Measuring

The contraction of the PTCR diameter reflects the actual heat treatment at the point where the ring was located in the kiln. The diameter is easily measured using a PTCR micrometer – only a single measurement is required (as shown). PTCR micrometers have an integral, ergonomically designed solid base with a ring positioning chuck, which ensures the ring is always correctly positioned in the micrometer. This design not only simplifies the measuring process, but also improves the repeatability and reproducibility of ring temperature measurement. Correct positioning is essential to allow accurate ring diameter reading in a single measurement. The special PTCR micrometers feature a positioning chuck that assists in placement of the ring, helping ensure that measurement is made correctly – across the middle digits of the ring number. But there is also an electronic calliper for quick measurement available in a practically box (as shown).

Converting to ring temperature

The measured ring diameter is converted to ring temperature using the conversion table enclosed in each packing unit. Each table is specific to the particular batch of rings, for accuracy and convenience. The ring temperature is a practical single number which is useful for comparison purposes – for instance to relate the recorded heat treatment to the firing process and defined standards – so that any required adjustments can be made. It does not necessarily reflet the actual kiln temperature; the PTCR acts as an accumulator, measuring the total heat treatment over time, rather than the maximum temperature attained.

Establishing a standard ring temperature

In order to make ring temperature comparisons between different firings, a standard ring temperature must be defined. This is done by including PTCR rings in a series of firings, and relating their ring temperatures to the quality of the products Produced. The ring temperature which corresponds to products fired to the correct specifications can be used as the standard.

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