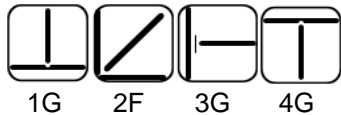


Applications

It is used for all position single and multipass welding of tank, pressure vessels where stress relieving is necessary. This wire is especially useful in welding of nozzle neck of carbon steel, pressure vessel, where low temp. service is required.

Characteristics on Usage

Royalfil GS-12ESR is a Titania base all position flux core welding wire designed for optimum performance when using 80% Ar + 20% CO₂ shield. It gives smooth metal transfer with excellent flat bead, least spatter and easy slag removal. The weld deposits content 0.5 % Ni while retaining excellent impact properties at low temp. service even after stress relieving. Weld metal is of radiographic quality.

Welding Positions**Recommended Stick Out**

15 - 20mm

Shielding Gas

80 % Ar + 20 % CO₂ shielding
Gas Flow : 20-25 Lit/Min

Chemical Composition Of Weld Metal

Element	C%	Mn%	Si%	S%	P%	Ni %
As Welded*	0.052	1.38	0.48	0.006	0.015	0.42
StressReli eved* (620±10°C for 3Hrs.)	0.048	1.42	0.48	0.007	0.014	0.44
StressReli eved (620±10°C for 8 Hrs.)	0.046	1.34	0.46	0.009	0.016	0.42
Spec Reqd.	0.12 Max	1.60 Max	0.90 Max	0.030 Max	0.030 Max	0.50 Max

Mechanical Properties Of Weld Metal

Property	U.T.S. (N/mm ²)	Y.S. (N/mm ²)	ELONGATION (L = 4d) %	IMPACT (CVN) AT -40 °C (J)
As welded*	590	520	26	70
Stress relieved* (620 ± 10°C for 3 Hrs.)	560	470	30	75
Stress relieved (620 ± 10°C for 8 Hrs.)	520	420	28	65
Spec.Reqd.	490-620	390 Min	22 Min	27 Min

Welding Parameters (DC + VE)

Diameter (mm)	Flat		Vertical - Up		Overhead	
	(A)	(V)	(A)	(V)	(A)	(V)
1.20	180-210	26-30	150-210	22-26	180-210	26-30
1.60	210-250	26-30	180-250	21-27	210-250	26-30

Approvals

ABS - GR.4YH5-SA

Packing

15 kgs. vaccum packed plastic spool.