Kingfisher

CERAMIC TECHNICAL DATA SHEET

PRODUCT SPECIFICATION
DATA SHEET NO. CER006

K-BAS

Fused Cast Basalt Lining Systems

Key Benefits

- **Good abrasion resistance**
- **Promotes material flow**
- **Corrosion resistant**
- **Inexpensive forms of protection**

This material is ideal for applications in conveying and storage systems requiring high resistance to friction induced abrasion. K-Bas has an extremely hard and smooth surface, resistant to most acids and alkalis, and can be used in temperatures up to 350°C (662°C).

Manufacture

The raw material used for the manufacture of our K-BAS material consists of natural basalt rock that is crushed, screened and fed into an electric arc furnace, where it is smelted at 1250°C. At this stage the basalt is converted into a molten state and cast into steel moulds which are used for forming either static or centrifugal cast components. Once the fused cast basalt has cooled to a solid state it is then fed into an annealing kiln where it is exposed to a controlled process of heat treatment, where at the end of the firing cycle results in a material with characteristics of extreme hardness and abrasion resistance.

Application

The primary use of our K-BAS material is in the fight against both abrasion and erosion of plant where bulk solids are conveyed, stored and processed by mechanical , pneumatic or hydraulic means. With a hardness rating of approximately eight of the MOHS hardness scale, K-BAS is ideally suited to counter sliding abrasion and erosion within the bulk solids handling of processing industries.

Forms of supply

Many different forms can be produced in thickness's ranging from 20mm to 100mm either in the design and production stage or by cutting and machining the tiles or cylinders to fit the geometry of the fabrications they are used to line.

Installation

The majority of installations are carried out using a range of adhesives with differing characteristics depending on the application. Where adhesives are either not suitable to use or the curing time is not fast enough to support the weight of the component in either a vertical or inverted position then mechanical fixings can be used. Kingfisher can supply a full range of adhesives and mechanical fixings dependant upon the applications.

As with most wear resistant materials the success of the system often depends on the quality and accuracy of the installation. We recommend consultation takes place with one of our qualified engineers in order to assess the suitability of choosing our K-BAS material for particular applications. If need be we can carry out the installation using our own fully trained work force, or even supervise your own employees

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Typical list of applications

- Bunkers
- Chain conveyors
- Dryers
- Flumes
- Hydrapulpers
- Mixers
- Pipework

Physical and Mechanical Properties

PARAMETERS	UNIT	Value
Density	g/cm^3	2.9-3.0
Hardness	MOHS	8
Porosity	%	0
Compressive strength	N/mm^2	450
Bending strength	N/mm^2	300
Thermal conductivity	W/mk	1.1-1.6
Maximum servicing temp.	°C	350
Linear thermal expansion	1/K	6-8 x 10.6 $^{-6}$
Chemical resistance	Resists most areas of alkalis	

Chemical Composition

MINERAL CONTENT	APPROXIMATE FIGURES %
SiO_2	43.5 - 47.0
Al_2O_3	13.0 - 17.0
$FeO + Fe_2O_3$	9.0 - 16.0
CaO	10.0 - 12.0
MgO	8.0 - 11.0
$K_2O + Na_2O$	3.0 - 5.0
TiO_2	2.0 - 3.5
$NnO_2 + P_2O_5$	2.3 - 1.0

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