



## Heating Elements



### 1A - Carbon Carbon Composite (CCC) Elements

2600°C maximum temperature, for use in UI IV, high vacuum or inert atmosphere (Not suitable for use in O<sub>2</sub> above 500°C). High strength, Low cost, high power density element available as a single element in sizes up to 1000mm x 1000mm, mainly used for flat elements due to raw material availability. Standard element sizes available from stock. Standard thicknesses from 1.2mm. Will not age harden and get stronger with temperature. Our number one choice of element in non-oxidising atmosphere.



### 1B - Graphite Elements

2600°C maximum temperature, for use in UI IV, high vacuum or inert atmosphere (Not suitable for use in O<sub>2</sub> above 500°C). Raw material available in large blocks, so mainly used for tubular elements, or where flat element requires a sved coating such as SiC, PBN or PG.



### 1C - SiC Coated Graphite Elements

1500°C maximum temperature. SiC coating gives the following properties to the graphite element: electrical insulator, very hard, reduced particles and Oxidation resistant. Requires exposed graphite area to connect power. This area must be kept below 500°C in oxidising atmosphere.



### 1E - PG Coated Elements

2100°C maximum temperature. PG coating eliminates porosity and particles resulting in an element more suitable for UI IV or zero particle applications. Suitable for use in UI IV, High vacuum or inert atmospheres.



### 1F - NiCr Elements In Ceramic

1000°C maximum temperature, for use in high vacuum or air. Low cost reliable element consisting of a NiCr coil fixed into a ceramic (Boron Nitride S'lics) body.



### 1G - Refractory Metal Element

2600°C maximum temperature, for use in UI IV, high vacuum or inert atmosphere (Not suitable for use in O<sub>2</sub> above 500°C). Refractory metal elements are laser cut from sheet metal or wound into a coil from wire in Molybdenum, Tungsten, Tantalum or Niobium. These elements are not held as standards but are made to order.



### J - PG PBN Elements

1600°C maximum temperature. Very fast temp rate, with low mass and very inert. Suitable for use in UI IV, High vacuum or Air (to 900°C). PG (Pyrolytic Graphite) element is encapsulated in PBN (Pyrolytic Boron Nitride) completely protects from decomposition product. Sample can be placed directly onto heater ceramic element plate. Only currently available in sizes up to 4" square or round. Has exposed PG power connection points on tabs at side of hot zone.