

ROYALFIL GS 209 (E2209T0-1)

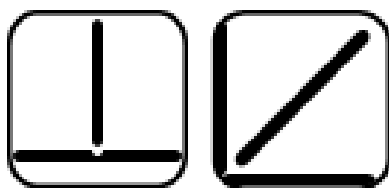
AWS A / SFA 5.22 E2209T0-1

Applications

Royalfil-GS 209 used for welding of Duplex stainless steel which contain approximately 22% Chromium. Also used for joining of Duplex steels to mild steels, cladding of Duplex stainless steel weld metal on Carbon steel/low alloy steel. Used for piping in gas & oil industry, off-shore platforms, welding of duplex stainless steels 1.4417, 1.4460, 1.4462

Characteristics on Usage

Royalfil GS- 209 is a Duplex stainless steel flux core welding wire for welding with Co2 shielding gas. The nominal composition of the weld metal is 22 % Cr., 9 % Ni., 3 % Moly., & 0.15 % N. The microstructure of the weld deposit consists of a mixture of Austenite & Ferrite. Because of the two phase microstructure, this alloy is one of the family of duplex stainless steel alloys. The alloy has high tensile strength & has good resistance to stress corrosion cracking & pitting corrosion. Welding of Duplex steels should be made with low heat input. Weld metal is of radiographic quality.

Welding Positions

1G

2F

Chemical Composition Of Weld Metal

| Element | C% | Mn% | Si% | S% | P% | Cr % | Ni % |
|----------------|----------|---------|---------|----------|----------|-------|------|
| Typical Values | 0.030 | 1.50 | 0.50 | 0.006 | 0.030 | 22.5 | 9.0 |
| Spec. Req'd. | 0.04 Max | 0.5-2.0 | 1.0 Max | 0.03 Max | 0.04 Max | 21-24 | 7.5- |

Mechanical Properties Of Weld Metal

| Property | U.T.S. (N/mm ²) | ELONGATION (L = 4d) % |
|----------------|--------------------------------|----------------------------|
| Typical Values | 780 | 25 |
| Spec. Req'd. | 690 Min | 20 Min |

Welding Parameters (DC + VE)

| Diameter (mm) | Flat & Horizontal (A) | Flat & Horizontal (V) |
|------------------|-----------------------------|-----------------------------|
| 1.20 | 160-210 | 26-30 |
| 1.60 | 190-250 | 26-30 |

Packing

12.5 kgs. vacuum packed plastic spool.