

# Nickel-Chromium-Iron

## INCONEL Welding Electrode 132

INCONEL Welding Electrode 132 is used for shielded-metal-arc welding of INCONEL alloys 600 and 601 and INCO alloy 330. The weld metal has excellent high-temperature strength, metallurgical stability, and oxidation resistance. It can also meet stringent radiographic requirements.

Electrode 132 has good dissimilar-welding capability. Examples are joining INCONEL and INCOLOY alloys to carbon steels, stainless steels, nickel, and MONEL alloys; joining carbon steels to MONEL alloys; and joining stainless steels to carbon steels and nickel.

The electrode can be operated in all welding positions. Power supply: direct current, electrode positive.

### Limiting Chemical Composition, % (Deposited Weld Metal)

Ni <sup>a</sup>	62.0 min.	Cu	0.50 max.
C	0.08 max.	Cr	13.0-17.0
Mn	3.5 max.	Nb <sup>b</sup>	1.5-4.0
Fe	11.0 max.	P	0.03 max.
S	0.02 max.	Others	0.50 max.
Si	0.75 max.		

<sup>a</sup>Plus Co. Co 0.12 max. when specified.

<sup>b</sup>Plus 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	40-60	75-100	90-130	125-150

### Specifications

AWS A5.11 ENiCrFe-1

ASME SFA-5.11 ENiCrFe-1

ASME F43

MIL-E-22200/3 Type MIL-3N12

UNS W86132

## INCONEL Filler Metal 62

INCONEL Filler Metal 62 is used for gas-tungsten-arc, gas-metal-arc, and oxyacetylene welding of INCONEL alloy 600 in thicknesses up to 2 in. (50 mm). The weld metal is comparable to the base metal in high-temperature strength and oxidation resistance. For material over 2 in. (50 mm) thick, INCONEL Filler Metal 82 is recommended.

### Limiting Chemical Composition, % (Filler Metal)

Ni <sup>a</sup>	70.0 min.	Cu	0.50 max.
C	0.08 max.	Cr	14.0-17.0
Mn	1.0 max.	Nb <sup>b</sup>	1.5-3.0
Fe	6.0-10.0	P	0.03 max.
S	0.015 max.	Others	0.50 max.
Si	0.25 max.		

<sup>a</sup>Plus Co. Co 0.12 max. when specified.

<sup>b</sup>Plus Ta. Ta 0.30 max. when specified.

### Minimum Mechanical Properties (As-Welded)

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

### 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.

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

### Specifications

AWS A5.14 ERNiCrFe-5

MIL-R-5031 Class 8A

MIL-E-21562 Types MIL-RN62, MIL-EN62

ASME SFA-5.14 ERNiCrFe-5

ASME F43

AMS 5679

UNS N06062