Basalt & Basalux 20/25

HMA Wear Solutions has developed in-house techniques for ceramic lining of components which maximises the operating life of the equipment.

BASALT

HMA Wear Solutions Cast Basalt has been well proven in a wide variety of industries as a cost effective long-lasting lining material. It is an ideal lining material used to extend operating life of equipment manufactured or lined with lower wearing materials such as steel, cast iron, rubber and polyurethane.

HMA Wear Solutions Cast Basalt offers extraordinary abrasion resistance and is resistant to most acids and alkalis.

The manufacture of Basalt lined pipework and equipment is a specialised process. HMA Wear Solutions has developed unique in-house techniques to over come the issues associated with ceramic lined components, the result of which maximise the operating life of equipment. As a result, HMA Wear Solutions Cast Basalt has been widely adopted throughout industry as the leading product for abrasive slurry and pneumatic product transfer applications. The inherent properties of Basalt make it highly cost effective in areas requiring abrasion resistance.

BASALUX 20/25

The Basalux lining technique is a combination of Basalt and Alumina and has been developed to increase bend wear life over that of full Basalt lined bends and at the same time provide a reduction in cost over that of full Alumina lined piping. This is achieved by applying the high wearing Alumina ceramic to the extrados of the bend and the Basalt ceramic to the intrados. This lining combination is only possible due to HMA Wear Solutions unique lining process.

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APPLICATIONS

Basalt can be cast and shaped into almost any shape and is well suited for the following applications:

- Lining of piping for mineral slurries and pneumatic conveyed materials
- Chute linings under screen
- Cyclone linings
- Scraper conveyors
- Conical sumps
- Blast furnace bunkers
- Coal load out facilities, Ports and rail junctions
- Ash sluice linings

PHYSICAL PROPERTIES - BASALT

Material Properties		Units	Value
Density		kg/m^3	3000
Absorption capacity		Mass %	0
True porosity		Volume %	1 - 3
Compression strength		MPa	300
Bending strength	20°C	MPa	40
Tension strength		MPa	10
Youngs modulus		GPa	110
Poisson ratio		-	0.23
Coefficient of linear thermal Expansivity	0-200°C	10^{-6}/K	8
	0-400°C	10^{-6}/K	9
Thermal conductivity	20°C	W/(m.K)	1.9
	200°C	W/(m.K)	1.9
	400°C	W/(m.K)	2
	600°C	W/(m.K)	2
	800°C	W/(m.K)	2.1
	1000°C	W/(m.K)	2.2
Specific heat		J/(kg.K)	840
Application temperature		°C	400
Thermal shock resistance		°C	100
Chemical resistance	In 70% H_2SO_4	Mass %	9
	In 1% NaOH	Mass %	1.5
Insulation resistance		W.10 °C	10
Mohs hardness		-	8
Vickers hardness		HV (MPa)	700 - 800
Abrasion resistance Din		cm^3/50cm^2	Max 5
Wear resistance EN 102		mm^3	Max 110
Antisliding capability of tiles		Planar	10-19 Standard
			19-27 Antislip

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