

# TS-307

AWS A5.4 E307-16  
EN ISO 3581-B ES307-16  
JIS Z 3221 ES307-16

## Characteristics and Applications:

The weld metal of TS-307 is a full austenite structure that contains 4-5% of Mn. Crack resistance is good. It is suitable for welding of stainless cladding steel, high tensile steel and self-hardening alloy steels with poor weldability.

## Notes on usage:

1. Clean up the contaminations on the base metal, groove and pass to pass with stainless steel brush.
2. Maintaining short arc length as possible is highly recommended. While welding with weave method, moving range should be controlled within 2.5 times of the wire's dia.
3. Dry the electrodes at 250~300°C for 60 minutes before use. Take out consumables for half day consumption and keep in the environment at 100~150°C during welding process.
4. Use lower current to prevent from crack and minimize base metal dilution.

## Typical chemical composition of weld metal (wt%):

|               | C         | Mn        | Si    | P     | S     | Cr        | Ni       | Mo      |
|---------------|-----------|-----------|-------|-------|-------|-----------|----------|---------|
| AWS           | 0.04-0.14 | 3.30-4.75 | ≤1.00 | ≤0.04 | ≤0.03 | 18.0-21.5 | 9.0-10.7 | 0.5-1.5 |
| EN ISO        | 0.04-0.14 | 3.30-4.75 | ≤1.00 | ≤0.04 | ≤0.03 | 18.0-21.5 | 9.0-10.7 | 0.5-1.5 |
| Typical value | 0.06      | 4.20      | 0.50  | 0.035 | 0.010 | 19.20     | 9.17     | 0.80    |

## Typical mechanical properties of weld metal:

|               | 抗拉強度<br>MPa(ksi) | 伸長率 (%) |
|---------------|------------------|---------|
| AWS           | ≥590(85)         | ≥30     |
| EN ISO        | ≥590(85)         | ≥25     |
| Typical value | 600(87)          | 42      |

## Welding position:



## Sizes and recommended current range (AC or DC <+>):

| Diameter (mm) | 2.6  | 3.2   | 4.0    | 4.8     |         |
|---------------|------|-------|--------|---------|---------|
| Length (mm)   | 300  | 350   | 350    | 350     |         |
| Amps          | F    | 60-90 | 80-120 | 130-170 | 180-210 |
|               | V&OH | 50-70 | 70-110 | 100-130 | -       |

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