TIPS FOR MAXIMUM PERFORMANCE

- **Start-up** -- If a transformer is used, apply minimum voltage during start up. This is usually 70%-80% of full load voltage. Any silicon carbide element may be weakened or fractured by heat shock if excessive voltage is applied in bringing the furnace up to temperature too rapidly.

- **Replacement** -- Avoid mixing new elements with old ones. Reduce the voltage to the lowest value when replacements are made. Be sure to turn off and lock out power before changing elements. Never overload elements by applying an excessive voltage to get the furnace up to operating temperature in a hurry.

If the broken element is in a series connection, it is usually necessary to replace all the elements connected in the series circuit. Elements in series must be matched closely.

If an element has broken after the elements in the group have increased more than 10% in resistance, the entire group of elements should be replaced. If a used element of similar resistance (one which has increased in resistance approximately the same amount as the group) is available, then it could be used as a suitable replacement.

- **Watt Loading** -- Don't exceed the recommended watt loadings or temperatures shown in the chart below.

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### Starbar Recommended Maximum Watt Loading

<table>
<thead>
<tr>
<th>Chamber Control Temperature</th>
<th>1500°F</th>
<th>1600°F</th>
<th>1700°F</th>
<th>1800°F</th>
<th>1900°F</th>
<th>2000°F</th>
<th>2100°F</th>
<th>2200°F</th>
<th>2300°F</th>
<th>2400°F</th>
<th>2500°F</th>
<th>2600°F</th>
<th>2700°F</th>
<th>2800°F</th>
<th>2900°F</th>
<th>3000°F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Watts/sq. cm</td>
<td>2.3</td>
<td>3.1</td>
<td>4</td>
<td>4.7</td>
<td>5.5</td>
<td>6.3</td>
<td>7.1</td>
<td>8</td>
<td>8.7</td>
<td>9.5</td>
<td>10.3</td>
<td>11</td>
<td>11.7</td>
<td>12.5</td>
<td>13.3</td>
<td>14.1</td>
</tr>
</tbody>
</table>