

## Exaton NiCrMo-13

NiCrMo-13 is a nickel-chrome-molybdenum alloy of type alloy 59. It is a versatile alloy with excellent wet corrosion resistance for the most demanding applications. It combines excellent corrosion resistance in oxidizing and reducing media, has excellent resistance in chloride containing media and to localized corrosion environments. NiCrMo-13 has excellent thermal stability compared to other common nickel alloys and has therefore outstanding resistance to intermetallic precipitation during welding. Applications for NiCrMo-13 are found in aggressive and contaminated corrosive media including scrubbers for flue gas desulfurisation (FGD), chemical process plants and in severe offshore and petrochemical environments. NiCrMo-13 is used for joining matching alloys or dissimilar joining to other nickel alloys such as UNS N10276 (2.4819), type UNS N06022 (2.4602), UNS N06625 (2.4856) and N08825 (2.4858). It provides strong, tough, Nb-free weld metal for dissimilar welds in super-austenitic and super-duplex stainless steel joints or combinations of these with nickel alloys. NiCrMo-13 can be used for surfacing. Applications for NiCrMo-13 are found in contaminated mineral acid environments such as sulfuric acid, hydrochloric acid, phosphoric acid, nitric acid etc. Components in sulfuric acid coolers, digesters and bleachers. Chemical, petrochemical, marine, pharmaceutical, energy production and pollution control. NiCrMo-13 is approved in ISO15156/MR0175 (highest test level VII in sour-gas environments). NiCrMo-13 is used to weld most of the nickel alloys such as alloy 59, C-22, C-276 etc. It can also be used for joining nickel alloys with duplex stainless steels, super duplex stainless steels and hyper duplex stainless steels. It is used for MIG /MAG welding.

### Specifications

<b>Classifications</b>	SFA/AWS A5.14 : ERNiCrMo-13 EN ISO 18274 : S Ni 6059 (NiCr23Mo16) Werkstoffnummer : 2.4605
<b>Approvals</b>	VdTÜV : 09183

Approvals are based on factory location. Please contact ESAB for more information.

<b>Alloy Type</b>	Alloyed nickel (Ni + 23 % Cr + 15.5 % Mo)
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### Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As Welded	470 MPa ( 68 ksi )	760 MPa ( 110 ksi )	48 %

### Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
As Welded	20 °C ( 68 °F )	190 J ( 141 ft-lb )
As Welded	-196 °C ( -321 °F )	155 J ( 115 ft-lb )

### Typical Wire Composition %

C	Mn	Si	S	P	Ni	Cr	Mo	Al	Co
<=0.01	<=0.5	<=0.1	<=0.01	<=0.015	59	23	15.5	0.3	<=0.3

### Typical Wire Composition %

Fe
<=0.5

### Recommended Welding Parameters

Current	Wire Diameter	Voltage	Wire Feed Speed
150-260 A	1.2 mm ( 0.047 in. )	24-29 V	3.0-10.0 mm/min ( 118-394 in./min )
230-350 A	1.6 mm ( 1/16 in. )	25-30 V	3.0-5.0 mm/min ( 118-197 in./min )