

**AMTEC 279 NICRALLOY ALLOY STEEL**  
**AC/DC REVERSE ELECTRODE**

**General Characteristics**

---

Amtec 279 Nicralloy is a specially formulated electrode that has a wide range of applications due to its high temperature strength and toughness at subzero temperatures, and its excellent welding properties. This electrode is suitable for welding joints on nickel steels having sufficient toughness at subzero temperatures as for instance medium and high alloyed Ni-steels. Cold straining properties of the welding material is up to -196°C. The welding material has sufficient strength at elevated temperatures, up to 1900°F, and prevents carbon diffusion from ferritic to austenitic material.

**Procedure**

---

Prepare welding area with Amtec 8 gouging electrode, and grind surfaces to remove any hard spots. Clean welding area thoroughly. Ensure that the electrodes are kept dry. Preheating to 200/300°C is advisable, particularly on heavier sections. Weld using a short arc procedure, with the electrode almost vertical. A drag technique can be used for horizontal welding. Weaving should be limited to about 3 times the electrode size. Remove slag completely prior to welding the next pass.

**Application**

---

Amtec 279 Nicralloy is a rare version of a universal Inconel® that is outstanding for joining and cladding most nickel alloys, stainless steels and carbon steels. Excellent for oxidation and corrosion resistant applications. Used for the repair of petrochemical systems, industrial and natural gas systems, pressure vessels and components, furnace parts, Jet and Rocket engine parts, and steam raising systems as well as liquid gas vessels.

---

<b>Tensile Strength</b>	<b>136,000 PSI</b>
<b>Yield Strength</b>	<b>95,000 PSI</b>
<b>Elongation</b>	<b>40%</b>
<b>Hardness (HB) (as deposited)</b>	<b>approx. 238</b>
<b>Hardness (HB) (work hardened)</b>	<b>approx. 428 (RC 45)</b>
<b>Impact Strength</b>	<b>65J: -320°F</b>

---

<b>Diameter (Inch)</b>	<b>3/32</b>	<b>1/8</b>	<b>5/32</b>
<b>(mm)</b>	<b>2.5</b>	<b>3.25</b>	<b>4.0</b>

---

<b>Amps (approx.)</b>	<b>70-95</b>	<b>100-135</b>	<b>130-175</b>
-----------------------	--------------	----------------	----------------

---

**CONFIDENTIAL INFORMATION**

**Tip Color – Plain**