

NiCro 70/19

SMAW

CLASSIFICATION

AWS A5.11	ENiCrFe-3*	A-Nr	-	Mat-Nr	2.4648
ISO 14172	E Ni 6082 (NiCr20Mn3Nb)	F-Nr	43		
*:Deviation, see remarks		9606 FM	6		

GENERAL DESCRIPTION

Fully basic NiCr alloyed all position electrode
 For welding high Ni alloyed material such as Alloy 600 and Alloy 601
 Also applicable for welding dissimilar joints and for CMn- and low alloy clad steel
 High resistance to oxidation at high temperature

WELDING POSITIONS (ISO/ASME)



PA/1G



PB/2F



PC/2G



PF/3Gu



PE/4G



PH/5Gu

CURRENT TYPE

DC +

APPROVALS

TÜV

+

CHEMICAL COMPOSITION (W%), TYPICAL, ALL WELD METAL

C	Mn	Si	Cr	Ni	Mo	Nb	Fe
0.025	3.2	0.45	20.5	bal.	1.2	2.2	1.2

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Condition	0.2% Proof strength [N/mm ²]	Tensile strength [N/mm ²]	Elongation (%)	Impact ISO-V(J)	
				+20°C	-196°C
Required: AWS A5.11 ISO 14172 Typical values	not required min. 360 400	min. 550 min. 600 650	min. 30 min. 22 40	not required not required 110	90

PACKAGING AND AVAILABLE SIZES

	Diameter (mm)	2.5	3.2	4.0	5.0
	Length (mm)	300	300	350	450
PE-Tube	Pieces / unit	76	57	31	45
	Net weight/unit (kg)	1.5	1.7	1.8	4.5

Identification Imprint: NiCro 70/19 Tip Color: blue

NiCro 70/19 rev. C-EN24-27/07/21

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EXAMPLES OF MATERIALS TO BE WELDED

Steel grades	BS3076	DIN 17744/17465 SEW 595	Mat. Nr	ASTM/ACI B366	UNS
Ni base to CrNi alloyed steel for composition in highly corrosive environments					
	NA 14	NiCr15Fe	2.4816	B168-Alloy 600	N06600
		LC-NiCr15Fe	2.4817	Alloy 600L	N06600
		NiCr20Ti	2.4951	Alloy 75	
		NiCr20TiAl	2.4952	Alloy 80A	N07080
	NA 15	X10NiCrAlTi32-20	1.4876	Alloy 800/800H	N08800/10
		NiCr23Fe	2.4851	Alloy 601(H)	N06601
	NA 17	X12NiCrSi36-16	1.4864	330	N08330
		GX40NiCrNb35-25	1.4852		
		GX40NiCrSi35-25	1.4857	HP	

Suitable for welding dissimilar metals:

- Mild- and low alloy steel to stainless steel
- Mild- and low alloy steel to Ni base alloys
- Stainless steel to low alloy creep resisting steel

Not sensitive for embrittlement after heat treatment

CALCULATION DATA

Sizes		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
Diam. x length [mm]	Current range [A]							
2.5 x 300	45-65	DC+	41	61	0.95	19.3	92	1.79
3.2 x 300	70-95	DC+	59	127	1.2	32.7	51	1.64
4.0 x 350	100-140	DC+	75	314	1.7	59.3	29	1.72

*Stub end 35mm

WELDING PARAMETERS, OPTIMUM FILL PASSES

Diameter [mm]	Welding positions					
	PA/1G	PB/2F	PC/2G	PF/3Gup	PE/4G	PH/5Gup
2.5	60A	55A	60A	60A	60A	60A
3.2	90A	80A	90A	80A	80A	80A
4.0	120A	120A				

REMARKS / APPLICATION ADVICE

Deviations: chemical composition

Mn = 2.0 - 6.0%

Cr = 18.0 - 22.0%

Mo = 1,5%

Welding with Heat-Input max. 1.5 kJ/mm

Interpass temperature max. 150°C

AWS: Mn = 5.0 - 9.5%

AWS: Cr = 13.0 - 17%

AWS Mo = not specified

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