

# KALOCER

## Material data sheet

### Product features

Lining material to protect against a high degree of abrasive wear. KALOCER can be recommended for the application where there is extreme abrasive wear and moderate amounts of impact shock. Hybrid solutions for higher levels of impact stress can also be supplied. KALOCER is a shaped and sintered oxide ceramic on the base of alumina oxide which can be manufactured in the form of tiles, shaped components and cylinders.

### Quality features

KALOCER has been developed with the aim of achieving the highest possible resistance to wear.

### Product properties

Feature	Unit	Data
Chemical composition	Wt.-% Al <sub>2</sub> O <sub>3</sub>	≥ 90
Hardness Vickers	HV1	1 050
Density	g/cm <sup>3</sup>	≥ 3.5
Open porosity	%	< 1
Thermal coefficient of expansion	K <sup>-1</sup> (20 - 350 °C)	7.0x10 <sup>-6</sup>
Thermal conductivity	W/mK (20 °C)	18
Max. application temperature	°C	1 000
Max. thermal shock resistance	°C/h	120
Wear resistance acc. ASTM C704-15	cm <sup>3</sup> with 90° angle	1.0

Due to the manufacturing process, it is not possible to exclude small variations in the properties of the product. This affects tolerances in the size, outer appearance and surface finish. Included are some typical features of mineral/ceramic materials, such as spalling, porosity and hairline cracks, all of which can be present within the range of specified tolerances.

Approximate figures are given for all technical data. They are based on assessment of tests on specific samples and cannot be considered as a guarantee for which Kalenborn would have to assume legal responsibility. Subject to technical changes and errors.

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### Product description

KALOCER is an oxide ceramic consisting of more than 90 % aluminium oxide. Its extreme hardness makes it possible to use thinner linings but still achieve good wear protection. In the case of impact stresses, it is recommended that it be installed in impact-reducing rubber, which allows KALOCER to deliver the best possible performance. KALOCER can be applied up to 1.000 °C / 1.832 °F depending on application and geometry.

### Installation

- Pipes, shaped components, or thin tiles laid in KALFIX synthetic mortar.
- KALOCER tiles vulcanized into rubber mats for installation by gluing are available.
- Mechanical fixing by welding is also possible.

### Advantages

Highly wear resistant, smooth surface that lasts, no corrosion, available from 1.5 mm thickness.

### Application examples

Special oxide ceramic for plant components subject to extreme wear and/or thermal stresses, when thin lining thickness or smooth surfaces are required – e.g.

- circulating air separators
- separators
- conveyor centrifuges
- vibro chutes
- transfer chutes
- sifters
- wet ash extractors
- chain conveyors
- valves
- conveyor belts (pneumatic, hydraulic, mechanical)
- slide feeders
- fans and fan housing
- cyclones
- bunkers
- mixers (pan mixers and other mixer types)

The very high resistance to wear, the high level of hardness and the thicknesses which can be adapted for the application in question allow for a durable wear protection solution.