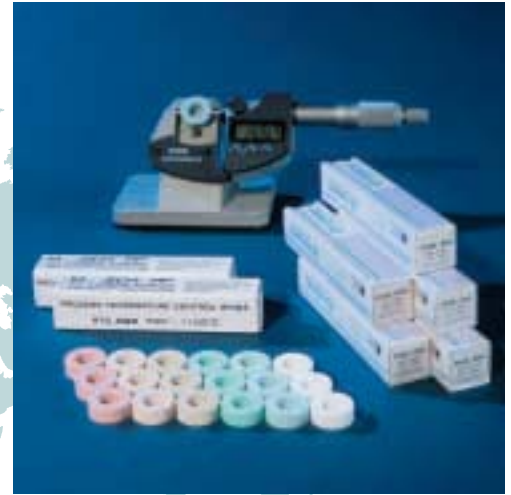


- HEATING
- INSULATION
- MEASURING
- FIRING & MELTING



DIN EN ISO 9001  
Zertifikat Nr. 71 100 G 016



## M.E.SCHUPP® -PTCR®

Precise Temperature Control Rings  
from 660°C up to 1,750°C

### Introduction

The PTCR is a highly accurate ceramic temperature indicator which records the true heat treatment received by the fired product. PTCR takes account of both radiated and transferred heat, as well as the effects of temperature over time. It conveniently allows this recorded heat exposure to be expressed as a single number - ring temperature (RT) - which is practical and easy to work with.

The rings can be used in both batch and continuous tunnel kilns; they are used in a range of atmospheres, including oxygen, nitrogen, air and vacuum. Six different PTCR types are available – in heights of 3.5 mm and 7.0 mm – covering a range from 660 to 1,750°C. Ring types are identified by colour coding and batch and type numbers pressed into the ring.

Originally PTCR has been developed for in-house application in critical firing processes for advanced electronic ceramic components. Now, the PTCR brings the benefits of easy, accurate kiln temperature measurement to a wide range of industries.

The entire PTCR manufacturing facilities have been awarded the internationally recognized ISO 9001:2000 and ISO 14001 quality certification.

### How it works

When exposed to heat in the kiln & furnace, the PTCR contracts – and continues contracting as the top temperature is maintained over time. The degree of contraction is almost linear over the complete operating range of the PTCR, providing a practical measure of the accumulated heat to which the ring - and the fired products – have been subjected. The amount of contraction – the amount by which the ring diameter has shrunk – is measured with a digital micrometer. This measurement can be converted to 'ring temperature' for ease of comparison and correlation to the firing process (temperature tables are supplied with the rings).

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HIGH TEMPERATURE TECHNOLOGY