

## Solid Wires (MAG 、MIG 、TIG)

- For 490N/mm<sup>2</sup> High Tensile Steel.....3-1
- For  $\geq 550$ N/mm<sup>2</sup> High Tensile Steel.....3-8
- For Heat Resistant Steel.....3-10
- For Stainless Steel.....3-12
- For Nickel and Nickel Alloy.....3-29



# 3

# SMG-4

AWS A5.18 ER70S-4  
JIS Z3312 G 49 A 3 U C 4  
EN ISO 14341-A G 42 3 C G3Si1

## MIG WIRES FOR 490N/mm2 HIGH TENSILE STEEL

### DESCRIPTION :

SMG-4 is a copper coated manganese-silicone wire for butt or fillet MAG weld. Carbon is carbonising of mild steel and 490N/mm<sup>2</sup> grade steel. It is used for short-circuiting arc welding at higher speed on thin plates. One-side welding can be performed with ceramic backing tape. welding It performs with smooth wire feeding, stable arc and low spatter level.

### APPLICATIONS :

It is for welding of general fabrication, pressure vessels, structural work and light to medium gauge sheet, pipe and tubular steels.

### NOTE ON USAGE :

1. Wire-stick-out must be kept between 15 ~ 25mm.
2. Use 100% CO<sub>2</sub> as shielding gas.

### WELDING POSITION:



### TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: 100% CO<sub>2</sub>)

Weld Metal Analysis :

Carbon (C)	0.10
Manganese (Mn)	1.36
Silicon (Si)	0.70
Phosphorus (P)	0.013
Sulphur (S)	0.006

### TYPICAL MECHANICAL PROPERTIES OF WELD METAL: (Shielding Gas: 100% CO<sub>2</sub>)

YP N/mm <sup>2</sup>	470
TS N/mm <sup>2</sup>	540
EL%	28

### TYPICAL IMPACT VALUES :

IV -30°C J	62.0
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### APPROVALS :

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### SUGGESTED WELDING PARAMETERS (DC <+>)

Size (mm)	0.8	0.9	1.0	1.2	1.6
Current (Amp)	50 ~ 180	50 ~ 200	80 ~ 250	100 ~ 350	250 ~ 500

# SMG-6

AWS A5.18 ER70S-6  
JIS Z3312 G 49 A 3 U C 6  
EN ISO 14341-A G 42 3 C G4Si1

## MIG WIRES FOR 490N/mm2 HIGH TENSILE STEEL

### DESCRIPTION :

SMG-6 is a copper coated manganese-silicone wire for butt or fillet MAG welding of mild steel and 490N/mm2 grade steel. It performs with smooth wire feeding, stable arc and low spatter level.

### APPLICATIONS :

It is for welding of general fabrication, pressure vessels, structural work and light to medium gauge sheet, pipe and tubular steels.

### NOTE ON USAGE :

1. Wire-stick-out must be kept between 15 ~ 25mm.
2. Use 100% CO2 as shielding gas.

### WELDING POSITION:



### TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: 100% CO2)

Weld Metal Analysis :

Carbon (C)	0.08
Manganese (Mn)	1.53
Silicon (Si)	0.88
Phosphorus (P)	0.018
Sulphur (S)	0.008

### TYPICAL MECHANICAL PROPERTIES OF WELD METAL: (Shielding Gas: 100% CO2)

YP N/mm2	450
TS N/mm2	550
EL%	30

### TYPICAL IMPACT VALUES :

IV -30°C J	52
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### APPROVALS :

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### SUGGESTED WELDING PARAMETERS (DC <+>)

Size (mm)	0.8	0.9	1.0	1.2	1.6
Current (Amp)	50 ~ 180	50 ~ 200	80 ~ 250	100 ~ 350	200 ~ 500

# SMG-8

AWS A5.18 ER70S-G  
JIS Z3312 G 49 A 3 U C 6  
EN ISO 14341-A G 42 3 C G 0

## MIG WIRES FOR 490N/mm2 HIGH TENSILE STEEL

### DESCRIPTION :

SMG-8 is a solid wire for MAG welding of mild steel and 490N/mm2 grade high tensile steel in butt or fillet position. While welded in thick plate, SMG-8 can provide higher deposition efficiency with less fume and good bead appearance.

### APPLICATIONS :

It is for welding of buildings, vehicles and bridges.

### NOTE ON USAGE :

1. Wire-stick-out must be kept between 15 ~ 25mm.
2. Use 100% CO<sub>2</sub> as shielding gas.

### WELDING POSITION:



### TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: 100% CO<sub>2</sub>)

Weld Metal Analysis :

Carbon (C)	0.07
Manganese (Mn)	1.48
Silicon (Si)	0.75
Phosphorus (P)	0.015
Sulphur (S)	0.008

### TYPICAL MECHANICAL PROPERTIES OF WELD METAL: (Shielding Gas: 100% CO<sub>2</sub>)

YP N/mm <sup>2</sup>	465
TS N/mm <sup>2</sup>	570
EL%	31.0

### TYPICAL IMPACT VALUES :

IV -30°C J	55.0
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### APPROVALS :

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### SUGGESTED WELDING PARAMETERS (DC <+>)

Size (mm)	1.0	1.2	1.4	1.6
Current (Amp)	50 ~ 220	100 ~ 350	150 ~ 450	250 ~ 550

# SMG-52

AWS A5.18 ER70S-2  
JIS Z3312 G 49 A 3 U C 2  
EN ISO 14341-A G 42 3 C G2Ti

## MIG WIRES FOR 490N/mm2 HIGH TENSILE STEEL

### DESCRIPTION :

SMG-52 is a copper coated manganese-silicon wire for welding of mild steel and 490 N/mm<sup>2</sup> grade steel. Adding on the slight aluminum(Al), titanium(Ti) and zirconium(Zr) metallic elements, the weldability is great on all-position pipe welding of root pass layer. It also has great impact value at -30°C degree.

### APPLICATIONS :

Suitable for pressure vessels, petro and chemical industry for root pass welding.

### NOTE ON USAGE :

1. Wire-stick-out must be kept between 15 ~ 25mm.
2. Use 100% CO<sub>2</sub> as shielding gas.

### WELDING POSITION:



### TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: 100% CO<sub>2</sub>)

Weld Metal Analysis :

Carbon (C)	0.038
Manganese (Mn)	1.21
Silicon (Si)	0.51
Phosphorus (P)	0.015
Sulphur (S)	0.008
Aluminum(Al)	0.06
Titanium(Ti)	0.08
Zirconium(Zr)	0.04

### TYPICAL MECHANICAL PROPERTIES OF WELD METAL: (Shielding Gas: 100% CO<sub>2</sub>)

YP N/mm <sup>2</sup>	474
TS N/mm <sup>2</sup>	545
EL%	29

### TYPICAL IMPACT VALUES :

IV -30°C J	90
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### APPROVALS :

### SUGGESTED WELDING PARAMETERS (DC <+>)

Size (mm)	0.8	0.9	1.0	1.2	1.6
Current (Amp)	50 ~ 180	50 ~ 200	80 ~ 250	100 ~ 350	250 ~ 500

# STG-50

AWS A5.18 ER70S-G  
JIS Z3316 YGT50  
EN ISO 636-A W 42 3 W0

## TIG RODS FOR 490N/mm2 HIGH TENSILE STEEL

### DESCRIPTION :

STG-50 is a copper coated manganese-silicone tig rod for welding of mild steel and 490N/mm2 grade steel, commonly used on butt or fillet welding of high pressure piping in shipbuilding, petro chemistry and thermal power plant etc.

### APPLICATIONS :

It is for all-position tig welding especially on root pass of pipe.

### NOTE ON USAGE :

1. Use pure Ar as shielding gas and DC <-> polarity.
2. Clean the surface of base metal to prevent contamination.

### WELDING POSITION:



### TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: Ar)

Weld Metal Analysis :

Carbon (C)	0.07
Manganese (Mn)	1.51
Silicon (Si)	0.78
Phosphorus (P)	0.013
Sulphur (S)	0.006

### TYPICAL MECHANICAL PROPERTIES OF WELD METAL: (Shielding Gas: Ar)

YP N/mm2	470
TS N/mm2	550
EL%	30

### TYPICAL IMPACT VALUES :

IV -30°C J	155
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### APPROVALS :

ABS

### SIZES AVAILABLE, LENGTH :

Size (mm)	1.2	1.6	2.0	2.4	3.2	4.0
Length (mm)	1000					

# STG-52

AWS A5.18 ER70S-2  
JIS Z3316 YGT50  
EN ISO 636-A W 42 3 W2Ti

## TIG RODS FOR 490N/mm<sup>2</sup> HIGH TENSILE STEEL

### DESCRIPTION :

SMG-52 is a copper coated manganese-silicon wire for welding of mild steel and 490 N/mm<sup>2</sup> grade steel. Adding on the slight aluminum(Al), titanium(Ti) and zirconium(Zr) metallic elements, the weldability is great on all-position pipe welding of root pass layer. It also has great impact value at -30°C degree.

### APPLICATIONS :

Suitable for pressure vessels, petro and chemical industry for root pass welding.

### NOTE ON USAGE :

1. Use pure Ar as shielding gas and DC <-> polarity.
2. Clean the surface of base metal to prevent contamination.

### WELDING POSITION:



### TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: Ar)

Weld Metal Analysis :

Carbon (C)	0.038
Manganese (Mn)	1.18
Silicon (Si)	0.49
Phosphorus (P)	0.013
Sulphur (S)	0.008
Aluminum(Al)	0.07
Titanium(Ti)	0.09
Zirconium(Zr)	0.05

### TYPICAL MECHANICAL PROPERTIES OF WELD METAL: (Shielding Gas: Ar)

YP N/mm <sup>2</sup>	480
TS N/mm <sup>2</sup>	561
EL%	29

### TYPICAL IMPACT VALUES :

IV -30°C J	120
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### APPROVALS :

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### SIZES AVAILABLE, LENGTH :

Size (mm)	1.2	1.6	2.0	2.4	3.2	4.0
Length (mm)	1000					

# STG-56

AWS A5.18 ER70S-6  
JIS Z3316 YGT50  
EN ISO 636-A W 42 3 W4Si1

## TIG RODS FOR 490N/mm2 HIGH TENSILE STEEL

### DESCRIPTION :

STG-56 is a copper coated manganese-silicone tig rod for welding of mild steel and 490 N/mm<sup>2</sup> grade steel. It is suitable for the first backing welding of pipe.

### APPLICATIONS :

It is used for welding mild and high tensile steel, such as shipbuilding, pressure vessels, vehicles, petro chemical, pipes of nuclear plant and other high pressure equipment.

### NOTE ON USAGE :

1. Use pure Ar as shielding gas and DC <-> polarity.
2. Clean the surface of base metal to prevent contamination.

### WELDING POSITION:



### TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: Ar)

Weld Metal Analysis :

Carbon (C)	0.090
Manganese (Mn)	1.44
Silicon (Si)	0.88
Phosphorus (P)	0.014
Sulphur (S)	0.009

### TYPICAL MECHANICAL PROPERTIES OF WELD METAL: (Shielding Gas: Ar)

YP N/mm <sup>2</sup>	461
TS N/mm <sup>2</sup>	570
EL%	28

### TYPICAL IMPACT VALUES :

IV -30°C J	105
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### APPROVALS :

ABS

### SIZES AVAILABLE, LENGTH :

Size (mm)	1.2	1.6	2.0	2.4	3.2	4.0
Length (mm)	1000					



# SMG-60

AWS A5.28 ER80S-G  
JIS Z3312 G 55 A 3 U C 3M1  
EN ISO 16834-A G 55 3 C Z

## TIG RODS FOR $\geq 550\text{N/mm}^2$ HIGH TENSILE STEEL

### DESCRIPTION :

SMG-60 is a solid wire of mild steel and 550N/mm<sup>2</sup> grade steel. It has great weldability, less spatter, stable arc and can adopt to wider range of current parameter.

### APPLICATIONS :

It is used for welding high tensile strength steel, such as steel construction, pressure vessels, vehicles and bridges.

### NOTE ON USAGE :

1. Wire-stick-out must be kept between 15 ~ 25mm.
2. Use 100% CO<sub>2</sub> as sheilding gas.

### WELDING POSITION:



### TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: Ar)

Weld Metal Analysis :

Carbon (C)	0.074
Manganese (Mn)	1.41
Silicon (Si)	0.73
Phosphorus (P)	0.013
Sulphur (S)	0.006
Molybdenum (Mo)	0.39

### TYPICAL MECHANICAL PROPERTIES OF WELD METAL: (Shielding Gas: Ar)

YP N/mm <sup>2</sup>	550
TS N/mm <sup>2</sup>	625
EL%	28.0

### TYPICAL IMPACT VALUES :

IV -30°C J	70.0
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### APPROVALS :

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### SUGGESTED WELDING PARAMETERS (DC <+>)

Size (mm)	0.8	0.9	1.0	1.2	1.6
Current (Amp)	50 ~ 180	50 ~ 200	80 ~ 250	100 ~ 350	250 ~ 500

# STG-60

AWS A5.28 ER80S-G  
JIS Z3316 YGT60  
EN ISO 16834-A W 55 3 A Z

## TIG RODS FOR $\geq 550\text{N/mm}^2$ HIGH TENSILE STEEL

### DESCRIPTION :

STG-60 is a solid wire for flat or horizontal fillet welding position of mild steel and 590N/mm<sup>2</sup> grade steel. An efficient welding and nice bead appearance can be obtained.

### APPLICATIONS :

It is used for welding high tensile strength steel, such as steel construction, pressure vessels, vehicles and bridges.

### NOTE ON USAGE :

1. Use pure Ar as shielding gas and DC <-> polarity.
2. E.S.O. must be kept between 15 ~ 25mm
3. Proper welding parameter shall be adopted for better welding performance

### WELDING POSITION:



### TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: Ar)

Weld Metal Analysis :

Carbon (C)	0.06
Manganese (Mn)	1.72
Silicon (Si)	0.57
Phosphorus (P)	0.015
Sulphur (S)	0.009
Molybdenum (Mo)	0.41

### TYPICAL MECHANICAL PROPERTIES OF WELD METAL: (Shielding Gas: Ar)

YP N/mm <sup>2</sup>	585
TS N/mm <sup>2</sup>	675
EL%	29

### TYPICAL IMPACT VALUES :

IV -30°C J	103
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### APPROVALS :

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### SIZES AVAILABLE, LENGTH :

Size (mm)	1.2	1.6	2.0	2.4	3.2	4.0
Length (mm)	1000					

# STG-80B2

AWS A5.28 ER80S-B2  
JIS Z3316 YGT1CM  
EN --

## TIG RODS FOR HEAT-RESISTANT LOW-ALLOY STEEL

### DESCRIPTION :

STG-80B2 is a 1.25%Cr-0.5%Mo alloyed, copper coated rod for suitable for GTAW of pipelines and pressure vessels with high temperature at 500°C.

### APPLICATIONS :

It is used for welding low alloy steels with high tensile strength and creep resistant steels, such as ASTM type including A199-76, A200-75, A213-76d, A333-76, A369-76, A387-76.

### NOTE ON USAGE :

1. welding current : DC-

### WELDING POSITION:



### TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: Ar)

Weld Metal Analysis :

Carbon (C)	0.08
Manganese (Mn)	0.59
Silicon (Si)	0.53
Phosphorus (P)	0.018
Sulphur (S)	0.009
Chromium (Cr)	1.29
Molybdenum (Mo)	0.53

### TYPICAL MECHANICAL PROPERTIES OF WELD METAL: (Shielding Gas: Ar)

YP N/mm <sup>2</sup>	490
TS N/mm <sup>2</sup>	580
EL%	26

### HEAT TREATMENT :

690°C X 1hr

### APPROVALS :

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### SIZES AVAILABLE, LENGTH :

Size (mm)	1.2	1.6	2.0	2.4	3.2	4.0
Length (mm)	1000					

# STG-90B3

AWS A5.28 ER90S-B3  
JIS Z3316 YGT2CM  
EN --

## TIG RODS FOR HEAT-RESISTANT LOW-ALLOY STEEL

### DESCRIPTION :

STG-90B3 is 2.5%Cr-1%Mo-alloyed, copper coated rod for GTAW of pressure vessels and boilers with high temperature up to 600°C.

### APPLICATIONS :

It is used for creep resistant steels like SA 387 Grade 22, A355 Grade P22 or similar materials.

### NOTE ON USAGE :

1. welding current : DC-

### WELDING POSITION:



### TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: Ar)

Weld Metal Analysis :

Carbon (C)	0.08
Manganese (Mn)	0.58
Silicon (Si)	0.48
Phosphorus (P)	0.018
Sulphur (S)	0.009
Chromium (Cr)	2.37
Molybdenum (Mo)	1.02

### TYPICAL MECHANICAL PROPERTIES OF WELD METAL: (Shielding Gas: Ar)

YP N/mm <sup>2</sup>	590
TS N/mm <sup>2</sup>	660
EL%	22

### HEAT TREATMENT :

690°C X 1hr

### APPROVALS :

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### SIZES AVAILABLE, LENGTH :

Size (mm)	1.2	1.6	2.0	2.4	3.2
Length (mm)	1000				

**MIG WIRES & TIG RODS FOR STAINLESS STEEL****DESCRIPTION :**

307Si austenitic stainless steel solid MIG wires and TIG rods are suitable for work hardening steels, armour plates, manganese steels, heat resistance steel and dissimilar metals

**APPLICATIONS :**

Typical applications include stainless steel in armour vehicle, refurbishment and repair and marine industries.

**NOTE ON USAGE :**

1. For GTAW process, use DC-EN, Argon Shield and Tungsten Electrode
2. For GMAW process, Spray Transfer or Short Circuit Transfer mode can be used
3. 98% Argon - 2% O<sub>2</sub> shielding gas is recommended in GMAW process.

**WELDING POSITION:****TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :**

Weld Metal Analysis :

Carbon (C)	0.07
Manganese (Mn)	6.74
Silicon (Si)	0.70
Nickel (Ni)	8.92
Chromium (Cr)	19.51
Molybdenum (Mo)	0.12

**TYPICAL MECHANICAL PROPERTIES OF WELD METAL:**

TS N/mm <sup>2</sup>	600
EL%	40

**APPROVALS :**

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**SIZES AVAILABLE**

MIG Solid Wires (mm)	0.9, 1.0, 1.2, 1.6
TIG Rods (mm)	1.0, 1.2, 1.6, 2.0, 2.4, 3.2

# SMG-308L STG-308L

AWS A5.9 ER308L  
JIS Z3321 YS308L  
EN ISO 14343-A G/W 19 9 L

## MIG WIRES & TIG RODS FOR STAINLESS STEEL

### DESCRIPTION :

It is designed with lower range carbon to help prevent intergranular corrosion, used to weld types 301, 302, 304 and 308 stainless steels. It is also used for joining some dissimilar 300 series stainless steels.

### APPLICATIONS :

Typical applications include welding of AISI 301, 302 and 308 in chemical, oil and gas refineries, stainless steel sheet metal works and rail car fabrication industry

### NOTE ON USAGE :

1. For GTAW process, use DC-EN, Argon Shield and Tungsten Electrode
2. For GMAW process, Spray Transfer or Short Circuit Transfer mode can be used
3. 98% Argon - 2% O<sub>2</sub> shielding gas is recommended in GMAW process.

### WELDING POSITION:



### TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Weld Metal Analysis :

Carbon (C)	0.018
Manganese (Mn)	1.65
Silicon (Si)	0.42
Nickel (Ni)	10.30
Chromium (Cr)	20.20

### TYPICAL MECHANICAL PROPERTIES OF WELD METAL:

TS N/mm <sup>2</sup>	580
EL%	42

### APPROVALS :

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### SIZES AVAILABLE

MIG Solid Wires (mm)	0.9, 1.0, 1.2, 1.6
TIG Rods (mm)	1.0, 1.2, 1.6, 2.0, 2.4, 3.2

# SMG-308LSi STG-308LSi

AWS A5.9 ER308LSi  
JIS Z3321 YS308LSi  
EN ISO 14343-A G/W 19 9 L Si

## MIG WIRES & TIG RODS FOR STAINLESS STEEL

### DESCRIPTION :

A 308L type austenitic stainless steel with modified higher silicon level to increase weld puddle fluidity, ensuring better tie-ins and potentially higher welding speed.

### APPLICATIONS :

Typical applications include welding of AISI 308L in chemical, oil and gas refineries, stainless steel sheet metal works and rail car fabrication industry

### NOTE ON USAGE :

1. For GTAW process, use DC-EN, Argon Shield and Tungsten Electrode
2. For GMAW process, Spray Transfer or Short Circuit Transfer mode can be used
3. 98% Argon - 2% O<sub>2</sub> shielding gas is recommended in GMAW process.

### WELDING POSITION:



### TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Weld Metal Analysis :

Carbon (C)	0.021
Manganese (Mn)	1.88
Silicon (Si)	0.78
Nickel (Ni)	10.40
Chromium (Cr)	19.90

### TYPICAL MECHANICAL PROPERTIES OF WELD METAL:

TS N/mm <sup>2</sup>	590
EL%	42

### APPROVALS :

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### SIZES AVAILABLE

MIG Solid Wires (mm)	0.9, 1.0, 1.2, 1.6
TIG Rods (mm)	1.0, 1.2, 1.6, 2.0, 2.4, 3.2

# SMG-309L STG-309L

AWS A5.9 ER309L  
JIS Z3321 YS309L  
EN ISO 14343-A G/W 23 12 L

## MIG WIRES & TIG RODS FOR STAINLESS STEEL

### DESCRIPTION :

It is used to join similar 309L alloys or join 300 series stainless steels to carbon or low alloy steels. The lower carbon content designed to prevent intergranular corrosion when it is used to weld 300 series stainless steels.

### APPLICATIONS :

Typical applications include welding of AISI 309 type stainless steel in chemical, oil and gas refineries, and welding of dissimilar base metals of stainless and carbon steels.

### NOTE ON USAGE :

1. For GTAW process, use DC-EN, Argon Shield and Tungsten Electrode
2. For GMAW process, Spray Transfer or Short Circuit Transfer mode can be used
3. 98% Argon - 2% O<sub>2</sub> shielding gas is recommended in GMAW process.

### WELDING POSITION:



### TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Weld Metal Analysis :

Carbon (C)	0.015
Manganese (Mn)	1.51
Silicon (Si)	0.45
Nickel (Ni)	12.80
Chromium (Cr)	23.20

### TYPICAL MECHANICAL PROPERTIES OF WELD METAL:

TS N/mm <sup>2</sup>	590
EL%	40

### APPROVALS :

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### SIZES AVAILABLE

MIG Solid Wires (mm)	0.9, 1.0, 1.2, 1.6
TIG Rods (mm)	1.0, 1.2, 1.6, 2.0, 2.4, 3.2



**MIG WIRES & TIG RODS FOR STAINLESS STEEL****DESCRIPTION :**

A 309L type austenitic stainless steel with modified higher silicon level to increase weld puddle fluidity, ensuring better tie-ins and potentially higher welding speed.

**APPLICATIONS :**

Typical applications include welding of AISI 304L, 316L in chemical, oil and gas refineries, and welding of dissimilar base metals of stainless and carbon steels.

**NOTE ON USAGE :**

1. For GTAW process, use DC-EN, Argon shield and Tungsten Electrode
2. For GMAW process, Spray Transfer or Short Circuit Transfer mode can be used
3. 98% Argon - 2% O<sub>2</sub> shielding gas is recommended in GMAW process.

**WELDING POSITION:****TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :**

Weld Metal Analysis :

Carbon (C)	0.017
Manganese (Mn)	1.81
Silicon (Si)	0.74
Nickel (Ni)	13.50
Chromium (Cr)	23.30

**TYPICAL MECHANICAL PROPERTIES OF WELD METAL:**

TS N/mm <sup>2</sup>	587
EL%	39

**APPROVALS :**

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**SIZES AVAILABLE**

MIG Solid Wires (mm)	0.9, 1.0, 1.2, 1.6
TIG Rods (mm)	1.0, 1.2, 1.6, 2.0, 2.4, 3.2

# SMG-310 STG-310

AWS A5.9 ER310  
JIS Z3321 YS310  
EN ISO 14343-A G/W 25 20

## MIG WIRES & TIG RODS FOR STAINLESS STEEL

### DESCRIPTION :

It is an austenitic stainless steel filler metal with excellent corrosion and heat resistance, ideal for welding and building up parts for heat treatment and case hardening furnaces, cement kilns and other burners subject to high temperature oxidation in a non-sulphurous atmosphere.

### APPLICATIONS :

Typical applications include marine, re-conditioning and refurbishment industries.

### NOTE ON USAGE :

1. For GTAW process, use DC-EN, Argon Shield and Tungsten Electrode
2. For GMAW process, Spray Transfer or Short Circuit Transfer mode can be used
3. 98% Argon - 2% O<sub>2</sub> shielding gas is recommended in GMAW process.

### WELDING POSITION:



### TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Weld Metal Analysis :

Carbon (C)	0.09
Manganese (Mn)	1.53
Silicon (Si)	0.49
Nickel (Ni)	21.50
Chromium (Cr)	27.00

### TYPICAL MECHANICAL PROPERTIES OF WELD METAL:

TS N/mm <sup>2</sup>	610
EL%	41

### APPROVALS :

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### SIZES AVAILABLE

MIG Solid Wires (mm)	0.9, 1.0, 1.2, 1.6
TIG Rods (mm)	1.0, 1.2, 1.6, 2.0, 2.4, 3.2

**MIG WIRES & TIG RODS FOR STAINLESS STEEL****DESCRIPTION :**

It is an austenitic stainless steel filler metal for welding 29Cr9Ni stainless cast steel or dissimilar metal to join 300 series stainless steels to carbon or low alloy steels.

**APPLICATIONS :**

Typical applications include marine, re-conditioning and refurbishment industries.

**NOTE ON USAGE :**

1. For GTAW process, use DC-EN, Argon Shield and Tungsten Electrode
2. For GMAW process, Spray Transfer or Short Circuit Transfer mode can be used
3. 98% Argon - 2% O<sub>2</sub> shielding gas is recommended in GMAW process.

**WELDING POSITION:****TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :**

Weld Metal Analysis :

Carbon (C)	0.09
Manganese (Mn)	1.71
Silicon (Si)	0.48
Nickel (Ni)	8.81
Chromium (Cr)	30.10

**TYPICAL MECHANICAL PROPERTIES OF WELD METAL:**

TS N/mm <sup>2</sup>	710
EL%	26

**APPROVALS :**

-

**SIZES AVAILABLE**

MIG Solid Wires (mm)	0.9, 1.0, 1.2, 1.6
TIG Rods (mm)	1.0, 1.2, 1.6, 2.0, 2.4, 3.2

# SMG-316L STG-316L

AWS A5.9 ER316L  
JIS Z3321 YS316L  
EN ISO 14343-A G/W 19 12 3 L

## MIG WIRES & TIG RODS FOR STAINLESS STEEL

### DESCRIPTION :

It is a molybdenum bearing alloy for increased pitting corrosion resistance. The carbon is limited to the lower range for better intergranular corrosion resistance.

### APPLICATIONS :

Typical applications include welding of 18Cr-12Ni-2Mo stainless steel in chemical, oil and gas refineries. Excellent creep strength, and resistance to pitting corrosion

### NOTE ON USAGE :

1. For GTAW process, use DC-EN, Argon Shield and Tungsten Electrode
2. For GMAW process, Spray Transfer or Short Circuit Transfer mode can be used
3. 98% Argon - 2% O<sub>2</sub> shielding gas is recommended in GMAW process.

### WELDING POSITION:



### TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Weld Metal Analysis :

Carbon (C)	0.02
Manganese (Mn)	1.45
Silicon (Si)	0.51
Nickel (Ni)	11.50
Chromium (Cr)	18.20
Molybdenum (Mo)	2.30

### TYPICAL MECHANICAL PROPERTIES OF WELD METAL:

TS N/mm <sup>2</sup>	580
EL%	40

### APPROVALS :

-

### SIZES AVAILABLE

MIG Solid Wires (mm)	0.9, 1.0, 1.2, 1.6
TIG Rods (mm)	1.0, 1.2, 1.6, 2.0, 2.4, 3.2

# SMG-316LSi STG-316LSi

AWS A5.9 ER316LSi  
JIS Z3321 YS316LSi  
EN ISO 14343-A G/W 19 12 3 L Si

## MIG WIRES & TIG RODS FOR STAINLESS STEEL

### DESCRIPTION :

A 316L type austenitic stainless steel with modified higher silicon level to increase weld weld puddle fluidity, ensuring better tie-ins and potentially higher welding speed.

### APPLICATIONS :

Typical applications include welding of 18Cr-12Ni-2Mo stainless steel in chemical, oil and gas refineries. Excellent creep strength, and resistance to pitting corrosion

### NOTE ON USAGE :

1. For GTAW process, use DC-EN, Argon Shield and Tungsten Electrode
2. For GMAW process, Spray Transfer or Short Circuit Transfer mode can be used
3. 98% Argon - 2% O<sub>2</sub> shielding gas is recommended in GMAW process.

### WELDING POSITION:



### TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Weld Metal Analysis :

Carbon (C)	0.018
Manganese (Mn)	1.51
Silicon (Si)	0.83
Nickel (Ni)	11.60
Chromium (Cr)	18.60
Molybdenum (Mo)	2.40

### TYPICAL MECHANICAL PROPERTIES OF WELD METAL:

TS N/mm <sup>2</sup>	580
EL%	39

### APPROVALS :

-

### SIZES AVAILABLE

MIG Solid Wires (mm)	0.9, 1.0, 1.2, 1.6
TIG Rods (mm)	1.0, 1.2, 1.6, 2.0, 2.4, 3.2

**MIG WIRES & TIG RODS FOR STAINLESS STEEL****DESCRIPTION :**

A continuous, solid, corrosion-resistant, chromium-nickel-molybdenum wire for welding austenitic stainless alloys of the 19% Cr, 13% Ni, 3%Mo types. This wire has a low carbon content which makes it particularly recommended where there is a risk of intergranular corrosion. It has a good resistance to general corrosion and pitting due to its high content of molybdenum.

**APPLICATIONS :**

It is used in severe corrosion conditions, such as in the petrochemical, pulp and paper industries.

**NOTE ON USAGE :**

1. For GTAW process, use DC-EN, Argon Shield and Tungsten Electrode
2. For GMAW process, Spray Transfer or Short Circuit Transfer mode can be used
3. 98% Argon - 2% O<sub>2</sub> shielding gas is recommended in GMAW process.

**WELDING POSITION:****TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :**

Weld Metal Analysis :

Carbon (C)	0.012
Manganese (Mn)	1.32
Silicon (Si)	0.53
Nickel (Ni)	13.50
Chromium (Cr)	19.60
Molybdenum (Mo)	3.20

**TYPICAL MECHANICAL PROPERTIES OF WELD METAL:**

TS N/mm <sup>2</sup>	570
EL%	41

**APPROVALS :**

-

**SIZES AVAILABLE**

MIG Solid Wires (mm)	0.9, 1.0, 1.2, 1.6
TIG Rods (mm)	1.0, 1.2, 1.6, 2.0, 2.4, 3.2

**MIG WIRES & TIG RODS FOR STAINLESS STEEL****DESCRIPTION :**

It is stabilized with columbium (Niobium) to prevent intergranular corrosion. Better corrosion resistance than type 308. It is used for welding type 321 and 347 stainless steels. It provides good corrosion resistance in service temperature up to 760 degrees C.

**APPLICATIONS :**

Typical applications include welding of corrosion resistance steels in high temperature services found in chemical refineries, smelter and power plants.

**NOTE ON USAGE :**

1. For GTAW process, use DC-EN, Argon Shield and Tungsten Electrode
2. For GMAW process, Spray Transfer or Short Circuit Transfer mode can be used
3. 98% Argon - 2% O<sub>2</sub> shielding gas is recommended in GMAW process.

**WELDING POSITION:****TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :**

Weld Metal Analysis :

Carbon (C)	0.03
Manganese (Mn)	1.38
Silicon (Si)	0.61
Nickel (Ni)	9.31
Chromium (Cr)	19.40
Niobium (Nb)	0.480

**TYPICAL MECHANICAL PROPERTIES OF WELD METAL:**

TS N/mm <sup>2</sup>	620
EL%	40

**APPROVALS :**

-

**SIZES AVAILABLE**

MIG Solid Wires (mm)	0.9, 1.0, 1.2, 1.6
TIG Rods (mm)	1.0, 1.2, 1.6, 2.0, 2.4, 3.2

# SMG-409Cb

AWS A5.9 ER409Cb  
JIS Z3321 YS409Nb  
EN --

## MIG WIRES & TIG RODS FOR STAINLESS STEEL

### DESCRIPTION :

SMG-409Cb is the welding wire for catalytic converters as well as exhaust silencers, mufflers, manifolds, and manifold elbows of analogous or similar materials. It's also used for repair welding and surfacing of sealing faces of gas, water, and steam turbines with service temperatures of up to +450 °C. Resists scaling up to +900 °C.

### APPLICATIONS :

This is a ferritic stainless steel welding alloy used to weld types 409 and 409Ti base metals. The addition of columbium leads to a preferential reaction with carbon which interrupts chromium from forming carbides.

### NOTE ON USAGE :

1. For GTAW process, use DC-EN, Argon Shield and Tungsten Electrode
2. For GMAW process, Spray Transfer or Short Circuit Transfer mode can be used
3. 98% Argon - 2% O<sub>2</sub> shielding gas is recommended in GMAW process.

### WELDING POSITION:



### TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Weld Metal Analysis :

Carbon (C)	0.03
Manganese (Mn)	0.65
Silicon (Si)	0.62
Nickel (Ni)	0.32
Chromium (Cr)	11.30
Niobium (Nb)	0.450

### TYPICAL MECHANICAL PROPERTIES OF WELD METAL:

TS N/mm <sup>2</sup>	460
EL%	26

### APPROVALS :

-

### SIZES AVAILABLE

MIG Solid Wires (mm)	0.9, 1.0, 1.2, 1.6
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**MIG WIRES & TIG RODS FOR STAINLESS STEEL****DESCRIPTION :**

It is a hardening stainless steel filler metal for welding 13Cr stainless steels. It deposits heat-treatable weld metal. Pre-heating and Post Weld Heat Treatment may be required.

**APPLICATIONS :**

Typical applications are welding of 410 types stainless steels in marine industries, oil and gas drilling and power plant equipment manufacturing industries.

**NOTE ON USAGE :**

1. For GTAW process, use DC-EN, Argon Shield and Tungsten Electrode
2. For GMAW process, Spray Transfer or Short Circuit Transfer mode can be used
3. 98% Argon - 2% O<sub>2</sub> shielding gas is recommended in GMAW process.

**WELDING POSITION:****TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :**

Weld Metal Analysis :

Carbon (C)	0.03
Manganese (Mn)	0.48
Silicon (Si)	0.39
Nickel (Ni)	0.41
Chromium (Cr)	12.50

**TYPICAL MECHANICAL PROPERTIES OF WELD METAL:**

TS N/mm <sup>2</sup>	520
EL%	25

**HEAT TREATMENT :**

750°C X 1hr

**APPROVALS :**

-

**SIZES AVAILABLE**

MIG Solid Wires (mm)	0.9, 1.0, 1.2, 1.6
TIG Rods (mm)	1.0, 1.2, 1.6, 2.0, 2.4, 3.2

**MIG WIRES & TIG RODS FOR STAINLESS STEEL****DESCRIPTION :**

It is a stronger 13% Cr steel wire with higher strength and hardness and better wear resistance than ER410 wire. This filler metal is similar to ER410, except for the higher carbon content. It requires preheat and interpass temperature of not less than 204°C , followed by slow cooling.

**APPLICATIONS :**

It is often used for surfacing applications that call for superior resistance to abrasion.

**NOTE ON USAGE :**

1. For GTAW process, use DC-EN, Argon Shield and Tungsten Electrode
2. For GMAW process, Spray Transfer or Short Circuit Transfer mode can be used
3. 98% Argon - 2% O<sub>2</sub> shielding gas is recommended in GMAW process.

**WELDING POSITION:****TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :**

Weld Metal Analysis :

Carbon (C)	0.31
Manganese (Mn)	0.42
Silicon (Si)	0.38
Nickel (Ni)	0.32
Chromium (Cr)	13.10

**TYPICAL MECHANICAL PROPERTIES OF WELD METAL:**

TS N/mm <sup>2</sup>	520
EL%	25

**APPROVALS :**

-

**SIZES AVAILABLE**

MIG Solid Wires (mm)	0.9, 1.0, 1.2, 1.6
TIG Rods (mm)	1.0, 1.2, 1.6, 2.0, 2.4, 3.2

**MIG WIRES & TIG RODS FOR STAINLESS STEEL****DESCRIPTION :**

It is a ferrite stainless steel with good ductility in heat-treated condition. It is used for welding 17% Cr steels, overlays and thermal spraying.

**APPLICATIONS :**

Typical applications are welding of 409 and 430 types stainless steels used in automotive mufflers.

**NOTE ON USAGE :**

1. For GTAW process, use DC-EN, Argon Shield and Tungsten Electrode
2. For GMAW process, Spray Transfer or Short Circuit Transfer mode can be used
3. 98% Argon - 2% O<sub>2</sub> shielding gas is recommended in GMAW process.
4. Preheating of the joint to a minimum of 150°C is recommended before welding.

**WELDING POSITION:****TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :**

Weld Metal Analysis :

Carbon (C)	0.06
Manganese (Mn)	0.42
Silicon (Si)	0.34
Nickel (Ni)	0.38
Chromium (Cr)	16.20

**TYPICAL MECHANICAL PROPERTIES OF WELD METAL:**

TS N/mm <sup>2</sup>	530
EL%	25

**HEAT TREATMENT :**

780°C X 2hr

**APPROVALS :**

-

**SIZES AVAILABLE**

MIG Solid Wires (mm)	0.9, 1.0, 1.2, 1.6
TIG Rods (mm)	1.0, 1.2, 1.6, 2.0, 2.4, 3.2

# SMG-439Ti STG-439Ti

AWS A5.9 ER439

JIS --

EN --

## MIG WIRES & TIG RODS FOR STAINLESS STEEL

### DESCRIPTION :

It is designed for welding AISI 439 ferrite stainless steel or other 18% Cr steels.

### APPLICATIONS :

Typical application is welding of automotive exhaust system.

### NOTE ON USAGE :

1. For GTAW process, use DC-EN, Argon Shield and Tungsten Electrode
2. For GMAW process, Spray Transfer or Short Circuit Transfer mode can be used
3. 98% Argon - 2% O<sub>2</sub> shielding gas is recommended in GMAW process.

### WELDING POSITION:



### TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Weld Metal Analysis :

Carbon (C)	0.03
Manganese (Mn)	0.65
Silicon (Si)	0.53
Nickel (Ni)	0.18
Chromium (Cr)	18.30
Titanium (Ti)	0.42

### TYPICAL MECHANICAL PROPERTIES OF WELD METAL:

TS N/mm <sup>2</sup>	505
EL%	40

### APPROVALS :

-

### SIZES AVAILABLE

MIG Solid Wires (mm)	0.9, 1.0, 1.2, 1.6
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**MIG WIRES & TIG RODS FOR STAINLESS STEEL****DESCRIPTION :**

It is a precipitation hardening stainless steel used for welding of materials of similar chemical composition. Mechanical properties of this alloy are greatly influenced by the heat treatment.

**APPLICATIONS :**

It is used for welding ASTM A564 Type 630 (17%Cr and 4%Ni) and precipitation-hardening stainless steel.

**NOTE ON USAGE :**

1. For GTAW process, use DC-EN, Argon Shield and Tungsten Electrode
2. For GMAW process, Spray Transfer or Short Circuit Transfer mode can be used
3. 98% Argon - 2% O<sub>2</sub> shielding gas is recommended in GMAW process.

**WELDING POSITION:****TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :**

Weld Metal Analysis :

Carbon (C)	0.03
Manganese (Mn)	0.61
Silicon (Si)	0.59
Nickel (Ni)	4.83
Chromium (Cr)	16.40
Copper (Cu)	3.60
Niobium (Nb)	0.23

**TYPICAL MECHANICAL PROPERTIES OF WELD METAL:**

TS N/mm <sup>2</sup>	990
EL%	10

**APPROVALS :**

-

**SIZES AVAILABLE**

MIG Solid Wires (mm)	0.9, 1.0, 1.2, 1.6
TIG Rods (mm)	1.0, 1.2, 1.6, 2.0, 2.4, 3.2

**MIG WIRES & TIG RODS FOR NICKEL ALLOY STEEL****DESCRIPTION :**

A nickel-based wire contains 20%Cr, 3%Mo and 2.5%Nb, suitable for welding of high-alloyed steel, heat-resistant steel, corrosion-resistant steel, 9% Ni and similar steels with high notch toughness at low temperatures. It is also suitable for joining dissimilar metals of the type mentioned above.

**APPLICATIONS :**

It is used for nickel and nickel alloys, low-temperature steels up to X8Ni9, unalloyed and alloyed, high-temperature, creep resisting, high-alloy Cr- and CrNiMo-steels particularly for joint welding of dissimilar steels, and nickel to steel combinations; also recommended for Alloy 800 (H).

**NOTE ON USAGE :**

1. For GTAW process, use DC-EN, Argon Shield and Tungsten Electrode
2. For GMAW process, Spray Transfer or Short Circuit Transfer mode can be used
3. 98% Argon - 2% O<sub>2</sub> shielding gas is recommended in GMAW process.

**WELDING POSITION:****TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :**

Weld Metal Analysis :

Carbon (C)	0.03
Manganese (Mn)	2.70
Silicon (Si)	0.11
Nickel (Ni)	Bal.
Chromium (Cr)	20.03
Ferrum (Fe)	1.30
Niobium (Nb)	2.52
Titanium (Ti)	0.3

**TYPICAL MECHANICAL PROPERTIES OF WELD METAL:**

TS N/mm <sup>2</sup>	672
EL%	42

**APPROVALS :**

-

**SIZES AVAILABLE**

MIG Solid Wires (mm)	0.9, 1.0, 1.2, 1.6
TIG Rods (mm)	1.0, 1.2, 1.6, 2.0, 2.4, 3.2

**MIG WIRES & TIG RODS FOR NICKEL ALLOY STEEL****DESCRIPTION :**

A nickel-based wire contains 22%Cr, 9%Mo and 3.5%Nb, suitable for welding of high-alloyed steel, heat-resistant steel, corrosion-resistant steel, 9% Ni and similar steels with high notch toughness at low temperatures. It is also suitable for joining dissimilar metals of the type mentioned above.

**APPLICATIONS :**

It is applied for 2.4856 NiCr 22 Mo 9 Nb, 2.4858 NiCr 21 Mo, 2.4816 NiCr 15 Fe, 1.4583 X10CrNiMoNb18-12, 1.4876 X 10 NiCrAlTi 32 20 H, 1.4876 X 10 NiCrAlTi 32 20, 1.4529 X1NiCrMoCuN25-20-7, X 2 CrNiMoCuN 20 18 6, 2.4641 NiCr 21 Mo 6 Cu joint welds of listed materials with non alloy and low alloy steels, e.g. P265GH, P285NH, P295GH, 16Mo3, S355N, X8Ni9, ASTM A 553 Gr.1, Alloy 600, Alloy 625, Alloy 800, 9 % Ni-steels

**NOTE ON USAGE :**

1. For GTAW process, use DC-EN, Argon Shield and Tungsten Electrode
2. For GMAW process, Spray Transfer or Short Circuit Transfer mode can be used
3. 98% Argon - 2% O<sub>2</sub> shielding gas is recommended in GMAW process.

**WELDING POSITION:****TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :**

Weld Metal Analysis :

Carbon (C)	0.01
Manganese (Mn)	0.03
Silicon (Si)	0.07
Nickel (Ni)	65.24
Chromium (Cr)	22.18
Molybdenum (Mo)	8.670
Ferrum (Fe)	0.20
Niobium (Nb)	3.61
Aluminum (Al)	0.15
Titanium (Ti)	0.16

**TYPICAL MECHANICAL PROPERTIES OF WELD METAL:**

TS N/mm <sup>2</sup>	786
EL%	42

**APPROVALS :**

-

**SIZES AVAILABLE**

MIG Solid Wires (mm)	0.9, 1.0, 1.2, 1.6
TIG Rods (mm)	1.0, 1.2, 1.6, 2.0, 2.4, 3.2

**MIG WIRES & TIG RODS FOR NICKEL ALLOY STEEL****DESCRIPTION :**

This wire is used for welding of similar alloyed Ni base steel grades, e.g. N10276, 2.4819, NiMo16Cr15 W, as well as for joining these grades with low alloyed and stainless steels. It is employed primarily for welding components in plants for chemical processes with highly corrosive media, but also for surfacing press tools, punches etc. which operate at high temperatures.

**APPLICATIONS :**

It is applied for NiMo16Cr15W (2.4819), Alloy C-276, UNS N10276, B575, B626, joint welds of listed materials with low alloy and stainless steels

**NOTE ON USAGE :**

1. For GTAW process, use DC-EN, Argon Shield and Tungsten Electrode
2. For GMAW process, Spray Transfer or Short Circuit Transfer mode can be used
3. 98% Argon - 2% O<sub>2</sub> shielding gas is recommended in GMAW process.

**WELDING POSITION:****TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :**

Weld Metal Analysis :

Carbon (C)	0.01
Manganese (Mn)	0.40
Silicon (Si)	0.05
Nickel (Ni)	Bal.
Chromium (Cr)	15.67
Molybdenum (Mo)	15.960
Ferrum (Fe)	5.910
Wolfram (W)	3.12

**TYPICAL MECHANICAL PROPERTIES OF WELD METAL:**

TS N/mm <sup>2</sup>	745
EL%	41

**APPROVALS :**

-

**SIZES AVAILABLE**

MIG Solid Wires (mm)	0.9, 1.0, 1.2, 1.6
TIG Rods (mm)	1.0, 1.2, 1.6, 2.0, 2.4, 3.2



**MIG WIRES & TIG RODS FOR NICKEL ALLOY STEEL****DESCRIPTION :**

This wire can be obtained good resistance to pitting and crevice corrosion because of high chromium content and molybdenum. In addition to the welding of Inconel alloy 22, Inconel alloy 625, Incoloy alloy 25-6Mo and Incoloy alloy 825, it is also an excellent dissimilar metal welding product that offers protection against preferential weld metal corrosion when used for joining molybdenum containing stainless steels, Inconel alloy C-276, and Inconel alloy 625.

**APPLICATIONS :**

It is applied for welding of Inconel alloys 22 and 625, Incoloy alloy 25-6Mo and Incoloy alloy 825

**NOTE ON USAGE :**

1. For GTAW process, use DC-EN, Argon Shield and Tungsten Electrode
2. For GMAW process, Spray Transfer or Short Circuit Transfer mode can be used
3. 98% Argon - 2% O<sub>2</sub> shielding gas is recommended in GMAW process.

**WELDING POSITION:****TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :**

Weld Metal Analysis :

Carbon (C)	0.008
Manganese (Mn)	0.40
Silicon (Si)	0.04
Nickel (Ni)	Bal.
Chromium (Cr)	21.52
Molybdenum (Mo)	13.54
Ferrum (Fe)	3.10
Wolfram (W)	3.07

**TYPICAL MECHANICAL PROPERTIES OF WELD METAL:**

TS N/mm <sup>2</sup>	751
EL%	38

**APPROVALS :**

-

**SIZES AVAILABLE**

MIG Solid Wires (mm)	0.9, 1.0, 1.2, 1.6
TIG Rods (mm)	1.0, 1.2, 1.6, 2.0, 2.4, 3.2

**MIG WIRES & TIG RODS FOR NICKEL ALLOY STEEL****DESCRIPTION :**

This wire is used for joining and surfacing of nickel-copper alloys and of nickel-copper-clad steels. It is also used for joining different materials, such as steel to copper and copper alloys, steel to nickel-copper alloys. It can give excellent corrosion resistance to chloride included stress corrosion cracking and a wide range of marine and chemical requirements.

**APPLICATIONS :**

It is suitable for welding of alloy 400, N04400, 2.4360 NiCu30Fe, 2.4375 and NiCu30Al.

**NOTE ON USAGE :**

1. For GTAW process, use DC-EN, Argon Shield and Tungsten Electrode
2. For GMAW process, Spray Transfer or Short Circuit Transfer mode can be used
3. 98% Argon - 2% O<sub>2</sub> shielding gas is recommended in GMAW process.

**WELDING POSITION:****TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :**

Weld Metal Analysis :

Carbon (C)	0.018
Manganese (Mn)	3.50
Silicon (Si)	0.31
Nickel (Ni)	65.24
Ferrum (Fe)	0.550
Aluminum (Al)	0.028
Titanium (Ti)	1.56
Copper (Cu)	Bal.

**TYPICAL MECHANICAL PROPERTIES OF WELD METAL:**

TS N/mm <sup>2</sup>	566
EL%	41

**APPROVALS :**

-

**SIZES AVAILABLE**

MIG Solid Wires (mm)	0.9, 1.0, 1.2, 1.6
TIG Rods (mm)	1.0, 1.2, 1.6, 2.0, 2.4, 3.2

**MIG WIRES & TIG RODS FOR NICKEL ALLOY STEEL****DESCRIPTION :**

A nickel-based wire alloyed with 3% Ti for the welding of high-purity nickel (min. 99.6% Ni), ordinary wrought nickel and nickel with a reduced carbon content. The weld metal has a good corrosion resistance, particularly in alkalies.

**APPLICATIONS :**

It is suitable for welding of Nickel 200 and 201, as well as surfacing of steel.

**NOTE ON USAGE :**

1. For GTAW process, use DC-EN, Argon Shield and Tungsten Electrode
2. For GMAW process, Spray Transfer or Short Circuit Transfer mode can be used
3. 98% Argon - 2% O<sub>2</sub> shielding gas is recommended in GMAW process.

**WELDING POSITION:****TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :**

Weld Metal Analysis :

Carbon (C)	0.02
Manganese (Mn)	0.31
Silicon (Si)	0.37
Nickel (Ni)	96.14
Ferrum (Fe)	0.070
Aluminum (Al)	0.820
Titanium (Ti)	2.75
Copper (Cu)	0.005

**TYPICAL MECHANICAL PROPERTIES OF WELD METAL:**

TS N/mm <sup>2</sup>	475
EL%	37

**APPROVALS :**

-

**SIZES AVAILABLE**

MIG Solid Wires (mm)	0.9, 1.0, 1.2, 1.6
TIG Rods (mm)	1.0, 1.2, 1.6, 2.0, 2.4, 3.2