



WASHINGTON ALLOY'S Quality
Management System is
Certified to ISO 9001:2008
Cert # 05-R0925

Alloy 112 Coated Electrodes

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American Welding Society
Sustaining Company Member



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. 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, AL6XN, 254SMo 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. Alloy 112 is found where temperatures range from cryogenic to 1000°F (540°C) and base metals in UNS N06625 such as ASTM B443, B444, and B446.

TYPICAL WELDING PROCEDURES; DCEP

Diameter	Amps	Diameter	Amps
3/32"	70-95	1/8"	100-135
5/32"	130-175	3/16"	175-210

Electrodes larger than 1/8"(3.2mm) may be limited to flat and horizontal positions
Procedures may vary with change in position, base metals, filler metals, equipment and other changes.

When welding vertical reduce amperage 10-20%

AWS CHEMISTRY REQUIREMENTS (%) & TYPICAL WELD METAL STRENGTHS;

Carbon	0.10 max	Tensile Strength (psi)	110,000
Manganese	1.00 max	Yield Strength (psi)	60,000
Iron	7.00 max	Elongation	30%
Phosphorus	0.03 max	Niobium (or Cb) + Tantalum	3.15-4.15
Sulphur	0.02 max	Cobalt max if specified	0.12
Silicon	0.75 max	Chromium	20.0-23.0
Copper	0.50 max	Titanium	0.40 max
Nickel + Co	55.0 min.	Molybdenum	8.0-10.0

AVAILABLE SIZES: TN NI-112 = 3/32", 1/8", 5/32", 3/16"

SPECIFICATIONS; ANSI/AWS A5.11 ENiCrMo-3
ASME SFA 5.11 ENiCrMo-3 ; F-43

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