

ENI 425

Coated Electrode for Nickel Alloys -

Standards	
AWS/ASME SFA - 5.11	ENiCrMo-3
EN ISO 14172	E Ni 6625
TS EN ISO 14172	E Ni 6625

Properties and Applications
ENI 425 is a Ni-Cr-Mo alloyed covered electrode that deposits weld metal with a composition of Ni-22Cr-9Mo-3.5Nb. It is specifically designed for welding highly corrosion-resistant Ni-Cr-Mo alloys such as Alloy 625, 825, and similar materials. This electrode demonstrates excellent toughness at cryogenic temperatures as low as -196°C, making it suitable for welding cryogenic nickel alloys, such as X1NiCrMoCuN25-20-7. The weld metal is resistant to oxidation up to 1200°C in sulfur-free atmospheres and can be used at service temperatures up to 500°C in sulfur-containing environments. It offers high resistance to stress corrosion cracking, pitting, and crevice corrosion in environments containing phosphoric acid, organic acids, seawater, and highly polluted conditions. The weld metal is insensitive to cracking and exhibits excellent resistance to thermal shocks. ENI 425 is used for joining dissimilar nickel alloys, welding dissimilar stainless steels, joining low-alloy steels to stainless steels or nickel alloys, and for buffering and cladding applications. It is also ideal for repair welding of these materials.

Materials	
DIN	Material
NiCr22Mo9Nb	2.4856
NiCr21Mo	2.4858
X10 CrNiAlTi 32 21	1.4876
X8 Ni 9	1.5662

Typical Chemical Values of Weld Metal (%)

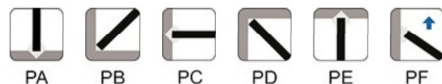
Type of Analysis	C	Si	Mn	Cr	Ni	Mo	Fe	NbTa
Weld Deposit	0.02	0.45	0.65	20.50	66.00	9.00	0.40	3.40

Typical Mechanical Values of Weld Metal

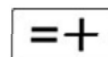
Test Condition	Yield Strength (N/mm²)	Tensile Strength (N/mm²)	Elongation A5 (%)	Charpy V-Notch Properties (J)	
As welded	520	780	42	20°C → 75	-196°C → 70

Application Information

Welding Positions



Polarity:



Welding Parameters & Efficiency

Diameter x Length (mm)	Current (A)
3.25x350	65 - 110
2.50x300	55 - 75
4.00x350	80 - 140

Packaging Information

Product Code	Diameter X Length (mm)	Pieces per Box (~)	Weight Of The Box (kg)	Boxes Per Package	Weight Of The Package	Packaging Type
16007GJEM2	2.50x300	93	1.8	10	18.5	VAC Box
16007NJEM2	3.25x350	54	2.0	10	22.0	VAC Box

16007QJEM2	4.00x350	35	2.0	10	26.0	VAC Box
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Storage & Re-Drying Information

It can be dried maximum 5 times.
Generally not required. If required, redry for 1 hour at 300°C.