



<h1>GMM TIG 312</h1>	Classification: Class: AWS : A5.9- ER312
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Material Conforms to: AWS A5.9

Weld Process Used: TIG (GTAW)

Description:

ER312 is used to weld cast alloys of similar composition and is used to weld dissimilar metals and weld overlays. This alloy has very high ferrite. When welding similar cast alloys, limit welding to two or three layers only. Two-phase weld deposit with substantial amounts of ferrite in an austenitic matrix makes it highly resistant to weld metal cracking or fissures. Weld deposits are ductile, with good root penetration.

Chemical Composition of wire:

Standard Requirement								
C	Mn	Si	Cr	Ni	Mo	Cu	S	P
0.15 max	1.0-2.5	0.30-0.65	28.0-32.0	08.0-10.5	0.75 max	0.75 max	0.03 max	0.03 max
Average Typical composition								
0.98	1.78	0.40	30.54	8.82	0.042	0.11	0.002	0.021

Mechanical Properties:

Tensile Strength (Min)	Yield Strength (Min)	Elongation (Min)
750 MPa	520 MPa	25%

Available sizes:

- Diameter- 1.20 mm, 1.60 mm, 2.00 mm, 2.40 mm, 3.20 mm, 4.00 mm
- Length- 1000 mm & 36" Inch

Welding position:

- All position

Polarity:

- DCEN (DC-)

Recommended Welding Parameters:

<u>GTAW "TIG Process"</u>			
<u>Wire Diameter</u>	<u>Amps DC</u>	<u>Volts</u>	<u>Shielding Gas</u>
1.20	80-110	13-16	Argon 100%
1.60	90-130	14-16	Argon 100%
2.40	120-175	15-20	Argon 100%
3.20	140-200	17-22	Argon 100%
4.00	160-230	18-25	Argon 100%

Packing Details:

- 1 Kg/2lbs – Tube
- 5 Kg/10lbs – Tube
- 20Kg/40lbs - Box (4 Tubes)

Note: Other shielding Gases may be used for TIG welding. Shielding gases are chosen taking Quality, Cost, and Operability into consideration.