

ROYALFIL GS 81RA1 (E81T1-A1C)

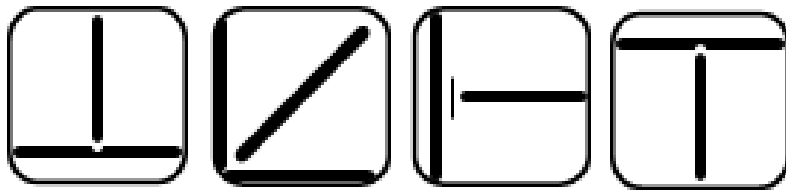
AWS A / SFA 5.29 E81T1-A1C

Applications

Royalfil GS 81RA1 is used for welding of similar composition of C-Mo steels. Commonly used in the fabrication and the erection of boilers, pressure vessels, pressure piping & tubing. Typical applications include the welding of C- Mo steels such as ASTM A161, A204, A302 Gr.A & A335-P1 pipe, A336 Gr. F1, A352 Gr. LC1, A356 Gr. 2, A533 Gr.A1 etc.

Characteristics on Usage

Royalfil GS 81RA1 is an all position low alloy rutile base flux cored wire depositing approximately 0.50%Mo weld metal with CO₂ shielding. The slag coverage is complete and designed for easy removal. Weld metal is consistently free of inclusions and porosity for radiography soundness. Addition of Molybdenum increases strength of the weld metal especially at elevated temperatures. Also increases corrosion / crack resistance.

Welding Positions

1G

2F

3G

4G

Chemical Composition Of Weld Metal

Element	C%	Mn%	Si%	S%	P%	Mo %
Typical Values	0.050	1.00	0.60	0.010	0.015	0.50
Spec. Req'd.	0.12 Max	1.25 Max	0.80 Max	0.030 Max	0.030 Max	0.40-0.65

Mechanical Properties Of Weld Metal

(After PWHT at 620 ± 15°C for 1 Hr)

Property	U.T.S. (N/mm ²)	Y.S. (N/mm ²)	ELONGATION (L = 4d) %
Typical Values	600	545	24.50
Spec. Req'd.	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