

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

Recommended Stick Out

15-20mm

Shielding GasCarbon Dioxide (CO₂) shielding
Gas Flow :15-20 Lit / Min**Chemical Composition Of Weld Metal**

Element	C%	Mn%	Si%	S%	P%	Cr %	Ni %	Mo %	N%
Typical Values	0.030	1.50	0.50	0.006	0.030	22.5	9.00	3.0	0.15
Spec. Reqd.	0.04 Max	0.5-2.0	1.0 Max	0.03 Max	0.04 Max	21-24	7.5-10	2.5-4.0	0.08-0.20

Cu %

0.12

0.75 Max

Mechanical Properties Of Weld Metal

Property	U.T.S. (N/mm ²)	ELONGATION (L = 4d) %
Typical Values	780	25
Spec. Reqd.	690 Min	20 Min

Welding Parameters (DC + VE)

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

Packing

12.5 kgs. vacuum packed plastic spool.