

**ROYALFIL GS - 2594 (E2594T0-1)**

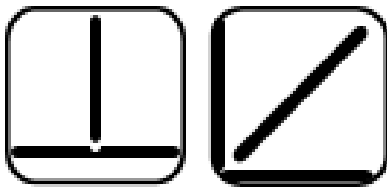
AWS A / SFA 5.22 E 2594T0-1

**Applications**

Royalfil GS- 2594 is designed for the welding of superduplex stainless steels UNS S 32750 & S 32760 (wrought) & UNS J93380 & J93404 (cast). It can also be used for welding of UNS S32550, J93370 & J93372 when not subjected to sulphurous or sulphuric acids in service. It can also be used for welding of low alloy steels to duplex steels such as E2205 & E2209 grades. In offshore applications, it gives high resistance to 'pitting & stress corrosion cracking' in sea water. Widely used for piping in oil & gas industry, offshore platforms, pressure vessels, valves, pumps, mining / chemical / pharmaceutical industries.

**Characteristics on Usage**

Royalfil GS- 2594 is a Super Duplex stainless steel fluxcored welding wire for welding with Co2 shielding gas. Two phase microstructure of the weld deposit consists of Austenite & Ferrite (50/50) which has improved strength over ferritic & austenitic type stainless steel grades. The main difference is that 'superduplex stainless steel' has a higher chromium & molybdenum content, which gives greater 'corosion resistance' in comparison to 'Duplex Stainless Steel'. Welding of Super Duplex Stainless Steel should be made with 'low heat input'. Weld metal is of radiographic quality.

**Welding Positions**

1G

2F

**Chemical Composition Of Weld Metal**

Element	C%	Mn%	Si%	S%	P%	Cr %	Ni %
Typical Values	0.030	1.50	0.50	0.006	0.030	25.5	9.3
Spec. Reqd.	0.04 Max	0.5-2.50	1.0 Max	0.03 Max	0.04 Max	24-27	8-10

**Mechanical Properties Of Weld Metal**

FERRITE NO.= 30 - 40FN

Property	U.T.S. (N/mm <sup>2</sup> )	ELONGATION ( L = 4d ) %
Typical Values	850	20
Spec. Reqd.	760 Min	15 Min

**Welding Parameters (DC + VE)**

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

**Packing**

12.5 Kgs vacuum packed plastic spool