS-EN ISO 17633-A: T 22 9 3 N L P M 1



Flux cored wire for all-round welding of Duplex materials such as SAF 2205 and EN 1.4462.

General description:

NST 329J3L is a rutile flux cored wire for welding of Duplex materials such as SAF 2205, EN 1.4462 and UNS 31803.

The wire can be used in all welding positions.

Shielding gas is Argon/CO₂ mixed gas.

This enables a user friendly and stable welding arc, less spatter, good visual bead appearance and smooth transition to the parent material.

The newly developed slag system gives the welder better control of the weld pool and this wire can now be welded without weaving in all positions.

NST 329J3L is also suitable for use with ceramic backing for single sided welding.

Welding positions:



Welding current:

DC+

Gas flow:

15-20 l/min

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Cu	Ni	Cr	Mo	N
0.02	0.41	1.35	0.023	0.009	0.05	8.66	23.19	3.02	0.14

Shielding gas:

Argon+18-25% CO₂.

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test
Yield Mpa(Rp0.2)	Tensile Mpa(Rm)	Elongation %	Charpy V (J) -46 °C
640	806	26	37

Guidance - Ampere (DC+):

Electrode diameter		
Ampere / Volt		

Packaging information:

1.2mm x 12.5kg D300
1.2mm x 5kg D200

Approvals:

Reference / date:

NST 329J3L Duplex,
English, 23.01.2014.

Perfect Welding

www.nst.no

NST 329J3L XLT Duplex

AWS: A5.22-2012: E2209T1-4

NS-EN ISO 17633-A: T 22 9 3 N L P M 1



Flux cored wire for all-round welding of Duplex materials such as SAF 2205 and EN 1.4462.

General description:

The NST 329J3L XLT Duplex is a rutile flux cored wire for welding of Duplex materials such as SAF 2205, EN 1.4462 and UNS 31803.

The wire can be used in all welding positions and gives very good properties at very low temperatures down to -60 °C.

Shielding gas is Argon/CO₂ mixed gas.

This enables a user friendly and stable welding arc, less spatter, good visual bead appearance and smooth transition to the parent material.

The newly developed slag system gives the welder better control of the weld pool in all positions. NST 329J3L XLT is also suitable for use with ceramic backing for single sided welding.

Welding positions:



Welding current:

DC+

Gas flow:

15-23 l/min

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Cu	Ni	Cr	Mo	N
0.021	0.49	1.25	0.021	0.002	0.06	9.0	22.5	2.8	0.13

Shielding gas:

Argon+18-25% CO₂.

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test	
Yield Mpa(Rp0.2)	Tensile Mpa(Rm)	Elongation %	Charpy V (J) -46 °C	Charpy V (J) -60 °C
640	806	26	48	43

Guidance - Ampere (DC+):

Electrode diameter			
Ampere / Volt			

Packaging information:

1.2mm x 12.5kg D300
1.2mm x 5 kg D200

Approvals:

Reference / date:

NST 329J3L XLT Duplex,
English, 23.01.2014.

Perfect Welding

www.nst.no

NST FCW A625

AWS A5.34 / A5.34M: 2007 ENiCrMo3 T1-4



Flux cored wire for pipe and plate welding of Inconel 625 and 6Mo material.

General description:

NST FCW A625 is a flux cored wire for the joining of 6Mo alloys (254 SMO and Inconel 625). This wire can also be used for Cladding applications. The slag system allows you to weld in all positions with good control of the weld bead. The wire is to be used with M21 mix gas. "Purity" is the keyword when welding high alloyed materials. Impurities in the weld, will cause porosity. Welding of pipes requires the use of purge gas in order to ensure a perfect root.

Interpass temperature should not exceed 150 °C, and heat input should not exceed 1,5 kJ/mm. Hot cracking is a well-known challenge in this type of welding. For more details contact NST.

Welding positions:



Welding current:

DC+

Gas flow:

16-20 l/min.

Chemical composition of all-weld-metal:

C	P	S	Ni	Cr	Mo	Cu	Fe	Nb+Ta	
Max 0.10	Max 0.02	Max 0.015	Min 58.0	20-23	8-10	Max 0.50	Max.5.0	3.15-4.15	

Shielding gas:

Ar/CO₂: Typ. 18%CO₂+82%Ar (Class M21).

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test	
Yield Mpa(Rp0.2)	Tensile Mpa(Rm)	Elongation %	Charpy V (J) +0 °C	Charpy V (J) -196 °C
470	770(>690)	≥34	53	48

Guidance - Ampere (DC+):

Electrode diameter	1,2 mm PF	1,2 mm PA/PB	
Ampere / Volt	135-160 A / 24-26 V	190-210 A / 30-31 V	

Packaging information:

1.2mm x 12.5kg D300

Approvals:

Reference / date:

NST FCW A625,
English, 19.11.2013

Perfect Welding

www.nst.no

NST 309LT

AWS: A5.22-95: E309LT 0-4

NS-EN ISO 17633-A: T 23 12 L R M3



Flux cored wire mainly for flat position and fillet welding of corrosion resistant materials against carbon steels and for cladding carbon steels.

General description:

NST 309LT is a rutile flux cored wire for flat position (PA) and fillet welding (PB and PC) of corrosion resistant materials such as AISI 304 etc. against carbon steel.

The flux cored wire uses an Argon/CO₂ mixed shielding gas.

This ensures a user friendly and stable welding arc, less spatter, good visual bead appearance and smooth transition to the parent materials.

NST 309LT has a slag freezing system which is slightly slower than wires designed for positional welding.

This makes this wire suitable for flat position and fillet welds.

It is also suitable for use with ceramic backing for single sided welding.

The wire's composition ensures weld metal equivalent AISI 304 in the first layer of the cladding process.

Welding positions:



Welding current:

DC+

Gas flow:

15-23 l/min.

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Cu	Ni	Cr	Mo
0.028	0.77	1.25	0.023	0.002	0.13	12.77	24.81	0.13

Shielding gas:

Argon+18-25% CO₂.

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths		
Yield Mpa(Rp0.2)	Tensile Mpa(Rm)	Elongation %
425	550	36

Guidance - Ampere (DC+):

Electrode diameter		
Ampere / Volt		

Packaging information:

1,2mm x 12,5kg

Approvals:

Reference / date:

NST 309LT,
English, 23.01.2014.

Perfect Welding

www.nst.no

NST 316LT

AWS: A5.22-95: E316LT 0-4

NS-EN ISO 17633-A: T 19 12 3 L R M3



Flux cored wire for flat position and fillet welding of corrosion resistant and stainless steel materials of AISI 316, EN 1.4404 etc.

General description:

NST 316LT is a rutile flux cored wire for flat position (PA) and fillet welding (PB and PC) of corrosion resistant and stainless steel materials such as AISI 316 etc.
The flux cored wire uses an Argon/CO₂ mixed shielding gas.
This ensures a user friendly and stable welding arc, less spatter, good visual bead appearance and smooth transition to the parent materials.
NST 316LT has a slag freezing system which is slightly slower than wires designed for positional welding.

This makes this wire suitable for flat position and fillet welds.
It is also suitable for use with ceramic backing for single sided welding.
NST 316LT is also suitable for Ti- and Nb-stabilized materials when the operating temperature does not exceed 400 °C.

Welding positions:



Welding current:

DC+

Gas flow:

15-23 l/min.

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Cu	Ni	Cr	Mo	
0.022	0.66	1.12	0.025	0.004	0.15	11.69	18.44	2.56	

Shielding gas:

Argon+18-25% CO₂.

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths				
Yield Mpa(Rp0.2)	Tensile Mpa(Rm)	Elongation %		
404	552	44		

Guidance - Ampere (DC+):

Electrode diameter			
Ampere / Volt			

Packaging information:

0,9mm x 12,5kg D300
1,2mm x 12,5kg D300

Approvals:

Reference / date:

NST 316LT,
English, 23.01.2014.

Perfect Welding

www.nst.no

NST 309MoLT

AWS: A5.22-95 E309LMoT 0-4

NS-EN ISO 17633-A: T 23 12 2 L R M3



Flux cored wire for flat position and fillet welding of carbon steels against stainless steel materials such as AISI 316 etc.

General description:

NST 309MoLT is a flux cored wire for flat position (PA) and fillet welding (PB and PC) of stainless steel materials such as AISI 316 and similar against carbon steel.

The wire is also suitable for cladding of carbon steel where a Mo stainless cladding is needed.

The flux cored wire uses an Argon/CO₂ mixed shielding gas.

This ensures a user friendly and stable welding arc, less spatter, good visual bead appearance and smooth transition to the parent materials.

NST 309MoLT has a slag freezing system which is slightly slower than wires designed for positional welding.

This makes this wire suitable for flat position and fillet welds.

It is also suitable for use with ceramic backing for single sided welding.

Welding positions:



Welding current:

DC+

Gas flow:

15-23 l/min.

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Cu	Ni	Cr	Mo	
Max 0.027	0.57	1.39	0.021	0.006	Max 0.26	12.80	23.28	Max 0.26	

Shielding gas:

Argon+18-25% CO₂.

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths				
Yield Mpa(Rp0.2)	Tensile Mpa(Rm)	Elongation %		
Min 350	653	Min 27		

Guidance - Ampere (DC+):

Electrode diameter			
Ampere / Volt			

Packaging information:

0,9mm x 12,5kg D300
1,2mm x 5,0kg D200
1,2mm x 12,5kg D300

Approvals:

Reference / date:

NST 309MoLT,
English, 27.09.2012.

Perfect Welding

www.nst.no

MIG/MAG wires for non- alloyed steels



NST Carbomig 2
NST Carbomig 2N
NST Carbomig 3N
NST MIG ER70S 6-P
NST MIG ER80S Ni1-P

NST Carbomig 2

AWS: A5-18: ER70S-6

EN ISO 14341-A: G46 2 M21 3Si1

EN ISO 14341-A: G42 2 C1 3Si1



Solid wire for welding of mild and high strength steels.

General description:

NST Carbomig 2 is a Copper coated solid wire for semi-automatic welding with CO₂ or Argon/CO₂ mixed shielding gas.

The wire is suitable for welding in a wide range of welding currents with excellent appearance.

Also suitable for welding thin walled steels or sheet metal.

Welding positions:



Welding current:

DC+

Gas flow:

12-20 l/min.

Typical chemical composition of welding wire:

C	Si	Mn	P	S				
0,08	0,86	1,49	0,010	0,016				

Type of gas:

Ar/CO₂ or CO₂.

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test	
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -30 °C (M21)	Charpy V (J) -30 °C (Co ²)
475	570	28	92	60

Guidance - Ampere (DC+):

Wire diameter			
Ampere / Volt			

Packaging information:

0,6mm x 0,9kg+5Kg/D200
 0,8mm x 5,0Kg/D200,15Kg/K300,200Kg/drum Ø51cm
 0,9mm x 250Kg/drum Ø51cm
 1,0mm x 5,0Kg/D200,15Kg/K300,250Kg/drum Ø51cm
 1,2mm x 5,0Kg/D200,15Kg/K300,250Kg/drum Ø51cm

Approvals:

DnV, LR,

Reference / date:

NST Carbomig 2,
 English, 23.01.2014.

NST Carbomig 2N

AWS: A5-18: ER70S-6

EN ISO 14341-A: G 42 3 C M G3Si1



Solid wire for welding of mild and high strength steels.

General description:

NST Carbomig 2N is a copper coated solid (SG2) wire for MIG/MAG welding of unalloyed steels with CO₂ or Argon/CO₂ mix shielding gas. The wire is suitable for welding in a wide range of welding currents with excellent appearance. Also suitable for welding thin walled steels or sheet metal.

Welding positions:



Welding current:

DC+

Gas flow:

12-20 l/min.

Typical chemical composition of welding wire:

C	Si	Mn						
0,08	0,90	1,50						

Type of gas:

Ar/CO₂ or CO₂.

Mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -30 °C
≥420	500-640	≥22	≥47

Guidance - Ampere (DC+):

Wire diameter		
Ampere / Volt		

Packaging information:

0,8mm x 15Kg + drum Ø51cm
1,0mm x 15Kg + drum Ø51cm
1,2mm x 15Kg + drum Ø51cm

Approvals:

TÜV, CE,

Reference / date:

NST Carbomig2N,
English, 16.11.2011.

Perfect Welding

www.nst.no

NST Carbomig 3N

AWS: A5-18: ER70S-6

EN ISO 14341-A: G 42 2 C G4Si1 / 14341-A: G 46 3 M G4Si1



Solid wire for welding of mild and high strength steels.

General description:

NST Carbomig3N is a copper coated solid (SG2) wire for MIG/MAG welding of unalloyed steels with CO₂ or Argon/CO₂ mixed shielding gas. The wire is suitable for welding in a wide range of welding currents with excellent appearance. Low spatter CO₂ performance, and excellent wire feeding capability.

Welding positions:



Welding current:

DC+

Gas flow:

12-20 l/min.

Typical chemical composition of welding wire:

C	Si	Mn						
0,08	1,00	1,75						

Type of gas:

Ar/CO₂ or CO₂.

Mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test	
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -30 °C (M21)	Charpy V (J) -20 °C (Co ²)
C1≥420/M21≥460	500-640/530-680	≥22	≥47	≥47

Guidance - Ampere (DC+):

Wire diameter			
Ampere / Volt			

Packaging information:

0,8mm x 15Kg + drum Ø51cm
1,0mm x 15Kg + drum Ø51cm
1,2mm x 15Kg + drum Ø51cm

Approvals:

TÜV, CE,

Reference / date:

NST Carbomig3N,
English, 16.11.2011.

Perfect Welding

www.nst.no

NST MIG ER70S 6-P

AWS A5-18 ER70S-6

EN ISO 14341-A G 42 5 M21 3Si1



Solid wire specially designed for pipe welding and structural steels.

General description:

NST MIG ER70S 6-P is a Copper coated solid wire for welding with CO₂ or Argon/CO₂ mixed shielding gas. The wire is suitable for positional welding, including vertical down, using a wide range of welding currents with excellent visual appearance. Specially designed for pipe welding and structural steels.

Welding positions:



Welding current:

DC+

Gas flow:

12-20 l/min.

Typical chemical composition of welding wire:

C	Si	Mn	P	S				
0,09	0,87	1,47	0,010	0,016				

Type of gas:

Ar/CO₂ or CO₂.

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -50 °C
≥420	≥500	≥22	>47

Guidance - Ampere (DC+):

Wire diameter			
Ampere / Volt			

Packaging information:

1,0mm x 15,0Kg
1,2mm x 15,0Kg

Approvals:

Pending

Reference / date:

NST ER70S 6-P,
English, 17.01.2014.

Perfect Welding

www.nst.no

NST MIG ER80S Ni1-P

AWS A5-28: ER80S-Ni1

EN ISO 14341-A G 46 6 M21 3Ni1



Solid wire for welding of mild and low alloyed steels.

General description:

NST MIG ER 80S Ni1-P is a copper coated solid wire for MIG/MAG welding of fine grain structural steels with Argon/CO₂ (M21) mixed shielding gas.

Suitable for both manual welding and for robotic / -mechanised welding in all positions, including vertical downwards.

Typical usage is within offshore and Oil & Gas steelworks and pipe welding.

Can be used for applications where service temperature is down to -60 °C.

The wire is suitable for welding with a wide range of welding currents with excellent appearance. It has low spatter performance, and excellent wire feeding capabilities.

Welding positions:



Welding current:

DC+

Gas flow:

12-20 l/min.

Typical chemical composition of welding wire:

C	Si	Mn	P	S	Cr	Mo	Ni	Cu	V
0,10	0,65	1,1	0,008	0,009	0,13	0,03	0,86	0,09	0,002

Type of gas:

Ar/CO₂ mix (M21).

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	≥24	≥ 47

Guidance - Ampere (DC+):

Wire diameter			
Ampere / Volt			

Packaging information:

1,0mm x 15Kg
1,2mm x 15Kg

Other packaging is available upon request.

Approvals:

Pending

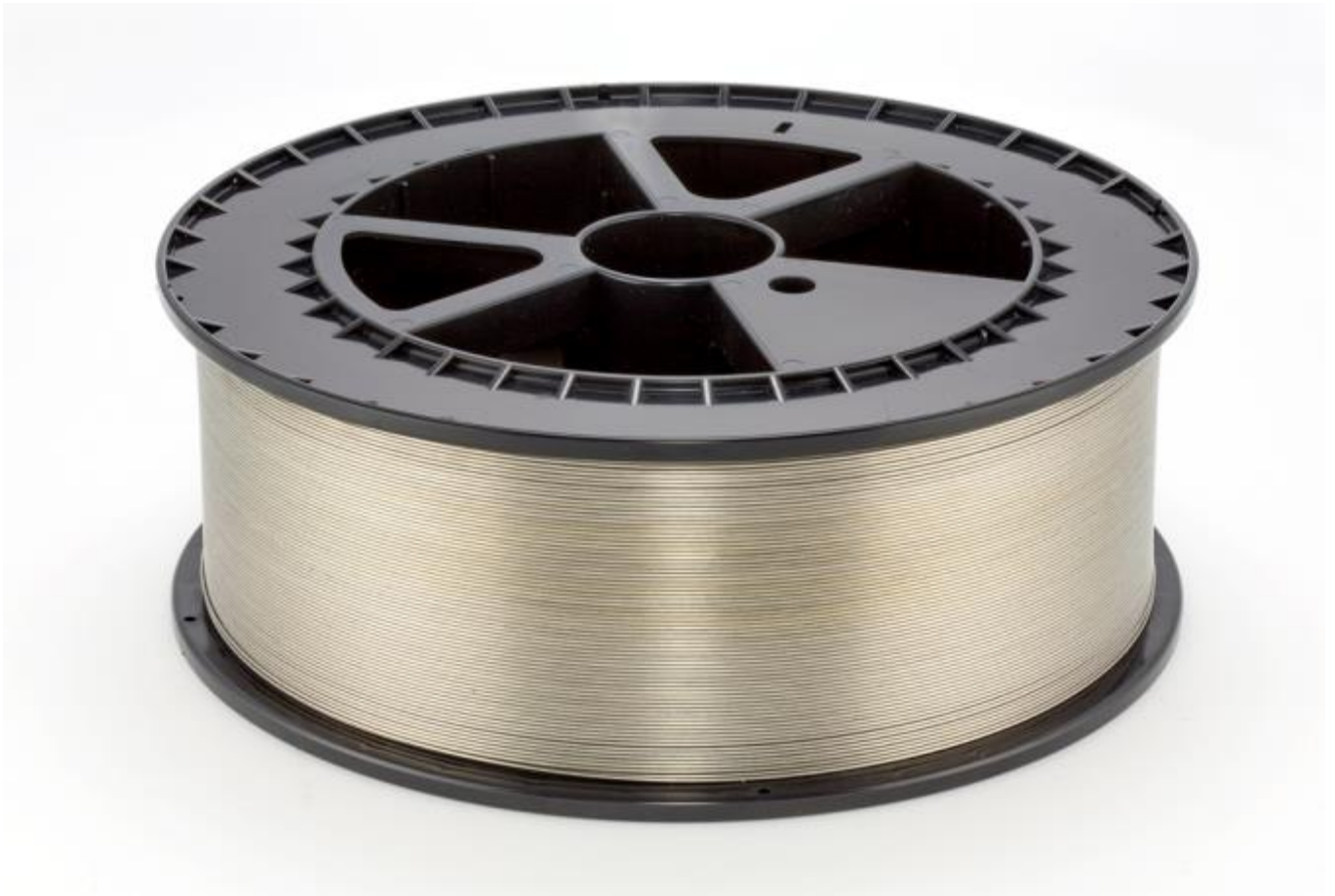
Reference / date:

NST MIG ER80S Ni1-P,
English, 17.01.2014.

Perfect Welding

www.nst.no

MIG/MAG wires for high alloyed steels



NST MIG 308LSi

NST MIG 309LSi

NST MIG 316LSi

NST MIG Duplex 2209

NST MIG Super Duplex 2594

NST MIG ERNiCrMo-3(625)

NST MIG ERNiCrMo-13(A59)

NST MIG 308LSi

AWS: A5.9 ER308LSi

EN ISO 14343: 2009 19 9 LSi



Solid wire for welding of corrosion resistant materials.

General description:

NST MIG 308LSi is a low-carbon, solid MIG/MAG wire for welding of corrosion resistant materials such as AISI 304, EN 1.4301, EN 1.4307 etc. Normally, mixed gas Argon/CO₂ or Argon/O₂ are used as the shielding gas.

This ensures a user friendly, stable welding arc with less spatter, a good visual bead appearance and smooth transition to the parent material.

The wire can be used both with or without Pulse-synching.

And it can also be used for welding of Nb- and Ti-stabilized materials (i.e. ASTM 321) when operating

temperature does not exceed 400 °C.

By higher operating temperatures, a Nb-stabilized welding wire is used.

"Purity" is the keyword when welding high alloyed materials.

Impurities in the weld, will cause porosity.

Inter-pass temperature should not exceed 150 °C.

Heat input should not exceed <2.0kJ/mm.

The weld metal will have an Austenitic structure with a low portion of Ferrite (typically 5-9% ferrite).

Welding positions:



Welding current:

DC+

Gas flow:

12-20 l/min.

Chemical composition of all-weld-metal:

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	9.0-11.0	19.5-21.0	Max 0.30	

Shielding gas:

Shielding gas: Ar+2-3% CO₂, Ar+2% O₂.

Purge gas: Ar.

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths				
Yield Mpa(Rp0.2)	Tensile Mpa(Rm)	Elongation %		
410	590	44		

Ferrite content(typical):

WRC	De long	Schaeffler	
13.3FN	15.4%	12.6%	

Packaging information:

1,0mm x 12,5kg D300
1,0mm x 200kg Ø51cm drum
1,2mm x 12,5kg D300
1,2mm x 200kg Ø51cm drum

Approvals:

Reference / date:

NST MIG 308LSi,
English, 27.09.2012.

Perfect Welding

www.nst.no

NST MIG 309 LSi

AWS: A5.9 ER 309LSi

EN ISO 14343: 2009 23 12 LSi



Solid wire for welding of corrosion resistant materials (without Mo) against carbon steel.

General description:

NST MIG 309LSi is a low-carbon, solid MIG/MAG wire for welding of corrosion resistant materials such as AISI 304, EN 1.4301, EN1.4307 against carbon steel. The wire is also used for cladding of carbon steel. Normally an Argon/CO₂ or Argon/O₂ mix are used as the shielding gas. This ensures a user friendly stable welding arc, with less spatter, good visual bead appearance and smooth transition to the parent material. The wire can be used both with or without Pulse-synching.

When cladding carbon steel, the analysis of the weld metal in first layer is equivalent to AISI304. "Purity" is the keyword when welding high alloyed materials. Impurities in the weld will cause porosity. Inter-pass temperature should not exceed 150 °C. Heat input should not exceed <2.0kJ/mm. The weld metal will have an Austenitic structure with a low portion of Ferrite, typically 5-9%.

Welding positions:



Welding current:

DC+

Gas flow:

12-20 l/min.

Chemical composition of all-weld-metal:

C	Si	Mn	P	S	Cu	Ni	Cr	Mo	N
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	Max 0.30	-

Shielding gas:

Shielding gas: Ar+2-3% CO₂, Ar+2% O₂.
Purge gas: Ar.

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths				
Yield Mpa(Rp0.2)	Tensile Mpa(Rm)	Elongation %		
410	575	42		

Ferrite content(typical):

WRC	De long	Schaeffler	
8.7FN	12.8%	9.6%	

Packaging information:

1,0mm x 12,5kg D300
1,2mm x 12,5kg D300

Approvals:

Reference / date:

NST MIG 309LSi,
English, 27.09.2012.

Perfect Welding

www.nst.no

NST MIG 316LSi

AWS: A5.9 ER 316LSi

EN ISO 14343: 2009 G 19 12 3 LSi



Solid wire for welding of corrosion resistant and stainless materials.

General description:

NST MIG 316LSi is a solid, MIG/MAG wire for welding of corrosion resistant materials such as AISI 316, EN 14401, EN 14404 etc. Normally Argon/CO₂ or Argon/O₂ mix are used as the shielding gas. This ensures a user friendly, stable welding arc, with less spatter, good visual bead appearance and smooth transition to the parent material. The wire can be used both with or without Pulse-synching. It can also be used for welding of Nb- and Ti-stabilized materials (i.e. ASTM 316Ti) when operating

temperature does not exceed 400 °C. In higher operating temperature a Nb-stabilized welding wire should be used. "Purity" is the keyword when welding high alloyed materials. Impurities in the weld, will cause porosity. Inter-pass temperature should not exceed 150 °C. Recommended heat input should be low: <2.0kJ/mm, typically between 0.5-2.0 kJ/mm. The wire gives an Austenitic structure with very low Ferrite (typically 5-9%).

Welding positions:



Welding current:

DC+

Gas flow:

12-20 l/min.

Chemical composition of all-weld-metal:

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+2-3% CO₂, Ar+2% O₂.
Purge gas: Ar.

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths				
Yield Mpa(Rp0.2)	Tensile Mpa(Rm)	Elongation %		
411	598	40		

Ferrite content(typical):

WRC	De long	Schaeffler	
8.0FN	10.8%	10.5%	

Packaging information:

0,8mm x 5,0kg D200 + 12,5kg D300
1,0mm x 12,5kg D300 + 200kg Ø51cm drum
1.2mm x 12,5kg D300 + 200kg Ø51cm drum
1,6mm x 12,5kg D300

Approvals:

Reference / date:

NST MIG 316LSi,
English, 27.09.2012.

Perfect Welding

www.nst.no

NST MIG Duplex 2209

AWS: A5.9 ER 2209

EN ISO 14343: 2009 22 9 3 N L



Solid wire for welding of Duplex materials.

General description:

NST MIG Duplex 2209 is a low-carbon, solid MIG/MAG wire for welding of Duplex materials such as SAF2205. Normally, Argon/CO₂ or Argon/O₂ mix are used as the shielding gas.

This provides a user friendly, stable welding arc with minimum spatter, excellent visual bead appearance and smooth transition to the parent material.

The wire can be used both with or without Pulse-synching.

"Purity" is the keyword when welding high alloyed materials.

Impurities in the weld, will cause porosity.

Inter-pass temperature should not exceed 150 °C. Heat input needs extra attention with regards to the cooling rate in order to ensure the correct balance between Austenite and Ferrite, typically between 0.5 and 2.0kJ/mm.

The wire gives an Austenitic-Ferrite weld metal with good mechanical properties combined with good corrosion ability (typically 45-55% ferrite).

Welding positions:



Welding current:

DC+

Gas flow:

12-20 l/min.

Chemical composition of all-weld-metal:

C	Si	Mn	P	S	Cu	Ni	Cr	Mo	N
Max 0.03	Max 0.90	Max 2.0	Max 0.03	Max 0.02	Max 0.30	7.5-9.5	21.5-23.5	2.5-3.5	0.10-0.20

Shielding gas:

Shielding gas: Ar+2% O₂, Ar+2-3% CO₂.

Purge gas: Ar, Ar+N₂, N₂.

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths				
Yield Mpa(Rp0.2)	Tensile Mpa(Rm)	Elongation %		
660	830	30		

Ferrite content(typical):

WRC	De long	Schaeffler	
50FN	28,6%	55%	

Packaging information:

1,0mm x 12,5kg D300
1,2mm x 12,5kg D300

Approvals:

Reference / date:

NST MIG Duplex 2209,
English, 27.09.2012.

Perfect Welding

www.nst.no

NST MIG Super Duplex 2594

AWS SFA5.9 ER2594

EN ISO 14343: 2009 25 9 4 N L



Specially developed MIG wire for welding super-duplex steels.

General description:

NST MIG Super Duplex 2594 is used for welding of Super Duplex materials as SAF2507, Zeron 100 and similar.

Normally Ar, Argon/O₂ or Argon/CO₂ mix are used as the shielding gas.

The MIG wire is used for both manual welding and mechanized/robotic welding of both pipes and plates. The balance of Austenite and Ferrite in the weld metal will depend upon welding parameters, choice of gas and cooling rate. For backing gas use Pure N₂ or Argon/N₂ mix

"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 100 °C, and heat input should not exceed 1,5 Kj /mm

Please contact us for further details on purge equipment and welding procedure proposal.

Welding positions:



Welding current:

DC+

Gas flow:

12-18 l/min.

According to WPS

Typical chemical composition of welding wire:

C	Si	Mn	P	S	Cr	Ni	Mo	N
Max 0.020	0.30	0.40	Max 0.020	Max 0.015	25.0	9.5	4.0	0.21

Shielding gas:

Shielding gas : Ar, Ar + O₂, Ar+CO₂, (Ar+He+O₂)

Backing gas : Pure N₂ or Ar+N₂ mix

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test	
Yield Mpa(Rp0.2)	Tensile Mpa(Rm)	Elongation %	Charpy V (J) -20 °C	Charpy V (J) -40 °C
650	850	25	135	110

Guidance - Ampere (DC+):

Electrode diameter	1.0 mm	1.2 mm
Ampere / Volt	140-220A/23-28V	180-260A/24-29V

Packaging information:

0.8mm x 5kg D200
0.8mm x 15kg D300
1.0mm x 15kg D300
1.2mm x 15kg D300

Approvals:

CE, DNV, TÜV,

Reference / date:

NST MIG Super Duplex 2594,
English, 31.11.2012

Perfect Welding

www.nst.no

NST MIG ERNiCrMo-3(625)

AWS A5.14 ERNiCrMo-3



MIG Wire for welding of 6Mo alloy (i.e 254 SMO and Inconel 625).

General description:

NST MIG ERNiCrMo-3 is used for welding of 6Mo alloy (i.e. 254 SMO and Inconel 625) and for cladding of mild steel and other stainless steels. The filler metal is used for both manual welding and for robotic or mechanized application on both pipes and plates. Normally Ar/He is used as shielding gas. The level of gas flow will depend upon wire diameter and the specific application. When welding pure Austenite materials, it is recommended to use very low heat input, low mixture with parent material and low interpass temperature.

"Purity" is the keyword when welding high alloyed materials. Impurities in the weld, will cause porosity. Welding of pipes require the use of purge gas in order to ensure a stainless root face of the weld. Please contact us for further details on purge equipment. Interpass temperature should not exceed 150 °C, and heat input should not exceed 1,5kJ/mm.

Can be supplied in dull or bright surface.

Welding positions:



Welding current:

DC+

Gas flow:

Typ. 15-20 l/min

Typical chemical composition of welding wire:

C	Mn	Si	P	S	Co	Ni	Cr	Mo	Fe	Ti	Al	Nb+Ta	Other
0.01	0.01	0.07	0.003	0.001	0.03	64.33	22.32	0.03	0.3	0.03	0.12	3.44/0.01	Max 0.50

Shielding gas:

Shielding gas: Ar/He.

Root gas/Purge gas for single sided welding: Ar

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths				
Yield Mpa(Rp0.2)	Tensile Mpa(Rm)	Elongation %		
470	750	42		

Packaging information:

1.0mm x 15kg D300
 1.14mm x 15kg D300
 1.2mm x 15kg D300
 1.0mm x 150kg Ø 51cm drum
 1.14mm x 150kg Ø 51cm drum
 1.2mm x 150kg Ø 51cm drum

Approvals:

Reference / date:

NST MIG ERNiCrMo-3(625),
 English, 20.01.2014

Perfect Welding

www.nst.no

NST MIG ERNiCrMo-13(A59)

AWS A5.14 ERNiCrMo-13

UNS NO6059



MIG wire for critical corrosion applications.

General description:

NST MIG ERNiCrMo-13 offers outstanding resistance to a wide range of corrosive media under oxidising and reducing conditions. It shows excellent resistance to pitting and crevice corrosion and has good weldability with no post-weld cracking.

NST ERNiCrMo-13 is also used for carbon steel cladding applications for both MIG and mechanized TIG welding.

This alloy can also be used for joining different materials like Duplex/Super Duplex to Inconel 625.

"Purity" is the keyword when welding high alloyed materials. Impurities in the weld, will cause porosity. Interpass temperature should not exceed 150 °C.

For more details on welding guidelines and applications please contact NST !

Welding positions:



Welding current:

DC+

Gas flow:

Typ. 15-20 l/min

Chemical composition of welding wire:

C	Si	Mn	P	S	Co	Ni	Cr	Mo	Fe	Al			
Max 0.010	Max 0.10	Max 0.50	Max 0.015	Max 0.010	Max 0.30	Bal.	22-24	15-16.5	Max 1.50	0.1-0.4			

Shielding gas:

Argon or Argon /Helium mix.

Mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test	
Yield Mpa(Rp0.2)	Tensile Mpa(Rm)	Elongation %	Charpy V (J) 20 °C	Charpy V (J) -196 °C
>450	>720(Typ.760)	>35	>100	>80

Packaging information:

1.0mm x 15kg D300
1.2mm x 15kg D300
1.6mm x 15kg D300
1.0mm x Ø 51cm drum
1.2mm x Ø 51cm drum
1.6mm x Ø 51cm drum

Approvals:

TÜV, ABS

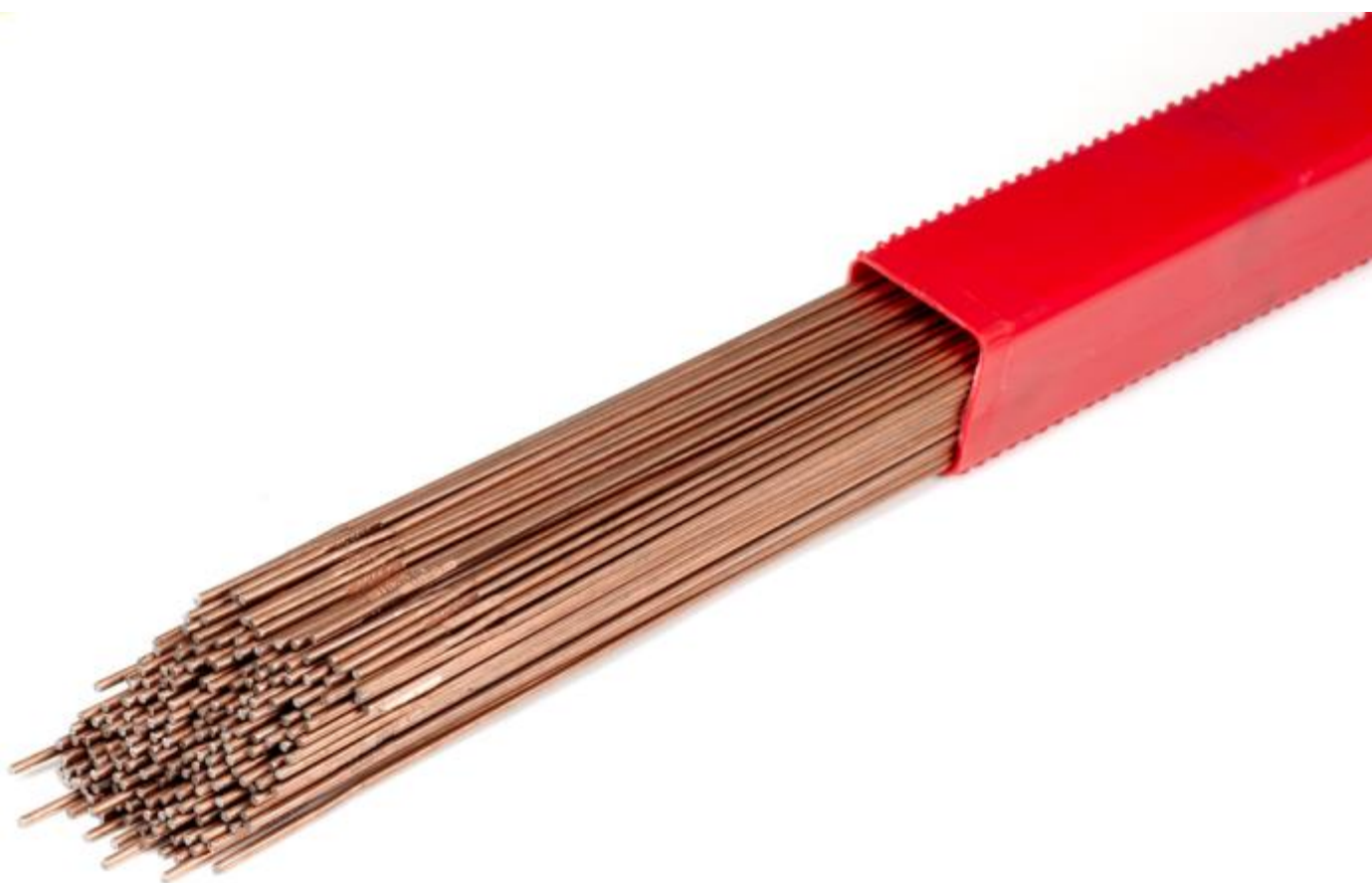
Reference / date:

NST MIG ERNiCrMo-13(A59),
English, 28.11.2012

Perfect Welding

www.nst.no

TIG rods for non- and low alloyed steels



NST Carbotig 2

NST Carbotig 2

AWS: A5-18: ER70S-6

EN ISO 636-A: W 46 2 W3Si1



TIG wire for welding unalloyed steels.

General description:

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

Welding positions:



Welding current:

DC-

Gas flow:

12-20 l/min.

Typical chemical composition of welding rod:

C	Si	Mn	P	S				
0,07	0,86	1,56	0,014	0,020				

Type of gas:

Ar.

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -29 °C
480	575	27	115

Packaging information:

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

Approvals:

Reference / date:

NST Carbotig 2,
 English, 23.01.2014.

Perfect Welding

www.nst.no

TIG rods for high alloyed steels



NST TIG 309LSi

NST TIG 316LSi

NST TIG 309LMo

NST TIG Duplex 2209

NST TIG Super Duplex 2594

NST TIG ErNiCrMo-3(625)

NST TIG ErNiCrMo-13(A59)

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:

Reference / date:

NST TIG 309LSi,
English, 27.09.2012.

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 when operating temperature is <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:

Reference / date:

NST TIG 316LSi,
English, 27.09.2012.

Perfect Welding

www.nst.no

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:

Reference / date:

NST TIG 309LMo,
English, 27.09.2012.

Perfect Welding

www.nst.no

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/N₂ 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+N₂.

Root gas/purge gas: Ar, Ar+N₂, N₂.

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
 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, 27.09.2012.

Perfect Welding

www.nst.no

NST TIG Super Duplex 2594

AWS SFA5.9 ER2594

EN ISO 14343: 2009 25 9 4 N L



Specially developed TIG-rod for welding super-duplex steels.

General description:

NST TIG Super Duplex 2594 is used for welding of Super Duplex materials as SAF2507, Zeron 100 and similar.
Normal, Argon/N₂ mix are used as the shielding gas. The TIG-rod is used for manual welding of both pipes and plates.
The level of gas flow depends upon the TIG-rod diameter and the specific application.
The balance of Austenite and Ferrite in the weld metal will depend upon welding parameters, choice of gas and cooling rate.

"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 100 °C, and heat input should not exceed 1,5 KJ/mm.

Please contact us for further details on purge equipment and welding procedure proposal.

Welding positions:



Welding current:

DC-

Gas flow:

According to WPS

Typical chemical composition of welding rod:

C	Si	Mn	P	S	Cr	Ni	Mo	N
Max 0.020	0.30	0.40	Max 0.020	Max 0.015	25.0	9.5	4.0	0.21

Shielding gas:

Shielding gas: Argon+N₂
Backing gas : Pure N₂ or Ar+N₂

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test	
Yield Mpa(Rp0.2)	Tensile Mpa(Rm)	Elongation %	Charpy V (J) -20 °C	Charpy V (J) -40 °C
650	850	25	135	110

Ferrite content:

WRC	De Long	Schaeffler
Typ. 40 FN	-	-

Packaging information:

1.6mm x 500mm x 1kg
2.0mm x 500mm x 1kg
2.4mm x 500mm x 1kg
3.2mm x 500mm x 1kg
1.6mm x 1000mm x 2kg
2.0mm x 1000mm x 2kg
2.4mm x 1000mm x 2kg
3.2mm x 1000mm x 2kg

Approvals:

CE, DNV, TÜV,

Reference / date:

NST TIG Super Duplex 2594,
English, 31.11.2012

Perfect Welding

www.nst.no

NST TIG ERNiCrMo-3 (625)

AWS: A5.14 ERNiCrMo-3



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	Other
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	Max 1.50

Shielding gas:

Shielding gas: Ar or Ar/He

Root gas/Purge gas: Ar

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strength				
Yield Mpa(Rp0.2)	Tensile Mpa(Rm)	Elongation %		
470	750	42		

Ferrite content:

WRC	De Long	Schaeffler	
-	-	-	

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: Black

Approvals:

Reference / date:

NST TIG ERNiCrMo-3(625),
English, 20.01.2014

Perfect Welding

www.nst.no

NST TIG ERNiCrMo-13(A59)

AWS A5.14 ERNiCrMo-13

UNS NO6059



TIG-rod for critical corrosion applications.

General description:

NST TIG ERNiCrMo-13 offers outstanding resistance to a wide range of corrosive media under oxidising and reducing conditions. It shows excellent resistance to pitting and crevice corrosion and has good weldability with no post-weld cracking.

NST ERNiCrMo-13 is also used for carbon steel cladding applications for both MIG and mechanized TIG welding.

This alloy can also be used for joining different materials like Duplex/Super Duplex to Inconel 625.

"Purity" is the keyword when welding high alloyed materials. Impurities in the weld, will cause porosity. Interpass temperature should not exceed 150 °C.

For more details contact NST !

Welding positions:



Welding current:

DC-

Gas flow:

Typ. 13-18 l/min

Chemical composition of welding rod:

C	Si	Mn	P	S	Co	Ni	Cr	Mo	Fe	Al			
Max 0.010	Max 0.10	Max 0.50	Max 0.015	Max 0.010	Max 0.30	Bal.	22-24	15-16.5	Max 1.50	0.1-0.4			

Shielding gas:

Argon or Argon /Helium mix.

Mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test	
Yield Mpa(Rp0.2)	Tensile Mpa(Rm)	Elongation %	Charpy V (J) 20 °C	Charpy V (J) -196 °C
>450	>720(Typ.760)	>35	>100	>80

Ferrite content:

WRC	De Long	Schaeffler	
-	-	-	

Packaging information:

1.6mm x 500mm x 1kg
 2.0mm x 500mm x 1kg
 2.4mm x 500mm x 1kg
 1.6mm x 1000mm x 2kg
 2.0mm x 1000mm x 2kg
 2.4mm x 1000mm x 2kg

Approvals:

TÜV, ABS

Reference / date:

NST TIG ERNiCrMo-13(A59),
 English, 28.11.2012

Perfect Welding

www.nst.no

Electrodes for non- and low alloyed steels



NST E-6013

NST E-7016

NST E-7018

NST E-7024

NST 7016S

NSSW 16V

NSSW TW-50

Electrodes.



Storage and re-drying.

Storage

Coated electrodes should be stored in it's original packaging/ container until use.

The withdrawal of electrode packages from stock should be based on the "first-in / first-out" principle.

In order to prevent humidity-induced damage, the electrodes should be stored under climatically controlled conditions with ideal temperatures between 17 and 25°C and a maximum relative air humidity of 60%.

Recommended maximum storage time is 3 years.

Re-drying

Electrodes needs re-drying before use.

The recommended temperature and period of time are indicated on the electrode packaging labels and technical specification.

Electrodes in vacuum-packed or sealed containers does not need re-drying provided the original packaging seal is unbroken.

No special storage climate control is necessary for these electrodes.

Electrodes exhibiting poor arc-stability, heavy spatter or slag removal difficulties have probably been damaged by moisture pick-up.

In these cases good welding properties can only be restored by re-drying.

It is recommended that the re-drying process takes place immediately prior to welding.

For basic coated and high alloyed electrodes it is recommended using heated electrode quivers during welding.

NST E 6013

AWS: A5.1 E 6013

EN ISO 2560-A: E 42 0 1RC 11



Rutile all round electrode for welding low and unalloyed steels.

General description:

NST E 6013, is a thick coated rutile-cellulose type electrode for welding low and unalloyed steels. Suitable for welding constructions, maintenance and repairing purposes. Excellent welding properties in all welding positions.

Welding positions:



Welding current:

DC+/-/AC

Redrying:

140 °C/1 hour

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S					
0,08	0,45	0,65	<0,035	<0,035					

Diffusible hydrogen content (ml/100g):

Mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test	
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) 0 °C	
≥420	500-640	≥22	≥47	

Guidance - Ampere (DC+/-/AC):

Electrode diameter	2,5 mm	3,2 mm	4,0 mm
Ampere / Volt	60-85	90-135	130-170

Packaging information:

2,0 x 300 2,0kg pack, carton 12,0kg
2,5 x 350 2,0kg pack, carton 12,0kg
3,2 x 350 2,0kg pack, carton 12,0kg
4,0 x 350 2,0kg pack, carton 12,0kg

Approvals:

TÜV,

Reference / date:

NST E 6013, English,
23.11.2011.

Perfect Welding

www.nst.no

NST E 7016

AWS: A5.1 E 7016

EN ISO 2560-A: E 42 4 B 12 H10



All round rutile-basic electrode for welding unalloyed steels.

General description:

NST E 7016, is a double coated, basic CTOD-tested electrode with excellent welding properties suitable for welding in difficult positions, with the exception of vertical down (PG).

It has a stable welding arc even at low current settings. Ignites and re-ignites easily.

Very suitable for welding root-runs with DC and AC currents.

Welding positions:



Welding current:

DC+/AC

Redrying:

380 °C/1 hour

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S					
0,05	0,65	1,00	<0,035	<0,035					

Diffusible hydrogen content (ml/100g):

Mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test	
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -40 °C	
≥420	500-640	≥22	≥47	

Guidance - Ampere (DC+/AC):

Electrode diameter	2,5 mm	3,2 mm	4,0 mm
Ampere / Volt	60-90	90-140	140-190

Packaging information:

2,0 x 300 2,0kg pack , carton 12,0kg

2,5 x 350 2,0kg pack , carton 12,0kg

3,2 x 450 2,4kg pack , carton 14,4kg

4,0 x 450 2,6kg pack , carton 15,6kg

Approvals:

DNV, TÜV,

Reference / date:

NST E 7016,
English, 23.11.2011.

Perfect Welding

www.nst.no

NST E 7018

AWS: A5.1 E7018

EN ISO 2560-A: E 42 4 B 32 H5



Basic electrode for welding unalloyed and fine grained steels.

General description:

NST E 7018 is a basic, CTOD tested electrode with excellent welding characteristics, recommended for welding structural steels and steel castings with tensile strength up to 610 N/mm², and fine grained steels with increased yield strength.

Weld metal Deposits have a very low hydrogen content (HD < 5 ml/100 g).

Excellent welding properties in difficult positions, except vertical down (PG).

Efficiency of approximately 120%.

Welding positions:



Welding current:

DC+/AC

Redrying:

400 °C/1 hour

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S					
0,07	0,60	1,00	<0,035	<0,035					

Diffusible hydrogen content (ml/100g):

Mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test	
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -40 °C	
≥420	500-640	≥22	≥47	

Guidance - Ampere (DC+/AC):

Electrode diameter	2,5 mm	3,2 mm	4,0 mm
Ampere / Volt	65-90	110-140	140-180

Packaging information:

2,0 x 300 1,8kg pack ,carton 10,8kg
2,5 x 350 2,0kg pack ,carton 12,0kg
3,2 x 450 2,4kg pack ,carton 14,4kg
4,0 x 450 2,7kg pack, carton 16,2kg
5,0 x 450 2,7kg pack, carton 16,2kg

Approvals:

DNV, TÜV,

Reference / date:

NST E 7018,
English, 23.11.2011.

Perfect Welding

www.nst.no

NST E 7024

AWS: A5.1 E7024

EN ISO 2560-A: E 42 0 RR 74



Rutile high efficiency electrode for welding unalloyed steel.

General description:

NST E 7024 is a high efficiency, rutile electrode for high productivity welding in heavy fabrications and ordinary structural steels, exhibiting excellent welding properties.

Very good choice for vertical fillet welding.

Tensile strength up to 510 N/mm² and approximately 200% efficiency.

Welding positions:



Welding current:

DC-/AC

Redrying:

250 °C/1 hour

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S					
0,08	0,30	0,75	<0,035	<0,035					

Diffusible hydrogen content (ml/100g):

Mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test	
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) 0 °C	
≥420	500-640	≥22	≥47	

Guidance - Ampere (DC-/AC):

Electrode diameter	3,2 mm	4,0 mm	5,0 mm
Ampere / Volt	130-180	180-220	240-290

Packaging information:

3,2 x 450 2,5kg pack, carton 15,0kg
4,0 x 450 2,5kg pack, carton 15,0kg
5,0 x 450 2,5kg pack, carton 15,0kg

Approvals:

DNV,

Reference / date:

NST E 7024,
English, 23.11.2011.

Perfect Welding

www.nst.no

NST 7016 S

AWS: SFA5.1 E 7016

EN 499: E 38 2 B 12 H10

DIN 1912 E 51 43 B R 10



Basic electrode for low and unalloyed steels of up to 600N/mm².

General description:

NST 7016 S is a multi-purpose electrode suitable for assembly work, workshop and repair welding. Smooth and clean welds which blend into base metal reducing the chances of undercut. Excellent gap bridging properties. Due to its double covering, the electrode has a stable and concentrated arc and is therefore ideally suited for root pass and positional welding.

Welding positions:



Welding current:

DC+/AC

Redrying:

330 °C/2 hours.

Typical chemical composition of all-weld-metal:

C	Si	Mn						
0,06	0,70	0,90						

Diffusible hydrogen content (ml/100g):

Mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -20 °C
≥380	470-600	≥20	≥100

Guidance - Ampere (DC+/AC):

2,0 mm	2,5 mm	3,2 mm	4,0 mm
55-65 A	60-90 A	90-150 A	140-190 A

Packaging information:

2,0 x 300 2,0kg pack , carton 12,0kg
2,5 x 350 2,0kg pack , carton 12,0kg
3,2 x 450 2,4kg pack , carton 14,4kg
4,0 x 450 2,6kg pack , carton 15,6kg

Approvals:

DNV, TÜV, UDT, ABS, BV, GL, LR,
MRS, Controlas,

Reference / date:

NST 7016 S, English,
31.01.2013.

Perfect Welding

www.nst.no

NSSW 16V

AWS: A5.1: E7048



Basic electrode for welding unalloyed steels in the vertical downward(PG) position.

General description:

NSSW (Nittetsu) 16V is a low hydrogen type electrode designed especially for vertical down butt and fillet welding.

Welding efficiency is twice as high as vertical up welding since a high current is used.

Deposited metal shows high crack resistance and excellent mechanical properties and therefore is applicable for various types of steel.

Easy slag removal.

Also suitable for tack welding, and welding over using the MIG/MAG process.

Welding positions:



Welding current:

AC/DC+

Redrying:

300 °C/1 hour

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S					
0,08	0,53	0,84	0,014	0,011					

Diffusible hydrogen content (ml/100g):

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test	
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -20 °C	Charpy V (J) 0 °C
440	540	33	158	170

Guidance - Ampere (AC/DC+):

Electrode diameter	3,2 mm	4,0 mm	
Ampere / Volt	100-150	160-210	

Packaging information:

3,2 x 400mm pr. pack 5,0kg, pr. carton 20,0kg
4,0 x 450mm pr. pack 5,0kg, pr. carton 20,0kg

Approvals:

NK, ABS, LR, DNV, BV,

Reference / date:

NSSW 16V,
English, 14.01.2014.

Perfect Welding

www.nst.no

NSSW TW-50

AWS: A5.1: E7048



Basic low hydrogen electrode for tack welding unalloyed steels.

General description:

NSSW (Nittetsu) TW-50 is a low hydrogen type electrode for tack welding in all positions of mild steels and 490 N/mm² high tensile strength steels for ships, structures and bridges.

Crack resistance, slag removal and resistance to moisture absorption are excellent.

Ignites and re-ignites easily.

Vertical downward welding is easy and assures high efficiency using the same current as flat position.

The weld deposit is suitable to be welded over by a mechanised or manual MIG/MAG process.

Welding positions:



Welding current:

AC/DC+

Redrying:

300 °C/1 hour

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S					
0,08	0,45	1,02	0,010	0,007					

Diffusible hydrogen content (ml/100g):

Typical mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test	
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) -20 °C	Charpy V (J) 0 °C
460	530	32	126	160

Guidance - Ampere (AC/DC+):

Electrode diameter	3,2 mm	4,0 mm	5,0 mm
Ampere / Volt	110-170	140-230	200-290

Packaging information:

3,2 x 350mm pr. pack 5,0kg, pr. carton 20,0kg
4,0 x 400mm pr. pack 5,0kg, pr. carton 20,0kg
5,0 x 450mm pr. pack 5,0kg, pr. carton 20,0kg

Approvals:

NK, ABS, LR, DNV, BV,

Reference / date:

NSSW TW-50,
English, 14.01.2014.

Perfect Welding

www.nst.no

Electrodes for high alloyed steels



NST E-309L

NST E-316L

NST E-309MoL

NST E 309L

AWS: A5.4 E 309L-17

EN 1600: E 23 12 LR 32



Rutile low carbon electrode for welding heat resistant steels.

General description:

NST E 309L is a rutile, low carbon electrode for welding analogous, heat resistant steels and steel castings. Scaling resistant up to 1000 °C. Suitable for joining dissimilar steels (unalloyed steels with stainless steels), welding steam boiler constructions, hardening plants, crude oil and ceramics industries. Also suitable for buffer layers. Excellent welding properties in all welding positions, except vertical down ward (PG).

Welding positions:



Welding current:

DC+/AC

Redrying:

300 °C/2 hours

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Cr	Ni			
0,04	0,90	0,70	<0,035	<0,025	23,0	13,0			

Ferrite content:

FN \approx 15

Mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test	
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) +20 °C	
\geq 320	550-650	\geq 30	\geq 47	

Guidance - Ampere (DC+/AC):

Electrode diameter	2,5 mm	3,2 mm	4,0 mm
Ampere / Volt	40-80	70-100	110-160

Packaging information:

2,0 x 250 1,75kg pack, carton 10,2kg
2,5 x 300 2,00kg pack, carton 10,2kg
3,2 x 350 2,25kg pack, carton 12,6kg
4,0 x 350 2,25kg pack, carton 13,2kg

Approvals:

Reference / date:

NST E 309L,
English, 23.01.2014.

Perfect Welding

www.nst.no

NST E 316L

AWS: A5.4 E 316L-17

EN 1600: E 19 12 3 LR 12



Rutile electrode for welding stainless 316 steels.

General description:

NST E 316L is an austenitic rutile, low carbon electrode for welding non-stabilised and stabilised stainless steels.
Resistant to inter-granular corrosion up to 350 °C, resistant to oxidation up to 800°C, and good low-temperature ductility down to -120°C.
Excellent welding properties in all welding positions, except vertical down (PG).
Also suitable for 304 steels.

Welding positions:



Welding current:

DC+/AC

Redrying:

300 °C/2 hours

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Cr	Ni	Mo		
≤0,03	0,80	0,70	<0,030	<0,025	18,5	11,5	2,7		

Ferrite content:

FN≈8

Mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test	
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) +20 °C	
≥320	≥510	≥30	≥47	

Guidance - Ampere (DC+/AC):

Electrode diameter	2,5 mm	3,2 mm	4,0 mm
Ampere / Volt	50-85	70-125	110-165

Packaging information:

2,0 x 300 1,75kg pack, carton 10,2kg
2,5 x 350 2,00kg pack, carton 10,2kg
3,2 x 450 2,20kg pack, carton 12,6kg
4,0 x 450 2,20kg pack, carton 13,2kg

Approvals:

TÜV,

Reference / date:

NST E 316L,
English, 23.01.2014.

Perfect Welding

www.nst.no

NST E 309MoL

AWS: A5.4 ≈E 309MoL-17

EN 1600: E 23 12 2 LR 32



Rutile low carbon molybdenum electrode for welding heat resistant steels.

General description:

NST E 309MoL is a rutile, low carbon electrode for welding analogous, heat resistant steels and steel castings. Scaling resistant up to 1000 °C. Suitable for joining dissimilar steels (unalloyed steels with stainless steels), welding steam boiler constructions, hardening plants, crude oil and ceramics industries. Also suitable for buffer layers. Excellent welding properties in all welding positions, except vertical down (PG).

Welding positions:



Welding current:

DC+/AC

Redrying:

300 °C/2 hours

Typical chemical composition of all-weld-metal:

C	Si	Mn	P	S	Cr	Ni	Mo		
0,04	0,80	0,60	<0,030	<0,025	23,0	13,0	3,0		

Ferrite content:

FN≈20

Mechanical properties of all-weld-metal:

Yield and Tensile Strengths			Charpy Impact Test
Yield Mpa	Tensile Mpa	Elongation %	Charpy V (J) +20 °C
≥350	≥550	≥25	≥47

Guidance - Ampere (DC+/AC):

Electrode diameter	2,5 mm	3,2 mm	4,0 mm
Ampere / Volt	40-80	70-100	110-160

Packaging information:

2,0 x 250 1,75kg pack, carton 10,2kg
2,5 x 300 2,00kg pack, carton 10,2kg
3,2 x 350 2,25kg pack, carton 12,6kg
4,0 x 350 2,25kg pack, carton 13,2kg

Approvals:

TÜV,

Reference / date:

NST E 309MoL,
English, 23.01.2014.

Perfect Welding

www.nst.no

Ceramic backing



Kerback FS Backing

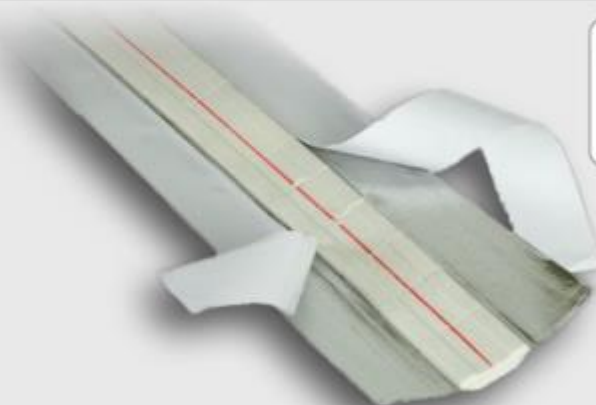
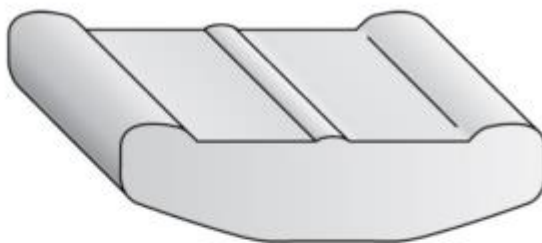


- Flat backing.
- Square groove for butt welding.
- Supplied on alutape.

Dimensions/weight:

FS (Flat type / Square groove)	Total width	Groove width	Groove depth	Total length	Length piece	Length per box	Weight per box
Kerback FS 271412 T	27mm	14mm	1,2mm	60cm	27mm	18m	7,6kg
Kerback FS 271815 T	27mm	18mm	1,5mm	60cm	24mm	18m	7,7kg
Kerback FS 401805 T	40mm	18mm	0,5mm	60cm	27mm	12m	7,9kg
Kerback FS 502510 T	50mm	25mm	1,0mm	60cm	24mm	12m	9,5kg

Design:



Reference/date:

Kerback FS, English, 24.11.2011.

Perfect Welding

www.nst.no

Kerback FR Backing

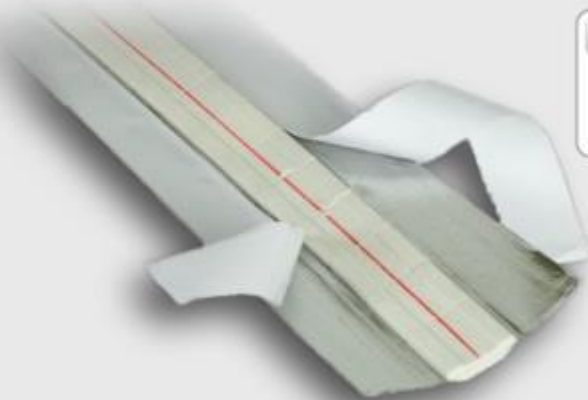
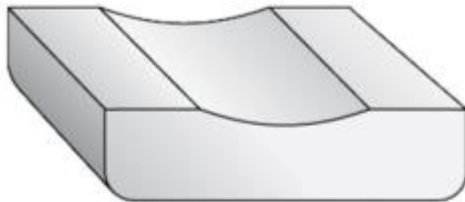


- Flat backing.
- Round groove for butt welding.
- Supplied on alutape.

Dimensions/weight:

FR (Flat type / Round groove)	Total width	Groove width	Groove depth	Total length	Length piece	Length per box	Weight per box
Kerback FR 221215 T	22mm	12mm	1,5mm	60cm	24mm	24m	7,4kg
Kerback FR 270613 T	27mm	6.0mm	1,3mm	60cm	27mm	18m	8,2kg
Kerback FR 271009 T	27mm	10mm	0,9mm	60cm	27mm	18m	7,7kg
Kerback FR 271313 T	27mm	13mm	1,3mm	60cm	27mm	18m	7,8kg
Kerback FR 301615 T	30mm	16mm	1,5mm	60cm	24mm	18m	7,8kg
Kerback FR 361805 T	36mm	18mm	0,5mm	60cm	27mm	18m	11,1kg

Design:



Reference/date:

Kerback FR, English, 24.11.2011.

Kerback RAD Backing

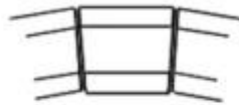
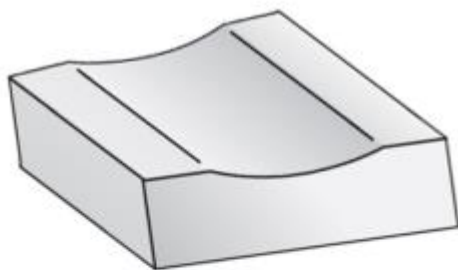


- Radius backing covering 30°, 45°, 60° and 360°.
- Perfect for manholes etc.
- 30°, 45°, 60° units consists of 3 smaller backing pieces.
- Supplied with alutape.

Dimensions/weight:

RAD (RADius backing)	Covers area	Groove width	Groove depth	Total length	Length piece	Pcs. per box	Weight per box
Kerback RAD075 T	60°	-	-	-	31mm	65pcs	5,0kg
Kerback RAD100 T	60°	-	-	-	26mm	65pcs	6,5kg
Kerback RAD150 T	45°	-	-	-	21mm	45pcs	7,2kg
Kerback RAD200 T	45°	-	-	-	26mm	45pcs	9,9kg
Kerback RAD300 T	30°	-	-	-	39mm	45pcs	7,7kg
Kerback Radius 100 360° T	360°	-	-	-	Ø10cm	11pcs	3,4kg
Kerback Radius 150 360° T	360°	-	-	-	Ø15cm	9pcs	4,0kg
Kerback Radius 200 360° T	360°	-	-	-	Ø20cm	8pcs	4,7kg
Kerback Radius 300 360° T	360°	-	-	-	Ø30cm	6pcs	5,0kg

Design:



Reference/date:

Kerback RAD, English, 14.01.2013.

Kerback RD Backing



- Round backing.
- For T-butts, K-, 1/2V and butt X-joints.
- Supplied on alutape.

Dimensions/weight:

RD (Round backing)	Total width	Groove width	Groove depth	Total length	Length piece	Length per box	Weight per box
Kerback RD 0602 T	6mm	-	-	60cm	25mm	45m	5,0kg
Kerback RD 0802 T	8mm	-	-	60cm	25mm	48m	6,5kg
Kerback RD 1002 T	10mm	-	-	60cm	25mm	36m	7,2kg
Kerback RD 1202 T	12mm	-	-	60cm	25mm	36m	9,9kg
Kerback RD 1501 T	15mm	-	-	60cm	25mm	18m	7,7kg
Kerback RD 2002 T	20mm	-	-	60cm	25mm	12m	8,2kg

Design:



Reference/date:

Kerback RD, English, 11.10.2013.

Kerback Special Backing



- Special backing.
- Supplied on alutape.

Dimensions/weight:

Special (Special backing)	Total width	Groove width	Groove depth	Total length	Length piece	Length per box	Weight per box
Kerback F25B T	25mm	-	-	60cm	6mm	49m	14,3kg
Kerback FAR 271220 T	27mm	-	-	60cm	27mm	18m	7,1kg
Kerback TJ 2101 T	21mm	-	-	60cm	25mm	36m	14,7kg
Kerback TJ 2701 T	27mm	-	-	60cm	27mm	18m	12,5kg
Kerback TR 1301 T	13mm	-	-	60cm	13mm	45,5m	13,0kg

Design:

F25B T



Flat flexible backing for welding bulb bars etc.

FAR



Groove designed for horizontal butt welding

TJ



Backing for T-butt $\frac{1}{2}$ V-joint.

TR



Backing for butt, K and X-joints.

Reference/date:

Kerback Special, English, 24.11.2011.

Kerback Glasback 3530



- Fibreglass backing 35mm wide, mainly for use with SAW welding.
- Easy to mount.
- No alutape.

Dimensions/weight:

	Width	Thickness	Length per bag	Weight per bag
Kerback Glasback 3530	35mm	3mm	550m	85,0kg

Design/Bruksområde:



Reference/date:

Kerback Glasback 3530 , English,
24.11.2011.

Kerback Magnback 2501



- Magnetic clamp, 250mm.
- Holds metal tray backing and standard alu foil backing mounted tightly to magnetic ground plate.

Dimensions/weight:

	Length	Width	Height	Magnet Height	Pcs per box	Weight per box
Kerback Magnback 2501	250mm	50mm	1,0mm	6,0mm	23stk	3,8kg

Design:



Reference/date:

Kerback Magnback 2501, English,
24.11.2011.

NST gouging electrodes



NST Air carbon arc electrodes



For gouging non-, low- and high alloyed steels.

Product description:

NST air carbon arc electrodes is made from the best raw materials, under strict quality control. The electrodes are copperclad to ensure optimal conductivity. Superior metal removal rates, cool operation, and uniform diameters. Jointed version also available, machined at each end to provide male and female fittings.

Ideal for a broad range of applications:

- Creating u-grooves for weld joint
- Removing old welds
- Gouging out cracks
- Cleaning and repairing castings
- Removing hard surface material
- Rough machining

Positions:



Current:

DC+

Data:

Type	Diameter/length (mm)	Diameter/length (inches)	Guidance (Ampere)	Packing details (pcs/carton)
Round/pointed				
4 mm	4,0 x 305	5/32 x 12	90 - 150	500
6 mm	6,5x305	1/4 x 12	300 - 400	500
8 mm	8,0x305	5/16 x 12	350 - 450	500
10 mm	10x305	3/8 x 12	450 - 550	500
13 mm	13x355	1/2 x 14	600 - 1000	200
Jointed				
13 mm	13x355	1/2 X 14	600 - 1000	200
Rectangular				
15 mm	15 x 5 x 305	5/8 x 3/16 x 12	450 - 550	250
20 mm	20 x 5 x 305	3/4 x 3/16 x 12	550 - 600	250

Reference / date:

NST Air carbon arc electrodes,
English, 24.11.2011.

Wire feeding systems



Dura-Dome® 20



Dome for drums 200-250kg.

Product description:

Dura-Dome® 20, Fast 'N Easy® dome.
For drums 51,3cm til 52,1cm



Order nr: A 1669

Reference/date:

Dura-Dome 20,
English, 24.11.2011.

Perfect Welding

www.nst.no

Straight 'N Easy® Wire straightener



Wire straightener for pay-out systems.

Product description:

Wire straightener for wires 0,6mm-3,2mm.



Order nr: A 1932

Reference/date:

StraightnEasy Wire straightener,
English, 24.11.2011.

Perfect Welding

www.nst.no

Pay-out systems



Connectors and conduits .

Product description:

Dome connector kit for centric dome attachment.

Size: 9/16" (14,3mm) to 7/8" (22mm) diameter.



Order nr: A-1826

Product description:

HQCA adaptor kit

Size: 3/8" (9,5mm) to 7/8" (22mm) diameter.



Order nr: A-1827-1

Product description:

QCC Coupler with insulating sleeve and retaining strap. Double sided female quick connector, ideal for extending conduit systems



Order nr: A-1810

Product description:

Conduit 108" (2,75m). With swaged-on male bayonet quick connection terminations.



Order nr: QCC 108

Product description:

Conduit 240" (6.10m) With swaged-on male bayonet quick connection terminations.



Order nr: QCC 240

Reference/date:

Connectors and conduits, English, 24.11.2011.

Pay-out systems



Connectors and conduits .

Product description:

Bulk conduit 90' (27,40m).
Without terminations.



Order nr: A-2046

Product description:

Male connector for bulk conduit
(ferrule included).



Order nr: A-1831

Product description:

Ferrule.



Order nr: A-1646

Product description:

Lincoln® Bayonet male quick
connector for wire straightener.



Order nr: A-1791

Product description:

Lincoln® female quick connector
for wire straightener.



Order nr: A-1886

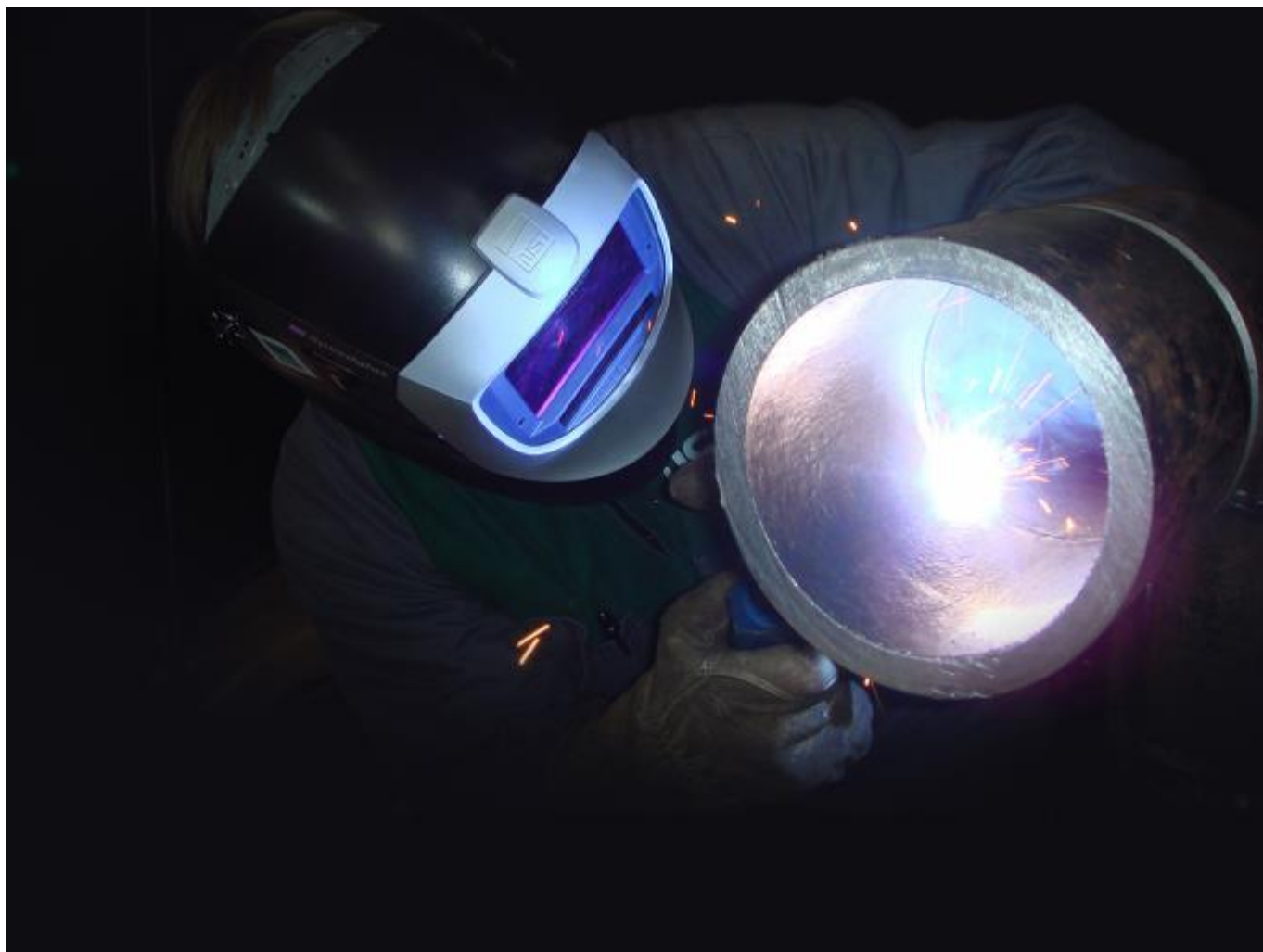
Reference/date:

Connectors and conduits 2,
English, 24.11.2011.

Perfect Welding

www.nst.no

Welding parameters/guidance values



NSSW SF-1A/SF-3A/SF-3AM



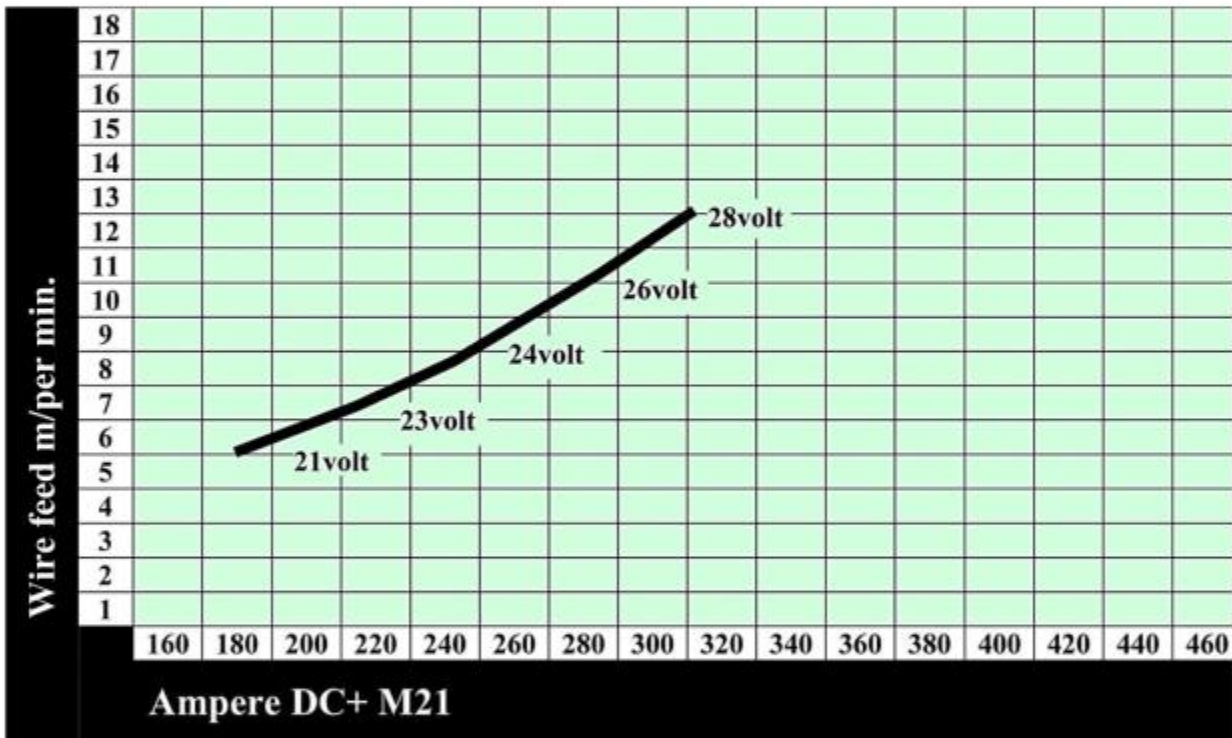
Welding parameters

Example:

Wire feed m/per min.	Volt	Amp
5	21-22	170 -180
8	23-24	225 -235
10	26	250 -270
12	28	290 -310

Wire stick out approx. 20-25mm

Guidance values SF-1A / SF-3A / SF-3AM \varnothing 1,2mm



The variation of wire stick out changes the ampere readings.
A shorter stick out gives a higher reading, and a longer stick out gives you a lower reading.

Example: 5mm shorter/longer stick out gives a variation of approx. 20 ampere.

Be aware that a welding machines volt meter is not always exact, and often gives a higher reading than the actual welding arc voltage, this is mainly because of the voltage drop in welding cables.

NSSW SF-1A/SF-3A/SF-3AM



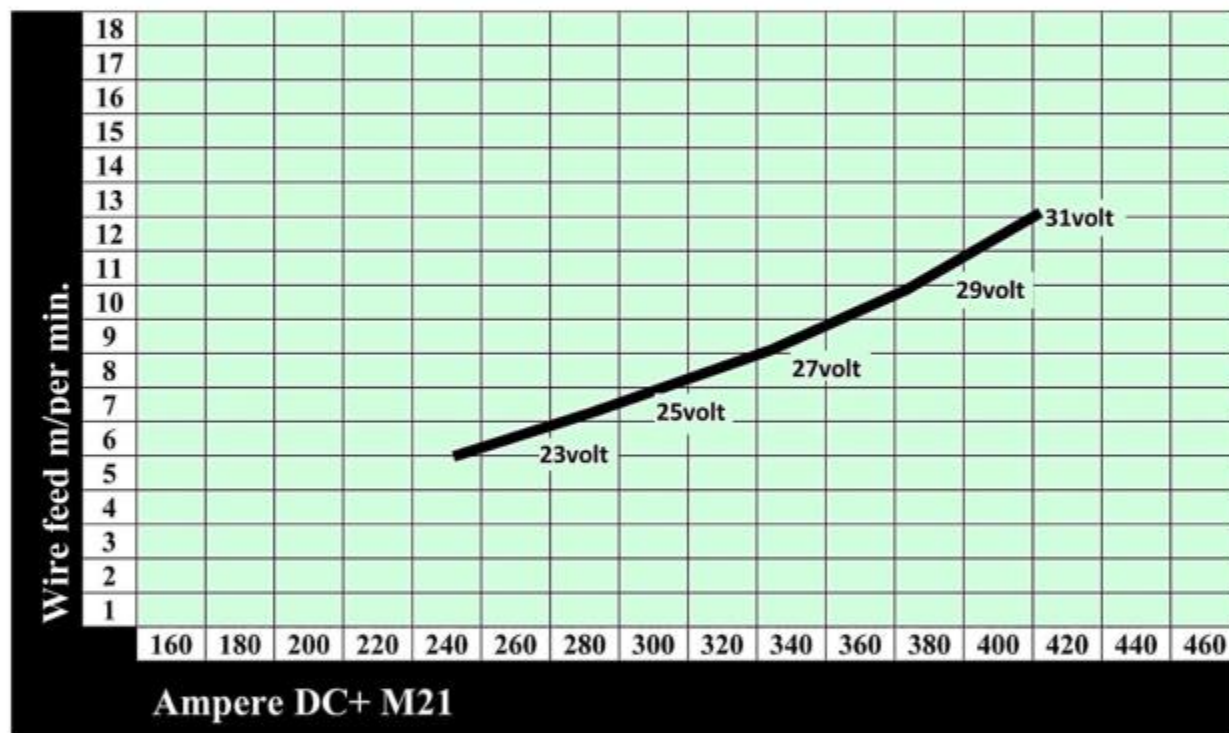
Welding parameters

Example:

Wire feed m/per min.	Volt	Amp
6	24-25	240 -260
8	26-27	315 - 325
10	29-30	365 - 375
12	31-32	400 - 410

Wire stick out approx. 20-25mm

Guidance values SF-1A / SF-3A / SF-3AM \varnothing 1,4mm



The variation of wire stick out changes the ampere readings.
A shorter stick out gives a higher reading, and a longer stick out gives you a lower reading.

Example: 5mm shorter/longer stick out gives a variation of approx. 20 ampere.

Be aware that a welding machines volt meter is not always exact, and often gives a higher reading than the actual welding arc voltage, this is mainly because of the voltage drop in welding cables.

NSSW SF-1E



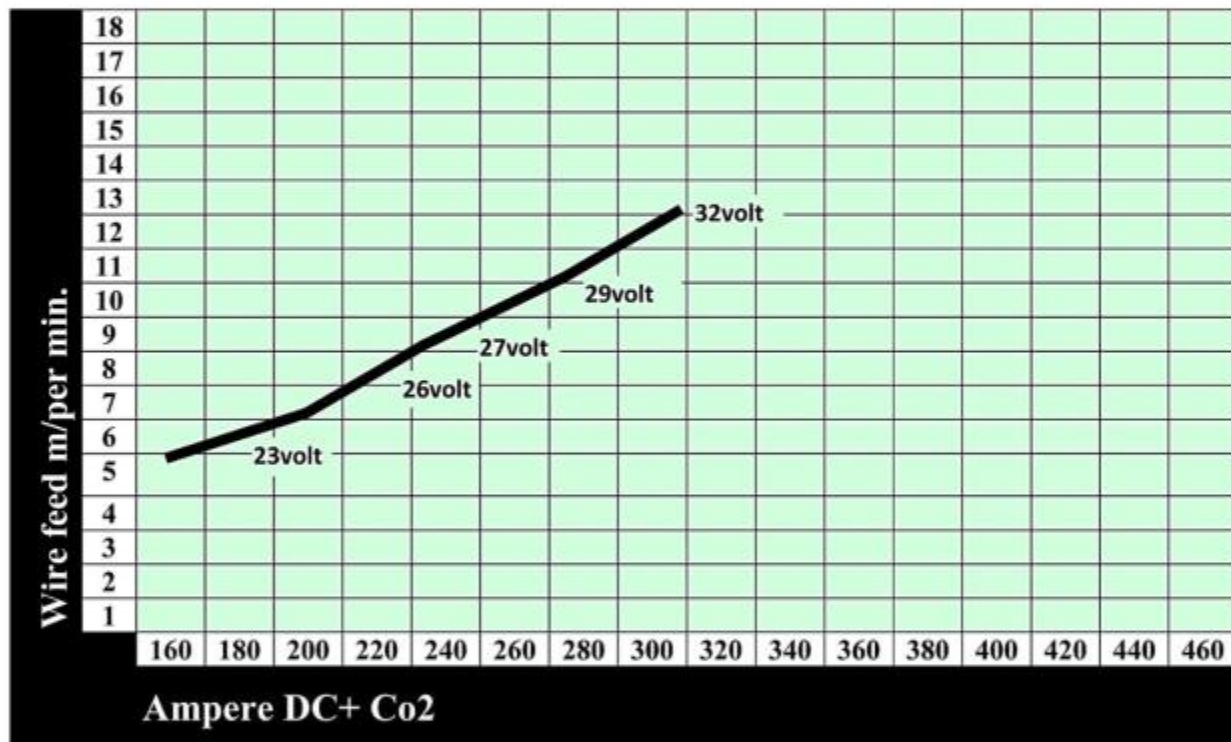
Welding parameters

Example:

Wire feed m/per min.	Volt	Amp
5,0	22,5- 24,5	150 - 160
6,5	24,5- 26,5	185 - 195
8	26,0-28,0	220 - 230
10	28,0 - 30,0	250 - 260
12	31,0 - 33,0	290 - 300

Wire stick out approx. 15-20mm

Guidance values SF-1E \varnothing 1,2mm



The variation of wire stick out changes the ampere readings.
A shorter stick out gives a higher reading, and a longer stick out gives you a lower reading.

Example: 5mm shorter/longer stick out gives a variation of approx. 20 ampere.

Be aware that a welding machines volt meter is not always exact, and often gives a higher reading than the actual welding arc voltage, this is mainly because of the voltage drop in welding cables.

NSSW SM-3A



Welding parameters

Example:

Wire feed m/per min.	Volt	Amp
1,6 - 1,7	14	70
2,0	14,5	110
2,5	14,5 - 15	130 - 140

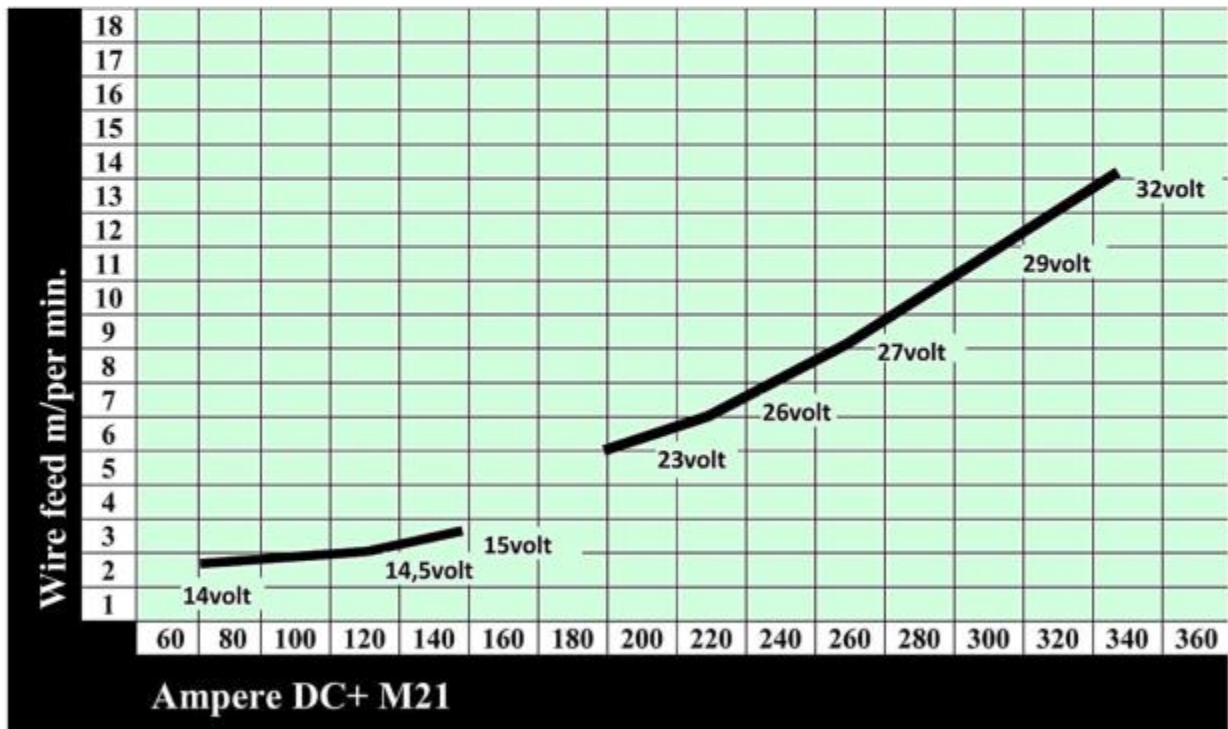
Wire stickout approx. 15mm

Wire spool inductance is significant in dip transfer mode, and values may have to be adjusted to achieve a stable welding arc.

Wire feed m/per min.	Volt	Ampere
5,0	22,5- 25,5	180 - 190
6,0	24,5- 26,5	210 - 220
8,0	26,0-28,0	250 - 260
11,0	29,0 - 31,0	290 - 300
13,0	30,0 - 32,0	320 - 330

Wire stick out approx. 15-20mm

Guidance values SM-3A \varnothing 1,2mm



The variation of wire stick out changes the ampere readings.

A shorter stick out gives a higher reading, and a longer stick out gives you a lower reading. Example: 5mm shorter/longer stick out gives a variation of approx. 20 ampere. Be aware that a welding machines volt meter is not always exact, and often gives a higher reading than the actual welding arc voltage, this is mainly because of the voltage drop in welding cables.

NSSW SM-3A



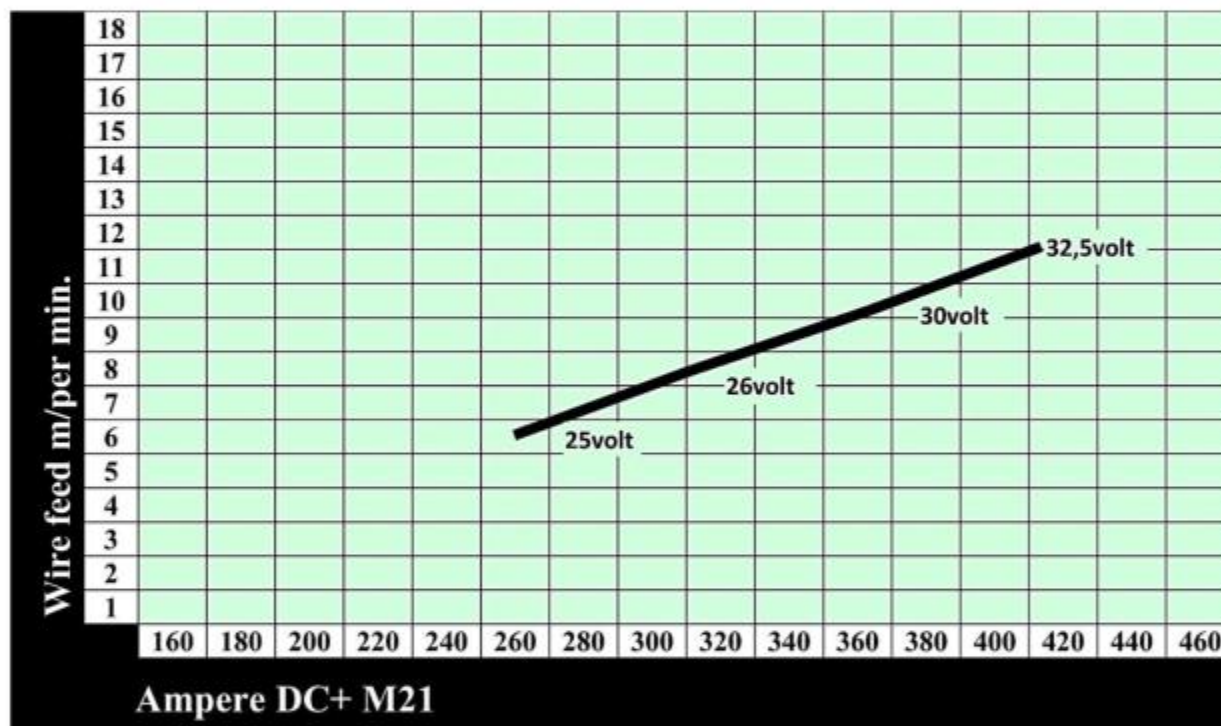
Welding parameters

Example:

Wire feed m/per min.	Volt	Amp
5,5	25	250
7,0	26	300
9,0	30	350
10,8	32,5	400

Wire stick out approx. 20-25mm

Guidance values SM-3A \varnothing 1,4mm



The variation of wire stick out changes the ampere readings.

A shorter stick out gives a higher reading, and a longer stick out gives you a lower reading.

Example: 5mm shorter/longer stick out gives a variation of approx. 20 ampere.

Be aware that a welding machines volt meter is not always exact, and often gives a higher reading than the actual welding arc voltage, this is mainly because of the voltage drop in welding cables.

NST 316LT/309LT/309MoL



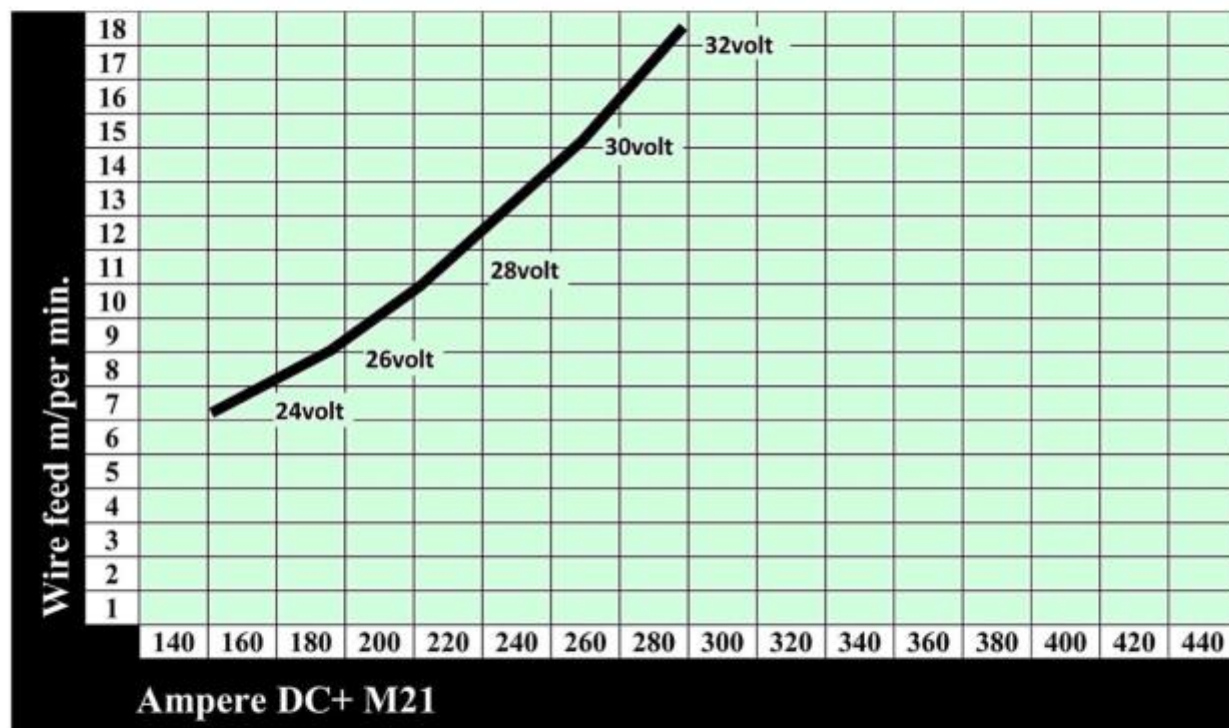
Welding parameters

Example:

Wire feed m/per min.	Volt	Ampere
6,0	24 - 25	140 - 150
8,0	26 - 27	170 - 175
10,5	28 - 29	200 - 210
14,5	29 - 30	245 - 250
18,0	31 - 32	275 - 280

Wire stick out approx. 15-20mm

Guidance values NST 316LT/309LT/309MoL \varnothing 1,2mm



The variation of wire stick out changes the ampere readings.

A shorter stick out gives a higher reading, and a longer stick out gives you a lower reading.

Example: 5mm shorter/longer stick out gives a variation of approx. 20 ampere.

Be aware that a welding machines volt meter is not always exact, and often gives a higher reading than the actual welding arc voltage, this is mainly because of the voltage drop in welding cables.

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