

# Product Data Sheet

## SUPERMIG 307

**SS MIG WELDING WIRE**  
Stainless and Heat resistant steels

### Classification:

**AWS A 5.9 : ER 307**  
**EN ISO 14343 - A : G 18 8 Mn**

**Description:** SUPERMIG 307 is a G 18 8 Mn/ER 307 (similar) type solid MAG welding wire, supplied precision layer wound, depositing a C-18Cr8Ni6Mn weld metal. Suitable for use with Ar+2%O<sub>2</sub> or Ar+0.5...5%CO<sub>2</sub> mixed shielding gases .

SUPERMIG 307 is suitable for welding dissimilar steels between unalloyed steels, austenitic stainless steels or heat resisting steels, also used for welding of hardening and tempering steels , such as ballistic steels. The increased silicon content promotes weld pool fluidity to give a smooth deposit appearance.

### Materials to be welded

Difficult-to-weld steels  
Ferrite-Austenite heterogeneous joints ("Black-White"),  
X120Mn12 (1.3401); Armour plate .

### Typical Chemical Composition (%)

C	Mn	Si	Cr	Ni	Mo	Cu	S	P
0.020 max.	5.00 – 8.00	1.20 Max	17.00 - 20.00	7.00 - 10.00	0.30 max.	0.30 max.	0.03 max.	0.03 max.

### Typical All Weld Mechanical Properties

Yield Strength N/mm <sup>2</sup>	Tensile Strength N/mm <sup>2</sup>	Elongation A5 (%)	Impact Energy ISO – V (J) 20° C
≥420	≥590	≥40%	≥100

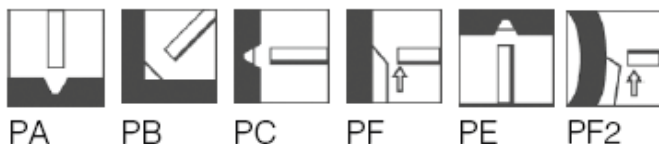
**Shielding Gas :-** EN ISO 14175 : M12, M13, M20, M21

**Welding Directions :-** MIG welding can be performed as short, spray or pulsed arc. Short arc is preferably used for thin gauges, both for horizontal and positional welding. Spray arc increases the deposition rate. Welding with pulsed arc gives excellent possibilities for a good result in varying plate thicknesses in all positions. The highest flexibility using pulsed arc is achieved with 1.20 mm

**Current Conditions:-** DC (+)

**Storage:** - Keep dry and avoid condensation.

### Welding position:-





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## Recommended Welding Data:-

Diameter (mm)		0.8	1.0	1.2
Operating range	Amp	40~120	80~160	100~210
	Volt	15~20	16~22	17~22
Ar+1~2%O <sub>2</sub>	Amp	160~210	180~280	200~300
	Volt	24~28	24~30	24~30

## Packing Data:

Size (mm)	0.60	0.80	0.90	1.00	1.10	1.20	1.60
Weight (kg) SD300/BS300	12.50/15.00	12.50/15.00	12.50/15.00	12.50/15.00	12.50/15.00	12.50/15.00	12.50/15.00

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Revised on: 23/05/2012

# Product Data Sheet

## SUPERMIG 307Si

SS MIG WELDING WIRE  
Stainless and Heat resistant steels

Classification:

AWS A 5.9 : ER 307Si  
EN ISO 14343 - A : G 18 8 Mn

Description: SUPERMIG 307Si is a G 18 8 Mn/ER 307 (similar) type solid MAG welding wire, supplied precision layer wound, depositing a C-18Cr8Ni6Mn weld metal. Suitable for use with Ar+2%O<sub>2</sub> or Ar+0.5...5%CO<sub>2</sub> mixed shielding gases.

SUPERMIG 307Si is suitable for welding dissimilar steels between unalloyed steels, austenitic stainless steels or heat resisting steels, also used for welding of hardening and tempering steels, such as ballistic steels. The increased silicon content promotes weld pool fluidity to give a smooth deposit appearance.

Materials to be welded

Difficult-to-weld steels  
Ferrite-Austenite heterogeneous joints ("Black-White"),  
X120Mn12 (1.3401); Armour plate.

Typical Chemical Composition (%)

C	Mn	Si	Cr	Ni	Mo	Cu	S	P
0.20 max.	5.00 - 8.00	1.20 Max	17.00 - 20.00	7.00 - 10.00	0.30 max.	0.30 max.	0.03 max.	0.03 max.

Typical All Weld Mechanical Properties

Yield Strength N/mm <sup>2</sup>	Tensile Strength N/mm <sup>2</sup>	Elongation A5 (%)	Impact Energy ISO - V (J) 20°C
>420 —	>590 —	>40% —	>100 —

Shielding Gas:- EN ISO 14175 : M12, M13, M20, M21

Welding Directions:- MIG welding can be performed as short, spray or pulsed arc. Short arc is preferably used for thin gauges, both for horizontal and positional welding. Spray arc increases the deposition rate. Welding with pulsed arc gives excellent possibilities for a good result in varying plate thicknesses in all positions. The highest flexibility using pulsed arc is achieved with 1.20 mm

Current Conditions:- DC (+)

Storage: - Keep dry and avoid condensation.

Welding position:-





# Product Data Sheet

## Recommended Welding Data:-

Diameter (mm)		0.8	1.0	1.2
Operating range				
Ar+1~2%CO <sub>2</sub>	Amp	40~120	80~160	100~210
	Volt	15~20	16~22	17~22
Ar+1~2%O <sub>2</sub>	Amp	160~210	180~280	200~300
	Volt	24~28	24~30	24~30

## Packing Data:

Size (mm)	0.60	0.80	0.90	1.00	1.10	1.20	1.60
Weight (kg) SD300/BS300	12.50/15.00	12.50/15.00	12.50/15.00	12.50/15.00	12.50/15.00	12.50/15.00	12.50/15.00

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Revised on: 23/05/2012



IN COLLABORATION WITH



Kjellberg Finsterwalde Elektroden und Maschinen GmbH, Germany

# Product Data Sheet

## SUPERTIG 307Si

TIG RODS

Stainless and Heat resistant steels

### Classification :

AWS A 5.9 : ER 307Si

EN ISO 14343 - A : W 18 8 Mn

**Description:** SUPER TIG 307Si is an austenitic stainless steel with added manganese and silicon mainly used for joining and surfacing applications involving work-hard enable steels, armour plate, heat resistant steels and dissimilar steels such as austenitic manganese steels to carbon steel forgings and castings.

Weld deposits are porosity free, crack and corrosion resistant.

### Material to be Welded

Difficult-to-weld steels

Ferrite-Austenite heterogeneous joints ("Black-White"),

X120Mn12 (1.3401); Armour plate .

### Typical Chemical Composition (%)

C	Mn	Si	Cr	Ni	Mo	Cu	S	P
0.020 max.	5.00-8.00	1.20 Max	17.00 - 20.00	7.00 -10.00	0.30 max.	0.30 max.	0.03 max.	0.03 max.

### Typical All Weld Mechanical Properties

Yield Strength N/mm <sup>2</sup>	Tensile Strength N/mm <sup>2</sup>	Elongation A5 (%)	Impact Energy ISO-V(J) 20° C
≥ 420	≥ 590	≥ 40	≥ 100

**Current Conditions:** - DC (-)

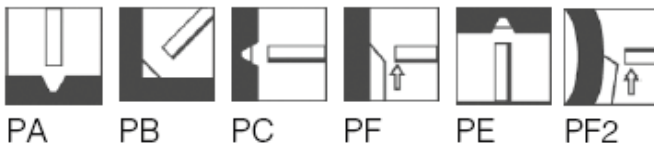
**Storage:** - Keep dry and avoid condensation.

### TYPICAL GTAW WELDING PROCEDURES :-

Filler Wire Size	Tungsten	Amps	Volts.	Gas Cup Size	Argon (cfh)	Base thickness
1/16"	1/16"	80-150	12	3/8"	20	1/16-1/8"
3/32"	3/32"	150-250	12	3/8"	20	1/8- 3/16"
1/8"	1/8"	200-375	12	1/2"	25	1/4-1/2"

Procedures may vary with change in position, base metals, filler metals, equipment and other changes.

### Welding Position



### Packing Data

Size (mm) DxL	1.60 x 1000	2.00 x 1000	2.40 x 1000	3.20 x 1000	4.00 x 1000
Net wt. per tube(kg)	5	5	5	5	5
Net wt. per Box(kg)	20	20	20	20	20

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