

Stainless Steel Welding Flux



GJ-SJ602

Agglomerated Flux

(Basic flux for heat-resistant and stainless SAW)

- ▶ GB/T 17854
- ▶ EN ISO 14174 SA FB 1

Product description

GJ-SJ602 is a basic agglomerated submerged arc welding flux with moderate calcium fluoride content, designed for welding heat-resistant stainless steels and low-alloy creep-resistant steels. The balanced basicity provides good toughness and crack resistance while maintaining stable arc behavior in high-current SAW applications.

Key Advantages

- ▶ **Balanced Basicity:** Moderate CaF_2 content (15-25%) provides a good balance of arc stability, slag fluidity, and weld metal cleanliness.
- ▶ **Good Toughness:** Basic slag system produces weld metal with excellent impact toughness for pressure vessel and structural applications.
- ▶ **Versatile Wire Compatibility:** Works effectively with both stainless wires (ER308L, ER316L) and low-alloy heat-resistant wires (EB3R, EA2) for multi-purpose SAW shops.

Application Guide

- ▶ **With ER308L/ER316L wire:** For SAW of stainless steel structural components, bridge elements, and general fabrication requiring good toughness.
- ▶ **With EB3R/EA2 wire:** For SAW of Cr-Mo heat-resistant steels in power plant boilers, pressure vessels, and high-temperature piping.
- ▶ **For mixed fabrication shops:** Ideal for facilities welding both stainless and low-alloy steels where a single versatile flux reduces inventory complexity.

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● Main constituents

Elements	SiO ₂ +TiO ₂ (Silica+Titania)	CaO+MgO (Lime+Magnesia)	Al ₂ O ₃ +MnO (Alumina+Manganese)	CaF ₂ (Calcium Fluoride)	S (Sulfur)	P (Phosphorus)
AWS Requirement	10 - 20	30 - 40	25 - 35	15 - 25	≤0.06	≤0.08
Typical Actual Value	15.2	35.2	29.8	19.6	0.020	0.025

● Typical Mechanical Properties of Deposited Metal

Mechanical properties tested as all-weld metal combined with ER308L wire (AWS A5.9). Flux is mildly active; properties depend on the paired wire.

Test Item	Yield Strength	Tensile Strength	Elongation	Impact@ -20°C
GB/T 17854 Requirement	—	—	—	≥27 J
Typical Actual Result	400 MPa	590 MPa	32%	60 J

● Reference Welding Parameters

Wire Diameter	Wire 2.0 mm	Wire 2.5 mm	Wire 3.2 mm	Wire 4.0 mm
Amperage	300 - 450	350 - 500	400 - 550	450 - 600
Voltage	28 - 32	29 - 33	30 - 34	31 - 35