

UGIWELD 25.9.4 (TIG SuperDuplex)

AWS A5.9 ER2594

EN ISO 14343-A 25 9 4 N L



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

General description:

Ugiweld 25.9.4 is a solid wire designed for Tungsten Inert Gas welding (TIG) of super duplex stainless steels such as SAF 2507, Zeron 100, and equivalent grades.

Pure Argon or Argon/N₂ mix are normally used as the shielding gas. For root backing gas, pure argon, nitrogen, or argon/nitrogen gas mix is recommended.

The resulting weld metal microstructure, specifically the balance between austenite and ferrite is influenced by welding parameters, gas composition, and cooling rate.

Purity is a critical factor when welding high-alloyed materials. Keep weld zone free of any contaminations.

Single-sided welding requires the use of an appropriate purge (backing) gas to protect the root side of the weld and to ensure optimum corrosion properties and surface quality of the root bead.

The interpass temperature should not exceed 100 °C, and the heat input should be limited to a maximum of 1.5 kJ/mm to maintain the desired microstructure and mechanical properties.

Welding positions:



Welding current:

DC-

Gas flow:

14-18 l/min

Chemical composition of welding rod:

C	Si	Mn	Ni	Cr	Mo	Cu	N	W	
Max 0.03	Max 1.0	Max 2.5	8.0-10.5	24.0-27.0	2.5-4.5	Max 1.50	0.20-0.30	Max 1.0	

Shielding gas:

Shielding gas: Argon or Argon+N₂

Backing gas : Pure Argon, Pure N₂ or Argon+N₂

Mechanical properties of all-weld-metal:

Yield and Tensile Strengths				
Yield Mpa(Rp0.2)	Tensile Mpa(Rm)	Elongation %		
650	800	30		

Packaging information:

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

Approvals:

DB, CE

Reference / date:

UGIWELD 25.9.4 (TIG SuperDuplex),
English, 15.04.2026.