NICKEL ALLOY (182, 112, 141) ELECTRODES FOR ARC WELDING

ALLOY 182
AWS/SFA5.11-90 Class EniCrFe-3
†MIL-E-22200/3 Type MIL-8N12
UNS # W86182

	1 LB CONTAINER		10 LB CONTAINER	
SIZE	PART No.	PRICE	PART No.	PRICE
3/32	182-332-1	$25.90	182-332-10	$197.00
1/8	182-18-1	$25.90	182-18-10	$190.00
5/32	182-532-1	$25.90	182-532-10	$190.00
3/16	182-316-1	$25.90	182-316-10	$190.00

DESCRIPTION
Alloy 182 is a "General Purpose" nickel-chromium-iron flux-coated electrode used for joining many dissimilar combinations of nickel base alloys, of the nickel chromium type, to themselves or to stainless or mild steels. This electrode will consistently produce x-ray quality and machinable weld deposits. Excellent for welding Inconel® 600 to itself or to carbon steel and stainless steel; or high chromium Incoloy® 800 to nickel-copper Monel® 400 or nickel base alloy 200. Alloy 182 is also used for joining nickel base alloy 200 to stainless steel and nickel-copper Monel® 400 to carbon steel.

APPLICATIONS
Since Alloy 182 is so versatile, it can be used for countless applications. However more common applications include the chemical or petrochemical industries and the nuclear industry where it is used to weld dissimilar joints between vessels and primary piping. Alloy 182 is often used for welding the clad side of nickel-chromiumiron clad steel and for resurfacing steel.

TYPICAL WELD METAL CHEMISTRY (%)
Ni	59.0 min.
C	0.10 max.
Mn	5.0-9.5
Fe	1 0.0 max.
S	0.015 max.
Cu	0.50 max.
Si	1.0 max.
Cr	13.0-17.0
Ti	1.0 max.
*Cb	1.0-2.5
Co	0.12 max.
Others	0.50 max.

*Includes Tantalum (Ta) 0.30 max.

TYPICAL MECHANICAL PROPERTIES OF WELD DEPOSIT (as welded)
Tensile strength (psi) ..... 80,000 min.
Yield strength (psi) ..... 45,000 min.
Elongation in 2" (%) ..... 30 min. Avg.
Charpy V-notch impact value ..... 60 ft.-lbs. @ -320°F

AVAILABLE SIZES AND OPERATING RANGES (DCEP) (DC+)
3/32 (2.4mm) ..... 75-100 amps
1/8 (3.2mm) ..... 100-140 amps
5/32 (4.0mm) ..... 140-180 amps
3/16 (4.8mm) ..... 170-210 amps

WELDING PROCEDURES
Flat, horizontal, vertical, overhead.

ALLOY 112
AWS/SFA5.11-90 Class ENiCrMo-3
†MIL-E-22200/3 Type MIL-1N12
UNS # W86112

	1 LB CONTAINER		10 LB CONTAINER	
SIZE	PART No.	PRICE	PART No.	PRICE
3/32	112-332-1	$26.80	112-332-10	$226.00
1/8	112-18-1	$26.80	112-18-10	$217.00
5/32	112-532-1	$26.80	112-532-10	$217.00
3/16	112-316-1	$26.80	112-316-10	$217.00

DESCRIPTION
Alloy 112 is a nickel-chromium molybdenum flux-coated electrode designed for shielded metal-arc welding of Inconel® 625 or 601, for high strength welds on 9% nickel steels and for overlaying carbon steel. Alloy 112 is also used for joining dissimilar combinations of steels or stainless steels to nickel-iron chromium alloys such as Incoloy® 800 or 801.

APPLICATIONS
More common uses of Alloy 112 include the nuclear industry where it is used for pressure vessel superheaters, steam separators and tube plates. This electrode is commonly used in cryogenic installations; chemical and petrochemical applications; and for heat treatment and case hardening industrial furnace parts. More specific uses include joining Inconel® 625, 718, X-750 and 706 to 9% nickel steels; for welding Incoloy® 825 to carbon steel, stainless steel and low alloy steel; for joining Inconel® 625, Monel® K500, Incoloy® 800 and 825 to Inconel® 706, 718 and X-750; and for joining Incoloy® 825 and 800.

TYPICAL WELD METAL CHEMISTRY (%)
Ni	55.0 min.
C	0.10 max.
Mn	1.0 max.
Fe	7.0 max.
S	0.02 max.
Cr	20.0-23.0
*Cb	3.15-4.15
Mo	8.0-10.0
Si	0.75 max.
Co	0.12 max.
Others	0.50 max.

* Includes Tantalum (Ta)

TYPICAL MECHANICAL PROPERTIES OF WELD DEPOSIT (as welded)
Tensile strength (psi) ..... 110,000 min.
Yield strength (psi) ..... 60,000 min.
Elongation in 2" (%)..... 30 min. Avg.
Charpy V-notch impact value..... 41 ft.-lbs. @ -300°F

AVAILABLE SIZES AND OPERATING RANGES (DCEP) (DC+)
3/32 (2.4mm) ..... 70-95 amps
1/8 (3.2mm) 100-135amps
5/32 (4.0mm) ..... 130-175 amps
3/16 (4.8mm) ..... 175-210 amps

WELDING PROCEDURES
Flat, horizontal, vertical, overhead.

NICKEL ALLOY ELECTRODES

WELDING Ni & HIGH Ni ALLOYS INFO.

MSDS THIS PAGE AVAILABLE

ALLOY 141
AWS/SFA5.11-90 Class ENi-1
†MIL-E-22200/3 Type MIL-4N11
UNS # W82141

	1 LB CONTAINER		10 LB CONTAINER	
SIZE	PART No.	PRICE	PART No.	PRICE
3/32	141-332-1	$25.60	141-332-10	$197.00
1/8	141-18-1	$25.60	141-18-10	$190.00
5/32	141-532-1	$25.60	141-532-10	$190.00
3/16	141-316-1	$25.60	141-316-10	$190.00

DESCRIPTION
Alloy 141 is a high nickel content fluxcoated electrode designed for welding wrought and cast forms of commercially pure nickel to themselves or to steel. This electrode is commonly used for dissimilar welding applications involving nickel base alloys 200 or 201 to iron base and nickel base alloys. Alloy 141 is excellent for overlaying on steel and for welding the clad side of nickel clad steel.

APPLICATIONS
Typical applications of Alloy 141 would involve the chemical industry, soda fabrication, fatty acid fabrication, vinyl chloride production, sodium metal silicate production and within the paper industry. Alloy 141 should be considered where high resistance to corrosion and high temperatures is required.

TYPICAL WELD METAL CHEMISTRY (%)
*Ni	92.0 min.
C	0.10 max.
Mn	0.75 max.
Fe	0.75 max.
S	0.02 max.
Si	1.25 max.
Ti	1.0-4.0
Al	1.0 max.
CU	0.25 max.
Others	0.50 max.

* Includes Cobalt (Co)

MINIMUM MECHANICAL PROPERTIES OF WELD DEPOSIT (as welded)
Tensile strength (psi)..... 60,000 min.
Yield strength (psi) ..... 30,000 min.
Elongation in 2" (%)..... 20 min.

AVAILABLE SIZES AND OPERATING RANGES (DCEP) (DC+)
3/32 (2.4mm) ..... 65-90 amps
1/8 (3.2mm) ..... 85-130 amps
5/32 (4.0mm) ..... 110-160 amps
3/16 (4.8mm) ..... 170-220 amps

WELDING PROCEDURES
Flat, horizontal, vertical, overhead.

t Nickel Based and Cobalt-Based Alloys can be certified to most commercial and aircraft specifications, however material supplied to both ASME and MIL specifications are considered nonstandard and must be tested to the applicable specification. Such testing will necessitate additional charges to the buyer. It is the responsibility of the buyer to state these ASME or MIL specification requirements at the time of inquiry.