

KF81-Ni1M

Flux Cored Wire for Low Temperature Steel

Classifications:

AWS A5.29 E81T1-Ni1M
A5.29M E551T1-Ni1M
EN T 46 3 1Ni P M

Characteristics and Applications:

KF81-Ni1M is rutile-based flux cored wire for all position MGA welding with Mixed gas. It is designed for the single and multi pass welding of carbon manganese and low-alloy steels requiring good toughness down to -30°C . Thanks to weld metal containing 1% nickel, it can provide exceptional impact properties and X-ray performance. KF81-Ni1M is suitable for 590N/mm² grade steels on offshore fabrications, vessels, storage tanks and structural steelwork with the good weldability featured by less spatter, easy slag removal and good weld appearance.

Welding Position: 

Typical Chemical Composition of All-Weld Metal:

Alloy wt%	C	Mn	Si	Cr	Ni	Mo	P	S	Al
AWS	0.12	1.50	0.80	0.15	0.80-1.10	0.35	0.03	0.03	—
Tested	0.040	1.34	0.50	—	1.05	0.26	0.010	0.009	—

Mechanical Properties of All-Weld Metal:

Mechanical properties	Yield Strength (Mpa)	Tensile Strength (Mpa)	Elongation (%)	Impact Value (J/°C)
AWS	470	550-690	19	27/-30
Tested	558	628	27	70/-60

Notes on Usage:

1. Electric current choice : DC+
2. Clean up water, rust, oil on the base metal sufficiently before welding.
3. Preheating the base metal at $150 \pm 15^{\circ}\text{C}$.
4. Use over Mixed gas (80% Argon + 20% CO₂).
5. Keeping the elongation is around 15-20mm.
6. Control small heat input quantity and keep lower interlayer temperature, or it is easy make low temperature impact ductility down.
7. It's necessary to cover the flux cored wire by canvas if it needs on wire feeder for one night.

Sizes Available and Recommended Parameter:

	Dia/mm	1.2	1.6
Amp	F	120-300	200-350
	V&OH	120-240	—