



# Arbeitskreis Thermophysik

in der GEFTA

## Intercomparison on crown borosilicate glass: 2001

Material: Crown borosilikatglass BK7; Manufacturer: Schott AG

*Thermophysical properties measured:*

- specific heat capacity
- thermal conductivity
- thermal diffusivity
- temperature range -100°C to +500°C

*Participating laboratories:*

- ARC Seibersdorf Research GmbH (ARCS, Austria)
- Fraunhofer-Institut für Bauphysik (IBP, Stuttgart, Germany)
- Universität Stuttgart, Institut für Kernenergetik und Energiesysteme (IKE, Germany)
- Fraunhofer Institut für Keramische Technologien und Sinterwerkstoffe (IKTS, Germany)
- Universität Erlangen-Nürnberg (IPT, Germany)
- National Physical Laboratory (NPL, Great Britain)
- Physikalisch-Technische Bundesanstalt (PTB, Germany)
- Akademie der Wissenschaften (SAS, Slovakia)
- Schott AG (Germany)
- Universität Nitra (UNS, Slovakia)
- Bayerisches Zentrum für Angewandte Energieforschung e. V. (ZAE, Germany)

Laboratory	Specific heat capacity	Thermal diffusivity	Thermal conductivity
ARCS	x	x	x
IBP			x
IKE			x
IKTS		x	x
IPT		x	x
NPL		x	x
PTB	x	x	x
SAS		x	x
Schott			x
UNS		x	x
ZAE	x	x	x

### *Publikation*

The Sixteenth European Conference on Thermophysical Properties - ECTP 2002, London; Book of Abstracts, p. 267

"Intercomparison of measurements of the thermophysical properties of Crown Borosilicate Glass BK7"  
S. Rudtsch, R. Stosch, U. Hammerschmidt

Results are presented of an intercomparison of measurements of the thermal conductivity, thermal



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diffusivity and specific heat capacity of a Crown Borosilicate Glass (Type BK7) in the temperature range between  $-100^{\circ}\text{C}$  and  $+500^{\circ}\text{C}$ . The results for thermal conductivity show acceptable agreement of typically 8% in the low temperature range. At higher temperatures, however, there is considerable variation of up to 40% between partner data.