TRELLEBORG

Direct Bond Ceramics

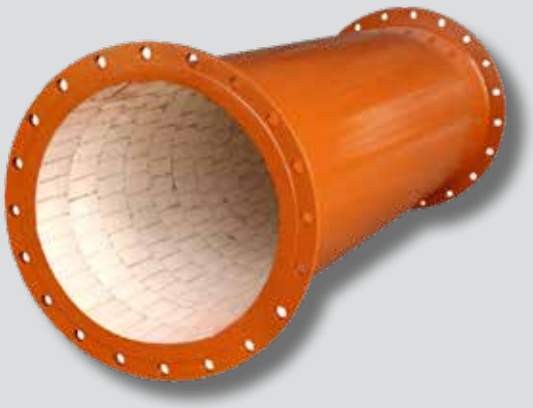
Mining and Mineral Processing
Direct Bond Ceramics
www.trelleborg.com/fluidhandling

MAXIMUM PROTECTION

Trelleborg's heavy duty alumina ceramic tiles use nominally 92% aluminium oxide to provide maximum protection for applications subjected to high wear by abrasion.

Typical applications include slurry, wet and dry operations for chutes, screening applications, conveyor transfer stations, hoppers and loading and unloading operations.

Alumina tiles are designed for extended service life and to replace steel liners and standard ceramic products which do not meet operations requirements.



TRELLEBORG ADVANTAGES

- Cost effective lining alternative
- Particularly suited to fines applications
- Engineered tiles to suit varying designs
- Exceptional mechanical and chemical bond between tile and steel
- High strength bonding and grouting compounds
- All tile batches are tested in independent Australian laboratories and are supplied with a certificate of conformity you can rely on.

ALUMINA MECHANICAL PROPERTIES

PROPERTIES	UNIT	SPECIFICATION
Al_2O_3 content	wt%	92.0 ± 1.0
Bulk density	g/cc	> 3.63
Water absorption	%	N/D
Rockwell hardness 45N	-	> 75
Colour	%	White

TILE APPEARANCE

PROPERTIES	SPECIFICATION
Dimension (length, width, height)	+0/-1% or as specified on drawing
Appearance	Smooth, crack free, free from voids, consistent in properties throughout the tile
Edges	Chamfered and smooth, no sharps
Preservation and packing	Product to be supplied clean, dry and packed in a manner protected from transport damage

ADVANCED CERAMIC TECHNOLOGIES

Trelleborg specialise in the manufacture and supply of advanced ceramics solutions for extremely arduous and demanding abrasive applications in mining and mineral processing plants.

REACTION BONDED SILICON CARBIDE (RBSiC)

Involves the most advanced high temperature vacuum sintering furnaces and sophisticated production equipment to produce superior performing ceramics where high resistance to the following is required:

- Temperature
- Corrosion resistance
- Wear resistance.

RBSiC FEATURES

- High bending forces
- Excellent thermal conductivity.

MINING & MINERAL PROCESSING APPLICATIONS

Trelleborg have perfected the technique of designing and producing monolithic cylinders of RBSiC and cementing them into pipe spools.

ADVANTAGES

Compared to direct bonding several hundred individual ceramic tiles to the internals of geometrical complex pipe spools. The application of engineered RBSiC hollows to ceramic line pipe spools yields and promotes:

- Smoother internal flow characteristics
- Improved wear performance
- Less grout and joint lines
- Ceramic lining time is vastly reduced.

TECHNICAL DATA (RBSiC)

PROPERTIES	UNIT	SPECIFICATION
Max temperature	˚C	1380
Density	g/cm^3	> 3.02
Open porosity	g/cm^3	< 0.1
Bending strength	MPA	250 (20 °C)
		280 (1200 °C)
Modulus of elasticity	GPA	330 (20 °C)
		300 (1200 °C)
Thermal conductivity	W/m.k	45 (1200 °C)
Coefficient of thermal expansion	$K^{-1} \times 10^{-6}$	4.5
Moh's scale of hardness	-	13
Resistance to acids and alkalis	-	Excellent

Trelleborg is a world leader in engineered polymer solutions that seal, damp and protect critical applications in demanding environments. Its innovative solutions accelerate performance for customers in a sustainable way.

WWW.TRELLEBORG.COM

Scan here to view more product information

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