## **Key Facts**

- Copper-coated TIG rod for welding carbon and carbon-manganese steels
- Triple deoxidised with titanium, zirconium and aluminium for excellent weld quality and resistance to porosity
- Suitable for lower strength welding of fabrications under dynamic loading
- Supplied in a re-sealable heavy-duty cardboard tube

## Description

Copper coated low carbon steel filler rod for TIG welding. Triple deoxidised for superior weld deposit quality and resistance to porosity. Generally used in root pass runs of multi-run butt welds when no back pass is possible. Excellent, mechanical and impact toughness properties when in low temperature conditions.

# Classification, Approvals & Conformances

AS/NZS 1167.2: R2 ISO 636-A: W 46 4 W2Ti AWS A5.18: ER70S-2

#### **Welding Positions**

All positional, including Vertical-Down.



#### Markings & Identification

End stamped with AWS Class: ER70S-2

### Recommended Shielding Gas

Welding Grade Argon 99.95%

AS 4882-2003: SG-A ISO-14175-97: I1

#### **Applications**

Ideal for TIG welding rusty or mill scaled plates and pipes and the root pass welding of pipes, tanks and heavy walled joints. Also, suitable for welding thin, galvanised plates due to the addition of deoxidisers such as; titanium, zirconium and aluminium. The fusion allows the degassing of zinc vapours, which prevents the formation of blows and pores in the weld bead.

| Typical All Weld Metal Analysis |                   |              |                   |  |  |  |
|---------------------------------|-------------------|--------------|-------------------|--|--|--|
| C - Carbon                      | Mn -<br>Manganese | Si - Silicon | P -<br>Phosphorus |  |  |  |
| 0.060%                          | 1.20%             | 0.50%        | 0.012%            |  |  |  |
| S - Sulphur                     | Cu –<br>Copper    | Ti - Titan   | Zr –<br>Zirconium |  |  |  |
| 0.012%                          | 0.15%             | 0.10%        | 0.090%            |  |  |  |
| Al -<br>Aluminium               | Fe - Iron         |              |                   |  |  |  |
| 0.100%                          | Remainder         |              |                   |  |  |  |

| Typical All Weld Metal Mechanical Properties |                                    |  |  |  |
|----------------------------------------------|------------------------------------|--|--|--|
| Yield Strength:                              | 490 MPa                            |  |  |  |
| Tensile Strength:                            | 600 MPa                            |  |  |  |
| Elongation (5xD):                            | 28%                                |  |  |  |
| Typical Diffusible<br>Hydrogen Content:      | ≤ 3ml/100g of deposited weld metal |  |  |  |
|                                              | 120J @ +20°C                       |  |  |  |
| Impact Strength<br>Charpy-V                  | 100J @ -30°C                       |  |  |  |
|                                              | 70J @ -40°C                        |  |  |  |

| Packaging & Ordering Information |      |                           |        |                |  |  |  |
|----------------------------------|------|---------------------------|--------|----------------|--|--|--|
| Size                             | Pack | Current Type<br>and Range |        | Part<br>Number |  |  |  |
| 1.6mm                            | 5kg  | DC-                       | 40-120 | 300121         |  |  |  |
| 2.4mm                            | 5kg  | DC-                       | 60-190 | 300122         |  |  |  |
| 3.2mm                            | 5kg  | DC-                       | 90-250 | 300123         |  |  |  |