KALCOR Blocks

Zirconium Corundum

Material data sheet

Material description in general

The material KALCOR is a zirconium corundum, which has a high abrasion resistance and was developed for a very high micro-impact resistance. KALCOR blocks produced by regular casting method performed also in heavy impact applications

Material properties

Feature	Unit	Data
Chemical composition	Wt.-% Al_2O_3+ZrO_2	81 - 85
	Wt.-% SiO_2	12 - 16
Hardness	Vickers HV1	950
Density	g/cm³ lb/ft³	≥ 3,2 ≥ 199,76
Open porosity	%	< 10
Thermal coefficient of expansion	K^{-1} (20 - 1000 °C) $°F^{-1}$ (68 – 1832 °F)	8 x 10^{-6} 4.44 x 10^{-6}
Thermal conductivity	W/mK (20 - 1000 °C) Btu inch/ft²h (68 – 1832 °F)	2.8 19.41
Max. application temperature	°C °F	1000 1832
Max. thermal shock resistance	K/h °F/h	150 302
Wear resistance acc. ASTM C704-15	cm³ with 90°	≤ 1.5

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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Installation

- Blocks in cement mortar or special setting compounds
- Mechanical fixing is also possible

Advantages

- High abrasion resistance
- High micro impact resistance
- High temperature resistance
- High thermal shock resistance
- Very high chemical resistance

Applications from energy and the environment, cement and building materials, iron and steel, mining and other industries

Sinter crusher deck

Impact zone

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.