# TGA-80B2

## Characteristics and Applications:

TGA-80B2 with 1.25% Cr-0.5% Mo, is designed for welding low-alloy steels with high tensile strength and creep-resistant steels such as ASTM type: A199-76, A200-75, A213-76d, A335-76, A369-76, A387-76. Suitable for pipelines and pressure vessels with operating temperatures at from 350~550 . The deposited metal has low impurity elements such as phosphorous (P), and sulfurous(S) to minimize tempering embrittlement.

## Notes on usage:

1. Use DC⁻(DCEN) polarity and 100% Argon gas at proper flow rate (10-15 l/min, max. wind 1 m/sec).
2. Trailer Shield is required to ensure the weld pool completely shielded by inert gas until solidification is complete and no porosity problem.
3. Select right gas cup size and employ proper stick out of tungsten electrode.
4. Be sure to clean up the contaminations on the base metal and welding seam so as not to derogate the weld metal quality from particles.
5. To prevent cold cracking, preheating and interpass temperature should be 150~250
6. Postweld heat treatment should be 650~700 to remove residual stress.
7. Heat input should be properly controlled prevent from excessive heat input can cause hot cracking and, deteriorate tensile properties and notch toughness.

## Typical chemical composition of wire (wt%):

| C | Mn | Si | P | S | Cr | Mo | Cu |
|------|------|------|-------|-------|------|------|------|
| 0.09 | 0.60 | 0.55 | 0.010 | 0.010 | 1.42 | 0.52 | 0.03 |

## Typical mechanical properties of weld metal:

| Yield strength MPa(ksi) | Tensile strength MPa(ksi) | Elongation % | PWHT |
|-------------------------|---------------------------|--------------|-----------|
| 470(68) | 600(87) | 26 | 620 ×1hr |

## Sizes available:

| Diameter (mm) | 2.0 | 2.4 | 3.2 |
|---------------|-----|-----|-----|
| Length (mm) | 915 | | |

SOLID WIRES

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