



NiCrMo-3

Description and Application: The deposited metal possesses high strength, pitting corrosion resistance, and crevice corrosion resistance. It is primarily used for Gas Tungsten Arc Welding (GTAW) or Gas Metal Arc Welding (GMAW) of Inconel 625 alloy, Incoloy 825/25-6Mo alloy, molybdenum-containing stainless steel, and 9% nickel steel. It is also commonly used for welding between dissimilar materials of nickel-based alloys and stainless steel, as well as for surface cladding.

Conform to : GB/T 15620 S Ni6625、ISO 18274 S Ni 6625、AWS A5.14 ERNiCrMo-3

Chemical composition of the welding wire (Wt.%)

	C	Si	Mn	S	P	Ni	Cr	Mo	Nb+Ta	Fe
GB	≤0.10	≤0.50	≤0.50	≤0.015	≤0.020	≥58.0	20.0~23.0	8.0~10.0	3.0~4.2	≤5.0
AWS	≤0.10	≤0.50	≤0.50	≤0.015	≤0.020	≥58.0	20.0~23.0	8.0~10.0	3.15~4.15	≤5.0
Example value	0.008	0.06	0.01	0.003	0.001	64.60	22.56	8.80	3.75	0.05

Mechanical properties of the deposited metal

	Temper ature (°C)	Tensile strength Rm (MPa)	Yield strength ReL (MPa)	Elongation A (%)	Impact 20°C (J)	Impact -196°C (J)	ASTM G28-A boiling,120h	ASTM G48-A 50°C,72h
AWS	Room Tem	≥760	—	—	—	—	—	—
Example value	Room Tem	802	585	46	207/210/205	130/132/127	0.8mm/Y	0.28g/m ²

*Example value: TIG welding with a solid wire of diameter 1.2mm.

GTAW Reference specification (DCEN)

Diameter (mm)	Type	Shielding gas	Welding current(A)	Gas flow(L/min)	Welding speed (mm/min)
Φ1.0	Automatic	Ar	150~180	16~20	80~120
Φ1.2	Automatic	Ar	160~200	16~22	80~120
Φ2.0	Manual	Ar	140~180	12~17	80~150
Φ2.4	Manual	Ar	150~200	12~17	80~150

MIG Reference specification (DCEP)

Diameter(mm)	Type	Shielding gas	Welding current(A)	Welding volt(V)	Gas flow(L/min)
Φ1.0	Automatic	Ar/Ar-He	140~180	24~28	15~25
Φ1.2	Automatic	Ar/Ar-He	160~200	24~28	15~25

Notes:

1. Rust, oil, moisture and other impurities must be removed from the weldment before welding.
2. The interpass temperature shall be kept below 150 degrees Celsius during welding.
3. The operation should be short arc, and the arc length should be controlled within 1mm~3mm.