

ABRESIST

Material data sheet

Product features

Lining material for high abrasive wear. ABRESIST is fused cast natural basalt which can be supplied in the form of tiles, shaped components and cylinders.

Quality features

ABRESIST is made with the aim of achieving high resistance to wear.

Product properties

Feature		Unit	Data
Chemical composition		Wt.-% SiO ₂	46
		Wt.-% Al ₂ O ₃	14
		Wt.-% FeO ₃ + FeO	14
		Wt.-% CaO	10
		Wt.-% MgO	10
Hardness	Vickers	HV 0,1	830
		HV 1	770
	Mohs	Mohs	8 (Diamond = 10)
Density		g/cm ³	2.9
Open porosity		%	0
Thermal coefficient of expansion		K ⁻¹ (20 - 350 °C)	7x10 ⁻⁶
Thermal conductivity		W/mK (20 - 350 °C)	1
Max. application temperature		°C	350
Max. thermal shock resistance		°C/h	70
Wear resistance acc. ASTM C704		cm ³ with 90°	3.7

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, cavities, 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

Fused cast basalt is a mineral based wear protection material for plant components when the conveying material produces friction induced abrasion.

ABRESIST can be applied up to approx. 350 °C / 662 °F depending on application and geometry.

Installation:

Cylinders or shaped components. In special cases epoxies or synthetic mortars may be used due to strong mechanical stresses and/or vibration. Where higher temperatures are concerned, potassium silicate mortar may be used for installation. Mechanical fixing is feasible as well.

Advantages:

Highly abrasion resistant, smooth surface that lasts, no corrosion.

Application examples:

- ash pipelines
- belt discharge chutes
- bunker spirals
- bunkers
- channels
- chutes
- circulating air separators
- continuous flow conveyors
- cyclones
- dissolving tanks
- drying sections
- dust collecting equipment
- dust collecting pipes
- fans
- flue gas ducts
- flumes
- gravel release tunnels
- hoppers of rotary dryers
- hydrocyclones
- launders
- mixer troughs
- pipe bends
- pipes
- pneumatic backfill lines
- prilling tower bottoms
- pulpers
- receivers
- screw conveyor troughs
- separators
- setting basins
- shaft spirals
- sifters
- silos
- sinter troughs
- tailings lines
- tanks
- thickeners
- tubular chain conveyors
- turbo separators
- vibrating troughs
- washing drums

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.

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