



**!!!! WARNING !!!!**



**WELDING FUMES AND GASES CAN BE DANGEROUS TO YOUR HEALTH.**

**BEFORE USING THIS PRODUCT THE WELDER (END-USER) MUST READ AND UNDERSTAND THE COMPLETE PRODUCT WARNING LABEL AND MATERIAL SAFETY DATA SHEET (MSDS).**

**THE MATERIAL SAFETY DATA SHEET (MSDS) WHICH OUTLINES THE POTENTIAL HEALTH HAZARDS AND SAFETY INFORMATION RELATED TO THIS PRODUCT CAN BE DOWNLOADED FROM THE MSDS PORTION OF THIS WEBSITE. IT IS ALSO AVAILABLE FROM YOUR EMPLOYER AND WELDING SUPPLY DISTRIBUTOR.**

**DO NOT PROCEED WITH USE OF THIS PRODUCT UNTIL YOU READ AND UNDERSTAND THE MATERIAL SAFETY DATA SHEET (MSDS) AND PRODUCT WARNING STATEMENT.**

**BE SURE TO CONSULT THE LATEST VERSION OF THE MSDS.**

**SEE THE PRODUCT WARNING LABEL AND MSDS FOR COMPLETE WARNING INFORMATION.**



# **CROWN ALLOYS** **COMPANY**

30105 STEPHENSON HWY.  
MADISON HEIGHTS, MI. 48071  
(248) 588-3790 • (800) 521-7878

## **Royal 82-10 & 82-30**

Premium Nickel-Chromium-Iron TIG & MIG Wire

### **Typical Applications:**

**Royal 82-10** (TIG) and **Royal 82-30** (MIG) are used for high heat and cryogenic (low temperature) applications. This alloy withstands thermal cycling even to sub-zero temperatures thus making it the perfect choice for flame hardening equipment, heat treat parts, and cryogenic vessels. **Royal 82-10** and **Royal 82-30** are also highly corrosion resistant. The aforementioned characteristics make this alloy ideal for cladding and wearfacing as well as joining. **Royal 82-10** and **Royal 82-30** are used to join carbon steels and stainless steels to high nickel-base metals. They are also used to weld Inconel® alloys 600, 601, and 690 to themselves or each other; Incoloy® alloys 800, and 800HT, and Inco® alloy 330. Inconel® and Incoloy® alloys are joined to nickel, stainless steels, carbon steels, and Monel® alloys using **Royal 82-10** or **Royal 82-30**. Also, 9% nickel steel can be joined using this wire.

### **Specifications:**

AWS A5.14	Tensile Strength	80,000 PSI
ERNiCr-3	Yield Strength	40,000 PSI
	Elongation in 2"	30.0%

### **Procedure:**

**Royal 82-10** (Gas Tungsten Arc Welding - TIG): Base metal must be clean. Nickel alloys become brittle if any sulfur or lead is absorbed into the weld deposit. These impurities are often found in lubricants, dirt, grease, oil, paint, and other processing residues. Use about 25% more opening than conventional joint openings to allow for the low penetrating and sluggish nature of the molten nickel. Use DC straight polarity. An argon or argon-helium mix shielding gas should be used. Arc length must be maintained as short as possible. Prevent agitation and excessive heat from the weld puddle so as to avoid burning out the deoxidizing elements.

**Royal 82-30** (Gas Metal Arc Welding - MIG): Use DC reverse polarity. Maintain a medium arc length. Balance of procedure same as **Royal 82-10**.

### **Sizes:**

GTAW (TIG) 1/16" 3/32" 1/8"

GMAW (MIG)-Spray Transfer Mode

Diameter	Volts	Amps	Wire Feed Speed (in/min)
.030	26-32	150-240	550-700
.035	26-32	175-250	450-520
.045	26-33	220-300	250-310

**Available in 2# and 8" and 30# spools.**

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