



# CEWELD NiCrMo 686 CPT Tig

**TYPE** Nickel-Chromium-Molybdenum based alloy for Tig welding

**APPLICATIONS** CEWELD® NiCrMo 686 CPT Tig is particularly valuable in operating environments where general corrosion resistance and resistance to hydrochloric acid or sulfuric acid, crevice corrosion in hot, concentrated acid chloride solutions, NaCl solutions saturated with sulfur dioxide, and oxidizing chloride solutions are required. In addition, it is resistant to intergranular corrosion and sensitization-induced intergranular corrosion in highly oxidizing environments. CEWELD® NiCrMo 686 CPT Tig is also suitable for overlay welding of alloys of types 625, C276, C4, C22, and 59, as well as for welding super duplex and super austenitic steels. Applications include the chemical and petrochemical industries, the application of corrosion-resistant coatings and valve seat inserts, and flue gas desulfurization plants. Properties: CEWELD® E NiCrMo 686 CPT Tig weld metal is exceptionally resistant to pitting corrosion..

**PROPERTIES** CEWELD® NiCrMo 686 CPT Tig is a single-phase, austenitic Ni-Cr-Mo-W alloy with excellent corrosion resistance. Its high nickel (Ni) and molybdenum (Mo) content ensures good resistance under reducing conditions, while the high chromium (Cr) content provides resistance to oxidizing media. Molybdenum and tungsten contribute to resistance to localized corrosion, such as pitting. The iron (Fe) content is carefully controlled to optimize properties. A low carbon content helps to minimize precipitation at grain boundaries, thereby maintaining corrosion resistance in the heat-affected zones of welded joints. It is important to maintain a maximum heat input of 1.5 kJ/mm and a maximum intermediate temperature of 100 °C.

**CLASSIFICATION**

AWS	A 5.14: ERNiCrMo-14
EN ISO	18274: S Ni 6686 (NiCr21Mo16W4)
F-nr	43
FM	6
W.Nr.	~2.4606
W.Nr.	UNS N06686

**SUITABLE FOR** **ENiCrMo-14, E Ni 6686 NiCr21Mo16W4**  
 2.4602, 2.4605, 2.4606, 2.4607, 2.4610, 2.4819, 2.4656, 1.4529, 1.4547, 1.4565  
 NiCr23Mo16, NiCr23Mo16Al, NiCr21Mo16W, NiMo16Cr15Ti, NiMo16Cr16Ti, NiCr21Mo14W,  
 NiMo16Cr15W, NiCr22Mo9Nb, Alloy 59, Alloy C4, Alloy 276, X1NiCrMoCuN25-20-7, X1CrNiMoCuN20-18-7  
**ASTM:** C-4, C-276, C-22, 625, 904hMo  
**UNS:** N06059, N06455, N10276, N06625, N08925, S31254, N06686, N06022, N06059, N06200, N08367, N08926, N08031  
 Duplex, Superduplex, super austenitic stainless steel, Nickel Alloys, N06059, N06022, Hastelloy C276, Alloy C22, Alloy 59. Inconel 622, 625, 686, Outokumpu 654 SMO, Incoloy® Alloy 25-6MO, 27-7MO (Special Metals)

**APPROVALS** No Approvals Found

**WELDING POSITIONS**

**TYPICAL CHEMICAL ANALYSIS OF THE FILLER METAL (%)**

C	Si	Mn	P	S	Cr	Ni	Mo	Ti	Fe	W	Cu	Al
0.006	0.03	0.25	0.004	0.001	20	58	16	0.06	0.27	4	0.002	0.3

**ALL WELD MECHANICAL PROPERTIES**

Heat Treatment	R <sub>P0,2</sub> MPa	R <sub>m</sub> MPa	A <sub>5</sub> (%)	Impact Energy (J) ISO-V	
				RT	-196°C
As Welded /	420	760	40	100	80

**REDRYING TEMPERATURE** Not required

**GAS ACCORDING EN 14175** I1



# CEWELD NiCrMo 686 CPT Tig

NICRMO 686 CPT TIG 1,6 X 1000MM	Type	KG/unit	EANCode
	Tube	4,54	8720663419415
NICRMO 686 CPT TIG 2,0 X 1000MM	Type	KG/unit	EANCode
	Tube	5	8720663419422
NICRMO 686 CPT TIG 2,4 X1000MM	Type	KG/unit	EANCode
	Tube	5	8720663419439
NICRMO 686 CPT TIG 3,2 X 1000MM	Type	KG/unit	EANCode
	Tube	4,54	8720663419446