

## **Bullers Rings & 'Vector' Gauges (Plastic and Metal)**

### **Instructions for Use**

1. Place the Bullers™ Rings in the kiln and position where heat work measurement is required. Rings can be placed in as many different sections of the kiln as are needed to test the uniformity of the kiln.
2. Fire the kiln to its normal schedule.
3. When the firing is complete and the kiln is ready to be emptied, remove the rings from the kiln and mark them so that they can be related to their position in the kiln.
4. Place the fired ring in the Vector gauge at the widest end, and gently slide it down the gauge until it is stopped by the narrowing gap in the gauge. **Do not force the ring beyond the point at which it first stops.**
5. Take the reading on the gauge where it is in line with the top edge of the ring.
6. Repeat operation 5 to get readings on two more diameters.
7. Record the average value of the three readings.
8. **DO NOT PLACE HOT RINGS ON THE PLASTIC VECTOR GAUGE.**
9. Ring readings should **NOT** be converted to temperatures using the table shown in the Bullers™ Ring catalogue, in order to describe firing conditions. The temperatures shown in the table are for guidance only, as many factors can affect the ring value/temperature relationship.
10. Plastic Bullers™ Ring 'Vector' gauges are designed to be any easy way of introducing Bullers™ Rings to new customers. They are meant for short-term use only and are not recommended to replace either the 'Index' gauge or the metal 'Vector' gauge. Customers are recommended to purchase an 'Index' gauge as soon as they are satisfied as to the benefits of using Bullers™ Rings to monitor the performance of their kilns. For customers who will not be using large quantities of Bullers™ Rings, and who do not require the accuracy of measurement given by an 'Index' gauge, a metal 'Vector' gauge will give reasonable service.
11. Help or advice can be obtained by contacting the Technical Department at Mantec Technical Ceramics Ltd, Normacot Road, Longton, Stoke-on-Trent, ST3 1PA. England.  
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