

Stainless Steel Welding Flux



GJ-SCF-1

Agglomerated Flux

(Strip cladding flux for stainless overlay)

- ▶ GB/T 17854
- ▶ EN ISO 14174 SA FB 2

Product description

GJ-SCF-1 is a fluoride-basic agglomerated flux specifically formulated for submerged arc strip cladding of stainless steel overlays on carbon steel. Optimized for use with 308L, 309L, and 316L stainless strips, it provides high deposition rates, excellent alloy recovery, and uniform cladding with minimal dilution for corrosion-resistant surfacing.

Key Advantages

- ▶ High Deposition Rate: Optimized for strip cladding at 60-120 mm strip widths, delivering deposition rates up to 15 kg/h with uniform coverage.
- ▶ Low Dilution Control: Produces consistent 10-15% dilution in the first layer, ensuring the clad layer meets corrosion requirements with minimal buffer passes.
- ▶ Excellent Alloy Recovery: High chromium and nickel recovery rates preserve the target alloy composition in the clad layer, even at high travel speeds.

Application Guide

- ▶ With 309L strip (buffer) + 347/308L strip (top): For stainless cladding of carbon steel pressure vessel internals in nuclear and chemical service.
- ▶ With 316L strip: For corrosion-resistant cladding of storage tanks, reactor vessels, and heat exchanger tube sheets requiring molybdenum-alloyed surfaces.
- ▶ For heavy wall cladding: Suitable for single-layer and multi-layer strip cladding of thick-walled components with uniform chemistry and mechanical properties.

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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	5 - 10	6 - 10	30 - 40	40 - 50	≤0.05	≤0.05
Typical Actual Value	7.0	8.0	36.0	46.0	0.012	0.018

● Typical Mechanical Properties of Deposited Metal

Cladding properties tested with 308L strip (60×0.5mm) on carbon steel base. First layer dilution 10-15%; second layer achieves full 308L composition.

Test Item	Clad Yield	Clad Tensile	Clad Elongation	Ferrite Number
GB/T 17854 Requirement	—	—	—	4 - 8 FN
Typical Actual Result	360 MPa	560 MPa	35%	6 FN

● Reference Welding Parameters

Wire Diameter	Strip 30×0.5mm	Strip 50×0.5mm	Strip 60×0.5mm	Strip 90×0.5mm
Amperage	350 - 500	450 - 650	550 - 750	700 - 950
Voltage	26 - 30	27 - 31	28 - 32	29 - 33