



Kjellberg Finsterwalde Elektroden und Maschinen GmbH, Germany

Product Data Sheet

SUPERTIG 2594

SS TIG WELDING WIRE
Stainless and Heat resistant steels

Classification :

AWS A 5.9 : ER 2594

EN ISO 14343 - A : W 25 9 4 N L

Description: SUPERTIG 2594 is a W 25 9 4 N L type solid TIG welding rod depositing a C-25Cr 10Ni 4Mo weld metal suitable for use mainly with Ar shielding gas. SUPERTIG 2594 is used for the welding of super-duplex stainless steels. Mainly used in offshore applications, paper industry, oil industry and in the production of artificial manure. Used for root pass welding of 22%Cr standard duplex steels for critical applications, and for the welding of low carbon super martensitic 13%Cr steels. SUPERTIG 2594 has a very good resistance to general corrosion, the weld metal has a high resistance to pitting combined with a good resistance to both crevice corrosion and stress corrosion cracking. The weld metal nickel content over matches the parent material by 2-3% to provide for an optimum balance of austenite and ferrite in the as-welded condition.

Materials to be welded

SAF 2507; Uranus 47N; UNS S32750; ASTM A182 F53

Shielding Gas

EN ISO 14175 : I1

Typical Chemical Composition (%)

C	Mn	Si	Cr	Ni	Mo	Cu	S	P	W	N2
0.030 max	0.50-2.50	1.00 Max	24.00-27.00	8.00-10.50	2.50-4.50	1.50 max	0.02 max.	0.03 max.	1.00 Max	0.20-0.30

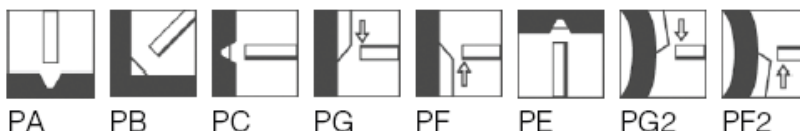
Typical All Weld Mechanical Properties

Yield Strength N/mm ²	Tensile Strength N/mm ²	Elongation A5 (%)	Impact Energy ISO-V(J) 20° C
≥ 550	≥ 800	≥ 25	≥ 80

Current Conditions: - DC (-)

Storage: - Keep dry and avoid condensation.

Welding Position:-



Packing Data

Size(mm) DxL	1.20 x 1000	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	5
Net wt. per Box(kg)	20	20	20	20	20	20



IN COLLABORATION WITH



Kjellberg Finsterwalde Elektroden und Maschinen GmbH, Germany

Product Data Sheet

SUPERMIG 2594

GMAW MIG WELDING WIRES
Stainless and Heat resistant steels

Classification:

AWS A 5.9 : ER 2594

EN ISO 14343 - A : G 25 9 4 N L

Description: SUPER MIG 2594 is a G 25 9 4 N L type solid MIG welding wire, supplied precision layer wound, depositing a C-25Cr10Ni4Mo weld metal, suitable for use with Ar+2%O₂ or Ar+0.5...5%CO₂ mixed shielding gases. This type is often used for root pass welding of 22%Cr standard duplex steels for critical applications, also for the welding of low carbon super martensitic 13%Cr steels. SUPER MIG 2594 weld metal has a high resistance to general as well as pitting corrosion combined with a good resistance to both crevice corrosion and stress corrosion cracking. The weld metal nickel content over matches the parent material by 2-3% to provide for an optimum balance of austenite and ferrite in the as-welded condition. SUPER MIG 2594 wires are supplied in Bright, Matte as well as in Semi Bright finish with customized chemical & mechanical properties to perform its best in all formats of welding including semi-automatic, robotics and Special purpose machines. SUPER MIG 2594 wires are manufactured through a proprietary manufacturing process specially developed by Superon, where wires are drawn through superior quality polycrystalline diamond dies, inline cleaned with specially designed ultrasonic cleaning machines to avoid any type of welding contamination. Precision layer winding technologies ensure smooth, virtually trouble-free feeding followed by highly specialised anti spatter coating reagent comprising of a mixture of di-chloroethylene, methylene chloride and silicon that forms a thin coating of Silicone on the wire surface. SUPER MIG 2594 wires are coated with flux that enhances wire feedability and ensure longer life and are supplied both in plastic & metallic baskets spools of various types to fulfil all type of customer demand. The wires have suitable cast / helix to ensure perfect "Pay-Off, excellent corrosion resistance & Controlled Ferrite.

Materials to be welded

SAF 2507; Uranus 47N; UNS S32750; ASTM A182 F53

Typical Chemical Composition (%)

C	Mn	Si	Cr	Ni	Mo	Cu	S	P	W	N2
0.030 max	0.50-2.50	1.00 Max	24.00-27.00	8.00-10.50	2.50-4.50.	1.50 max	0.02 max.	0.03 max.	1.00 Max	0.200 - 0.300

Typical All Weld Mechanical Properties

Yield Strength N/mm ²	Tensile Strength N/mm ²	Elongation A5 (%)	Impact Energy ISO-V(J) 20 ^o C
≥ 550	≥ 800	≥ 25	≥ 80

Applications:- SUPERMIG 2594 is used for the welding of Super-Duplex stainless steels, mainly used in Offshore applications, paper industry, oil industry ,artificial manure production etc...

Shielding Gas : The chemistry and all weld mechanical properties will vary with the type of shielding gas used. Recommended shielding gas is 98% Ar + 2% O₂ (EN ISO 14175 : M13)

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 wire.

Current Conditions : DC (+)

Storage : Keep dry and avoid condensation.

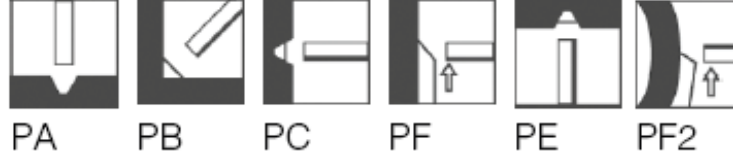
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Welding position :



Recommended Welding Data :

Diameter (mm)		0.8	0.90	1.00	1.10	1.20	1.60
		Operating range					
Ar+1~2%CO ₂	Amp	170~230	170~230	180~250	180~250	200~300	200~350
	Volt	15~20	17~22	17~22	17~24	18~24	20~26

Packing Data :

Size (mm)	0.60	0.80	0.90	1.00	1.20	1.60
Weight (kg)	1/5/12.50/15	1/5/12.50/15	1/5/12.50/15	1/5/12.50/15	1/5/12.50/15	1/5/12.50/15
