

ROYALFIL GS 81-B6 (E 81T1-B6 C)

AWS A / SFA 5.29 E 81T1- B6C

Applications

It is used for welding of similar composition of Cr - Mo steel and other creep resistance steel. It is used in oil refineries, power plants, chemicals plants, fertilizer Industries. Materials to be welded are plate ASTM A387 Grade 9, Pipe/ Tube ASTM A 335 Grade 9, ASTM A234 Grade WP9 (fittings), ASTM A199 GradeT9, Forgings ASTM A182 Grade F9, ASTM A336 Grade F9, Cast ASTM A 217 GradeC12

Characteristics on Usage

It is all position low alloy Rutile base flux cored wire depositing approx 5% Cr, 0.50% Mo weld metal with CO₂ shielding. The slag coverage is complete, easily removable. The weld metal is radiographic quality and has creep resistance up to 650 Deg.

Welding Positions**Recommended Stick Out** **Shielding Gas**

15-20mm

Carbon Dioxide (CO₂) shielding
Gas Flow :20-25 Lit / Min

1G

2F

3G

4G

Chemical Composition Of Weld Metal

Element	C%	Mn%	Si%	S%	P%	Cr %	Mo %
Typical Values	0.06	0.60	0.50	0.010	0.018	5.0	0.55
Spec. Reqd.	0.05-0.12	1.25 Max	1.00 Max	0.030 Max	0.040 Max	4.0-6.0	0.40-0.65

Mechanical Properties Of Weld Metal

(After PWHT at 745 ± 15°C for 2hr)

Property	U.T.S. (N/mm ²)	Y.S. (N/mm ²)	ELONGATION (L = 4d) %
Typial Values	620	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.