

BF-276×Y-276

☆AWS A5.14 ERNiCrMo-4

For 9%Ni Steel

APPLICATIONS

Welding of 9%Ni steel for cryogenic storage tanks for LNG, Liquified nitrogen, etc.

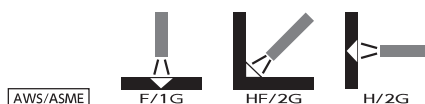
CHARACTERISTICS

Hastelloy™ type weld metal shows high strength and excellent toughness at extremely low temperatures. Welding materials equivalent to the alloy C276 series are used in 9% Ni tanks as the world's mainstream. Slag is easy to remove, bead appearance and X-ray properties are excellent.

GUIDELINES FOR USAGE

1. Flux should be redried at 300~ 350°C for 120 minutes before use.
2. DC(+) should be used.

WELDING POSITION



■ TYPICAL CHEMICAL COMPOSITION OF WELD METAL (%)

| C | Si | Mn | P | S | Cu | Fe | Ni | Cr | Mo | W | Co | Plate Thickness mm | Welding method |
|------|------|------|-------|-------|------|-----|-------|------|-------|------|------|-----------------------|----------------|
| 0.01 | 0.10 | 0.75 | 0.001 | 0.002 | 0.01 | 6.0 | 56.80 | 16.4 | 16.25 | 3.37 | 0.01 | 20 | Flat |

■ TYPICAL MECHANICAL PROPERTIES OF WELD METAL

| Yield Strength, MPa | Tensile Strength, MPa | Elongation, % | Charpy 2V-notch at -196°C, J | Plate Thickness mm | Welding method |
|------------------------|--------------------------|------------------|------------------------------------|-----------------------|-------------------|
| 470 | 715 | 46 | 103 | 20 | Flat |

■ TYPICAL WELD JOINT TEST

| Joint Tensile Test | | Charpy 2V-notch at -196°C, J | Base Metal | Plate Thickness mm | Welding method |
|--------------------------|-------------------------------|------------------------------------|------------|-----------------------|-------------------|
| Tensile Strength, Mpa | Location of Fracture | | | | |
| 730 | Weld metal + Base metal | 88 | 9%Ni steel | 25 | Flat |

■ TYPICAL GROOVE GEOMETRY AND WELDING CONDITIONS

| Welding Method | Wire Dia. mm | Current, A | Voltage, V | Speed, cm/min | Wire Extension |
|-------------------|-----------------|---------------|---------------|------------------|-------------------|
| Flat | 2.4 | 300~400 | 30±2 | 30~50 | 25±5 |
| Horizontal | | 300~380 | 26±2 | 30~70 | 25±5 |

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