ROYALFIL GS-81 B8 (E81T1-B8C)

AWS A / SFA 5.29 E81T1-B8C

Applications

Royalfil GS-81 B8 flux cored wire is recommended for welding of 9% Cr+Mo air hardening steel for elevated temperature service up to 600°c with reasonable degree of corrosion resistance from steam, Hot hydrogen gas & High sulphur crude oil. This include steels like A387 grade 9, A335 grade P9, A234 grade WP9(fitting), A199 grade T9, A213 grade T9, A182 grade F9, A336 grade F9, A217 grade C12 used primely for boiler superheat tubing, heat exchanges, piping and pressure vessels in oil refineries and power plants.

Characteristics on Usage

Royalfil GS-81 B8 is all position Rutile based flux cored wire depositing approx 9% Cr, 1.00% Mo, 0.3 Ni%, weld metal with CO2 shielding. The slag coverage is complete & easily removable. The weld metal is of radiographic quality. Since all Cr+Mo electrodes produce weld metal which will hardens is still air, both pre & post weld heat treatment (PWHT) are required for most applications.

Welding Positions

1G 2F 3G 4G

Recommended stick out

15-20 mm

Shielding Gas

Carbom Dioxide (CO2)
Shielding Gas Flow : 20-25 Lit / Min

Chemical Composition Of Weld Metal

Element	C%	Mn%	Si%	S%	P%	Cr %	Ni %	Mo %
Typical Values	0.060	0.70	0.30	0.010	0.016	9.0	0.30	1.00
Spec. Reqd.	0.05-0.12	1.25 Max	1.00 Max	0.030 Max	0.040 Max	8.0-10.50	0.40 Max	0.85-1.20

Mechanical Properties Of Weld Metal

After PWHT at 745 ± 15 °C for 2 hours

Property	U.T.S. (N/mm^2)	Y.S. (N/mm^2)	ELONGATION (L = 4d) %
Typical Values	640	530	24
Spec. Reqd.	550-690	470 Min	19 Min

Welding Parameters (DC + VE)

Diameter (mm)	Flat & Horizontal (A)	Flat & Horizontal (V)	Vertical - Up (A)	Vertical - Up (V)	Overhead (A)	Overhead (V)
1.20	180-250	26-30	120-210	22-26	150-200	26-30
1.60	210-280	26-30	160-250	22-27	190-240	26-30

Packing

15 Kgs. Vacuum packed plastic spool.