

Nickel-Chromium-Iron (continued)

INCO-WELD A Electrode

INCO-WELD A Electrode is used for shielded-metal-arc welding of INCOLOY alloys 800 and 800HT, INCONEL alloys 600 and 601, and nickel steels. The weld metal has excellent strength and oxidation resistance at high temperatures and retains impact resistance at cryogenic temperatures.

The electrode is an exceptionally versatile product for dissimilar welding. It can be used on a variety of austenitic and ferritic steels and nickel alloys. Examples are combinations of stainless steels, carbon steels, INCONEL alloys, INCOLOY alloys, MONEL alloys, and copper-nickel alloys. Because of its versatility, INCO-WELD A Electrode is especially useful for general maintenance welding of equipment exposed to strenuous service conditions.

INCO-WELD A Electrode can be operated in all welding positions. Power supply: direct current, electrode positive.

Limiting Chemical Composition, % (Deposited Weld Metal)

Ni ^a	62.0 min.	Cu.....	0.50 max.
C.....	0.10 max.	Cr.....	13.0-17.0
Mn.....	1.0-3.5	Nb ^b	0.5-3.0
Fe.....	12.0 max.	Mo.....	0.50-2.50
S.....	0.02 max.	P.....	0.03 max.
Si.....	0.75 max.	Others.....	0.50 max.

^aPlus Co. Co 0.12 max. when specified.

^bPlus Ta. Ta 0.30 max. when specified.

Minimum Mechanical Properties (As-Welded)

Tensile Strength, psi.....	80,000
MPa.....	552
Elongation, %.....	30

Sizes and Welding Current

Diameter, in.	3/32	1/8	5/32	3/16
mm	2.4	3.2	4.0	4.8
Length, in.	9	14	14	14
mm	229	356	356	356
Current, A	45-70	65-95	95-130	125-165

Specifications

AWS A5.11 ENiCrFe-2
ASME SFA-5.11 ENiCrFe-2
ASME F43
VdTÜV 2104.00
DIN 1736 EL-NiCr15FeNb
Werkstoff Nr. 2.4805
UNS W86133

INCONEL Filler Metal 92

INCONEL Filler Metal 92 is used for gas-tungsten-arc and gas-metal-arc welding of austenitic and ferritic steels and nickel alloys. Applications include joining INCONEL and INCOLOY alloys to stainless steels, carbon steels, and MONEL alloys; joining MONEL alloys and Nickel 200 to stainless steels; and joining stainless steels to carbon steels. The filler metal is also used for welding nickel steels.

Filler Metal 92 provides high strength and corrosion resistance at temperatures ranging from the cryogenic region to over 1800°F (980°C). Weld deposits can be age hardened for greater strength at temperatures to about 1300°F (700°C).

Limiting Chemical Composition, % (Filler Metal)

Ni ^a	67.0 min.	Cu.....	0.50 max.
C.....	0.08 max.	Cr.....	14.0-17.0
Mn.....	2.0-2.7	Ti.....	2.5-3.5
Fe.....	8.0 max.	P.....	0.030 max.
S.....	0.015 max.	Others.....	0.50 max.
Si.....	0.35 max.		

^aPlus Co.

Minimum Mechanical Properties

As Welded	Tensile Strength, psi.....	80,000
	MPa.....	552
Elongation, %.....		30
Annealed and Aged ^b	Tensile Strength, psi.....	115,000
	MPa.....	793
Elongation, %.....		10

^b1600°F (870°C)/2 h, A.C. + 1300°F (705°C)/20 h, A.C.

Sizes

36 in. straight lengths in diameters of 1/16, 3/32, 1/8, and 5/32 in.

30 lb. spools in diameters of 0.035, 0.045, and 0.062 in.

60 lb. traverse-wound coils in diameters of 3/32, 1/8, and 5/32 in.

1000 mm straight lengths in diameters of 1.2, 1.6, 2.4, and 3.2 mm.

11 kg layer-wound spools in diameters of 0.8, 1.2 and 1.6 mm.

20-30 kg coils of wire below 2 mm diameter; 20-45 kg coils of wire above 2 mm diameter.

Other spool weights and heavy-weight reels are available on request.

Specifications

AWS A5.14 ERNiCrFe-6
MIL-E-21562 Types MIL-RN6A, MIL-EN6A
ASME SFA-5.14 ERNiCrFe-6
ASME F43
AMS 5675
BS 2901 (NA39)
UNS N07092