

# TWE-811Ni1

AWS A5.29 E81T1-Ni1C  
EN ISO 17632-A-T 46 3 1Ni P C1 1 H10

## Characteristics and Applications:

TWE-811Ni1 is a titania type flux-cored wire with CO<sub>2</sub> shielding gas for all-position welding. It is designed for welding 590 N/mm<sup>2</sup> high tensile steel used in low temperatures.

It provides good weldability with smooth bead appearance, less spatter, stable arc and good impact properties.

It is also suitable for welding on construction machinery, shipbuilding, offshore, structures, bridges, storage tanks and piping.

## Notes on usage:

1. Excessive heat input should reduce impact value. Therefore, perform welding with selecting proper heat input based on the required impact value.
2. Must preheat at 50~150°C depending on steels, plate thickness and restraint.
3. Use DC(+) polarity.
4. Use 99.8% or higher purity of CO<sub>2</sub> Gas.
5. Keep the product dry, while it is stored or delivered.

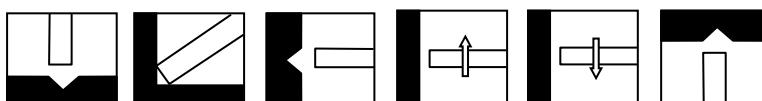
## Typical chemical composition of weld metal (wt%):

|               | C      | Mn     | Si     | P       | S       | Ni        |
|---------------|--------|--------|--------|---------|---------|-----------|
| AWS           | ≤ 0.12 | ≤ 1.75 | ≤ 0.80 | ≤ 0.030 | ≤ 0.030 | 0.80-1.10 |
| EN ISO        | -      | ≤ 1.4  | ≤ 0.80 | -       | -       | 0.6-1.2   |
| Typical value | 0.04   | 1.20   | 0.25   | 0.015   | 0.009   | 0.91      |

## Typical mechanical properties of weld metal:

|               | Yield strength MPa(ksi) | Tensile strength MPa(ksi) | Elongation % | Charpy V-Notch J(ft-lbf) |         |
|---------------|-------------------------|---------------------------|--------------|--------------------------|---------|
| AWS           | ≥470(68)                | 550-690(80-100)           | ≥19          | -30°C(-20°F)             | ≥27(20) |
| EN ISO        | ≥460(67)                | 530-680(77-99)            | ≥20          | -30°C(-20°F)             | ≥47(35) |
| Typical value | 602(87)                 | 650(94)                   | 26           | -30°C(-20°F)             | 110(81) |
|               |                         |                           |              | -40°C(-40°F)             | 95(70)  |

## Welding position:



## Sizes and recommended parameter range (DC<+>):

Stick out:15-25(mm), flow rate:20-25(l/min):

| Position | Diameter (mm)       | 1.2                 | 1.4                 | 1.6 |
|----------|---------------------|---------------------|---------------------|-----|
| F、HF     | 180A-300A / 24V-36V | 180A-350A / 24V-36V | 200A-400A / 28V-42V |     |
| VU、OH    | 150A-220A / 22V-28V | 150A-220A / 22V-28V | 160A-280A / 22V-28V |     |
| H        | 150A-260A / 22V-31V | 160A-280A / 22V-30V | 180A-400A / 28V-42V |     |

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