Heating Elements & Power Leads/Terminals
T.I.G. Welding Guide

WELDING REPAIRS
Before you begin welding, follow the guidelines below.

1. Identify element alloy & select proper weld wire.
2. Clean/grind and remove surface oxide and/or degrease with hot water if necessary.
3. Straighten or bend section of element material as necessary to suit before welding.
5. See table 1 for typical alloy grades. Element alloy and T.I.G. wire should be the same alloy.
6. See American Welding Society (AWS) web site for quality standards and technical data.

TABLE 1 (T.I.G. WIRE GRADES)
Examples shown are typical. Many variations are possible. Consult engineering drawings for alloy identification.

Nikel-Chrome Alloy
1. NICHROME “A” 80Ni – 20CR (non magnetic)
2. NICHROME “70” 70Ni – 30CR (non magnetic)
3. NICHROME “C” 60Ni – 16CR (non magnetic)
4. NICHROME “D” 35Ni -19CR (Non-Magnetic)

Iron-Chrome-Aluminum Alloys
5. Kanthal A-1 Fe-Cr-Al (Highly-Magnetic)
6. Kanthal A Fe-Cr-Al (Highly-Magnetic))
7. Kanthal D Fe-Cr-Al (Highly-Magnetic)

Coil Elements & Terminal/Jumper Plug

Jumper Bars to be same grade alloy as the element material. Drill holes slightly larger than wire for slip fit into jumper bar.

Rod Elements
Note: Minimum Length of overlap 3 to 4 times the diameter of the rod.
Note: Weld both Top and Bottom edges.

1" 5/16"

Ribbon Elements
Triple Layer Overlap
Note: Minimum Length of overlap 2-1/2 to 3 times the width of the ribbon or strip.
Note: Weld both Top and Bottom edges.
Always leave ¼" un-welded at ends
DO NOT UNDERCUT
**Ribbon Elements**

**Double Layer Overlap**

Minimum Length of overlap 2-1/2 to 3 times the width of the ribbon or strip.

*Note:* Weld both Top and Bottom edges.

![Diagram of Double Layer Overlap]

Always leave ¼" un-welded at ends

**DO NOT UNDERCUT**

**Triple Layer Crossover**

*Note:* Minimum Length of overlap 2-1/2 to 3 times the width of the ribbon or strip.

*Note:* Weld both Top and Bottom edges.

![Diagram of Triple Layer Crossover]

**Slotted Terminals**

Weld both edges, top and bottom

**Triple Layer Terminals**

Weld both edges, top and bottom

Always leave ¼" un-welded at ends

**DO NOT UNDERCUT**

**Weld Photos**

*Images of Welded Examples*