

Electrodes for Nickel Alloys





AMA 1604 G

Standards: DIN 1736 EL - NiCr 15 FeMn
 Material number 2.4648
 AWS/ASME SFA - 5.11 ~ E NiCrFe - 3

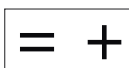
Application / Properties: Basic-covered electrode with 65% Ni and 19% Cr for the welding of:-Heat and corrosion resistant nickel alloys, e.g. NiCr 15Fe(2.4816), LC-NiCr15Fe(2.4817), NiCr20Ti(2.4951), NiCr23Fe(2.4851), creep resistant up to 800C-Various nickel alloys and joining them to other steels
 -Cryogenic nickel steels, e.g. 12Ni19(1.5680), X8Ni9(1.5662), good cryogenic properties down to 196C.-Ferritic steels to austenitic steels for operating temperatures above 300C e.g. creep resistant CrMo-steels to austenitic steel.

Weld metal analysis in % (typical)

C	Mn	Si	Cr	Ni	Nb	Fe	S	P
0.02	7.5	0.3	16	Rest	2	7.5	<0.01	<0.015

Mechanical Properties of all-weld metal : (single values are typical values)

0.2% Proof stress (N/mm ²)	Tensile Strength (N/mm ²)	Elongation A5 (%)	ISO-V Impact energy (J)	
			+ 20 °C	- 196 °C
370	630	38	100	80



Amperage:				
2.5 Ø	3.25 Ø	4.0 Ø	5.0Ø	
60-80	80-100	100-150	120	



Redrying : required at 300°C to 350°C for 2hrs.



AMA 1609 G

Standards: DIN 1736 EL - NiCr 15 FeNb
Material number 2.4805
AWS/ASME SFA - 5.11 ~ E NiCrFe - 2

Application / Properties: Basic-covered electrode with 69% Ni and 16% Cr and 8%Fe for the welding of:

-Heat and corrosion resistant nickel alloys, e.g. NiCr 15Fe(2.4816), LC-NiCr15Fe(2.4817), or for joining these alloys to unalloyed, low alloy and high-alloy steels; good cryogenic properties down to -196C; heat resistant up to +800C.

-austenitic steels to ferritic steels for operation temperatures above 300C.

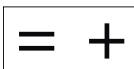
-owing to high toughness properties and resistance to cracking, it is well suited for joining difficult-to-weld steels and for repair welding.

Weld metal analysis in % (typical)

C	Si	Mn	Cr	Ni	Mo	Nb	Fe	S	P
0.04	0.3	2	16	Rest	1.4	1.8	8.5	≤ 0.015	≤ 0.02

Mechanical Properties of all-weld metal : (single values are typical values)

0.2% Proof stress (N/mm ²)	Tensile Strength (N/mm ²)	Elongation A5 (%)	ISO-V Impact energy (J)	
			+ 20 °C	- 196 °C
360	640	40	85	75



Amperage:		
2.5 Ø	3.25 Ø	4.0 Ø
50-70	70-95	90-130



Redrying : required at 300°C to 350°C for 2hrs.



AMA 1611 G

Standards: DIN 1736 EL - NiCr 20 Mo 9 Nb
 Material number 2.4621
 AWS/ASME SFA - 5.11 ~ E NiCrMo - 3

Application / Properties: Basic-covered electrode with 63% Ni and 22% Cr and 9%Mo for the welding of:

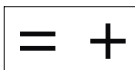
- Highly corrosion resistant nickel-chromium-molybdenum-alloys, e.g.:NiCr22Mo9Nb(2.4856),NiCr21Mo(2.4858),NiCr22Mo6Cu(2.4618).
- austenitic steels of highest corrosion resistance, e.g.:1.4529(x1NiCrMoCuN25206),1.4547(X1CrNiMoCuN20-18-7)
- cryogenic nickel-alloyed steels,e.g.:X8Ni9(1.5662)

Weld metal analysis in % (typical)

C	Si	Mn	Cr	Ni	Mo	Nb	Fe	S	P
0.03	0.4	0.6	22	Rest	9	3.3	3	<0.01	<0.015

Mechanical Properties of all-weld metal :
 (single values are typical values)

0.2% Proof stress (N/mm ²)	Tensile Strength (N/mm ²)	Elongation A5 (%)	ISO-V Impact energy (J)	
			+ 20 °C	- 196 °C
520	780	35	80	50



Amperage:			
2.5 Ø	3.25 Ø	4.0 Ø	5.0Ø
50-70	70-95	90-120	120-160



Redrying : required rebaking at 300°C to 350°C for 2hrs.