



GJ-501H

Agglomerated Aluminum-Rutile Active Flux

- EN ISO 14174: S A AR 1 76 AC
- AWS A5.17: F7A0-EM12K / F7A2-EM12

Product description

● Basic Information

- BASICITY: ~0.85
- GRAIN SIZE: 0.28 - 1.4 mm (14-60 mesh)
- DIFFUSIBLE HYDROGEN : ≤5 ml/100g (H5 Grade)
- DENSITY: 1.35g/cm³
- Applicable Current: AC / DCEP
- PACKAGING: 25 kg plastic valve bags, 500/1000 kg large bags

● Application

- **Engineered for PEB & H-Beams:** Specifically developed for high-speed single-wire or tandem (multi-wire) fillet welding of H-beams in the Pre-Engineered Building (PEB) and steel structure industries.
- **Perfect Match for 1.6mm Fine Wire:** The refined grain size distribution (14-60 mesh) prevents arc blow and wandering under high current densities, ensuring exceptional arc stability for 1.6mm small-diameter wires.
- **Superb High-Speed Performance:** Formulated with a "short slag" characteristic, allowing the molten slag to freeze quickly behind the arc. This supports extreme travel speeds of 1.5m to 1.8m/min without causing undercut or uneven bead edges.
- **Exceptional Tolerance to Rust & Scale:** As an active flux with balanced Si and Mn metallurgical replenishment, it is highly resistant to porosity. High-quality welds can be achieved even on plates with light rust, moisture, or mill scale, saving significant pre-weld grinding costs.



Submerged Arc Welding Flux

- **Effortless Slag Detachability:** Slag removes easily or self-peels immediately upon cooling, revealing a beautifully smooth weld bead with uniform, delicate ripple patterns.

- **Main constituents**

SiO ₂ +TiO ₂	CaO+MgO	Al ₂ O ₃ +MnO	CaF ₂
28-35	45-55	12-18	5-10

Wire electrodes used	Yield strength ≥MPa	Tensile strength ≥MPa	Elongation 8% ≥%	Impact values ≥J (CVN)		
				+20℃	0℃	-20℃
EM12	440	535	26		≥75	45-55
EM12K	465	560	25		≥70	35-48
EL8	395	490	29		≥90	55-68

- **Welding Parameter Recommendations**

For 1.6 mm Wire: 350A - 450A | 28V - 32V | 100 - 160 cm/min

For 2.0 mm Wire: 400A - 550A | 30V - 34V | 80 - 120 cm/min

Polarity: AC or DCEP

NOTE:

- **Re-drying Requirement:** The flux must be baked at 300℃ - 350℃ for 60 minutes prior to welding to ensure optimal low-hydrogen performance and prevent porosity.
- **Active Flux Limitation:** GJ-501H is an active flux that metallurgically adds Silicon and Manganese to the weld pool. It is strictly recommended for single-pass or limited-layer (up to 2-3 layers) welding. Avoid heavy multi-layer welding on thick plates to prevent alloy accumulation and subsequent reduction in impact toughness.
- **Flux Recycling:** When reusing recycled flux, remove fine dust and debris regularly, and add at least 20% fresh flux to maintain consistent grain size distribution and welding stability.



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