

NiCrMo 60/16

Ni-base electrode

Classification

AWS A5.11M-97 : ENiCrMo-4
 ISO 14172-03 : E Ni 6276 (NiCr15Mo15Fe6W4)

General description

A basic all position Ni-base CrMoW-alloyed electrode.

For welding Alloy C276 and comparable compositions

Depending on the corrosion requirements also applicable for welding C-22 and C-4

Extreme high resistance to:

- general and intergranular corrosion
- pitting and crevice corrosion
- stress corrosion cracking

Applicable for surfacing in high temperature applications (up to 1200°C)

Welding positions



Current type

DC electr. +

Approvals

Chemical composition (w%), typical, all weld metal

C	Mn	Si	Ni	Cr	Mo	W	Fe
0.015	0.5	0.05	bal.	15.5	16.0	3.5	6.5

Mechanical properties, all weld metal

Condition	Condition	Yield Strength (N/mm ²)	Tensile Strength (N/mm ²)	Elongation (%)	Impact ISO-V (J) 20 °C -196 °C
As welded					
Required: AWS A5.11M-97		not required	min. 690	min. 25	not required
ISO 14172-02		min. 400	min. 690	min. 22	not required
Typical values	AW	550	800	40	60 50

Packaging, available sizes and identification

	Diameter (mm)	2.5	3.2	4.0
	Length (mm)	300	350	350
Unit: PE tube	Pieces/unit	xx	xx	xx
	Net weight/unit (kg)	xx	xx	xx

Identification Imprint: NiCrMo-4 / NiCrMo 60/16 Tip colour: grey

NiCrMo 60/16: rev. EN 15

NiCroMo 60/16

Materials to be welded

Material type	DIN/EN	Mat. Nr.	ASTM/ACI	UNS
Ni Base high CrMo	NiMo 16Cr15W	2.4819	C-276	N10276
steel for high corrosion	NiCr21Mo14W	2.4602	C-22	N06022
environments	NiMo 16Cr16Ti	2.4610	C-4	N06455
9% Ni steel	X8Ni9	1.5662	A353/A353M	
9% Ni steel			A553/553M Type I	
8% Ni steel			A553/553M Type II	
5% Ni steel	X12Ni5	1.5680		

- NiCroMo 60/16 is developed for welding C-276 material

- Can also be applied for welding C-22 and C-4, depending on the corrosion requirements

Calculation data

Sizes Diam. x length (mm)	Current range (A)	Current type	Arc time - per electrode at max.current (s)*	Energy E(kJ)	Dep.rate - H(kg/h)	Weight/ 1000 pcs. (kg)	Electrodes/ kg weldmetal B	kg Electrodes/ kg weldmetal 1/N
2.5 x 300	40-70	DC+						
3.2 x 350	70-100	DC+	61	137	1.34	32.5	44	1.43
4.0 x 350	90-140	DC+	65	219	1.92	50.9	29	1.47

* stub end 35 mm

Welding parameters, optimum fill passes

Welding position Diameter (mm)	PA/1G Current (A)	PB/2F	PC/2G	PF/3G up	PE/4G	PF/5G up
2.5	60	55	60	60	60	60
3.2	90	80	85	80	80	80
4.0	130	130	120	120	120	120

Application advice

Welding with heat input max. 1.5 kJ/mm

Interpass temperature max. 150°C