



**!!!! 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**

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## **Royal ER Ti-1** Titanium TIG Rod

### **Typical Applications:**

**Royal ER Ti-1** can be used to successfully weld most grades of titanium. This is the most common unalloyed (or Commercially Pure-CP) grade of titanium.

### **Specifications:**

AWS A5.16

- Tensile Strength            38,000 PSI
- Yield Strength             27,000 PSI
- Elongation                 30%

### **Procedure:**

It is very important that titanium is clean and free of grease in order to obtain a good weld. A caustic wash with water rinse or alcohol or acetone wash may be used. Avoid using chlorinated solvents. When welding, care must be taken to prevent atmospheric contamination. Use a larger nozzle on the TIG torch and higher flow rate of shielding gas than is normally used with other metals. It is important to have back-up shielding and in some instances a trailing shield. In some instances a purge chamber is the only way to properly prevent atmospheric contamination. Be sure to keep the end of the filler metal inside the shielding gas coverage at all times while welding. Use post flow of shielding gas until weld cools. Argon is the recommended shielding gas. TIG torch should be set for DC current straight polarity.

Weld should be bright and shiny. If the weld is pale yellow or golden, it can be cleaned up with a stainless brush. Blue or purple welds are susceptible to cracking; gray or yellow powdery looking welds have to be cut out and rewelded correctly.

<b>Sizes:</b>	<b>Amps</b>	<b>Volts</b>
1/16 x 36"	100-150	14-16
3/32 x 36"	125-175	13-15
1/8 x 36"	150-175	13-15