



# Z-Blok 1 Modules

## Product Data Sheet

### Product Description

Z-Blok 1 are convoluted blanket modules made from high quality spun-fibre blanket, folded and pre-compressed to a specified density. The fixing system comprises two beams positioned within the folds and connected by tabs to an exterior channel, mounted transversely and centrally across the back of the modules. During installation, the modules are further compressed, the resilience of the fibre and recovery after the recovery after the restraining bands are removed ensuring tightly-compressed intermodular joints.

### Type

Convoluted anchor modules

### Features

- The anchorage on the back allows for both in-line and parquet installation
- The decompression of the blanket folds gives tightly sealed intermodular joints with both configurations
- The resilient blanket is resistant to mechanical damage
- The resilience of the blanket can accommodate some flexure of the furnace casing without opening gaps between modules
- Light weight, giving low heat absorption in the insulation
- Low thermal conductivity giving high thermal efficiency
- Total resistance to thermal shock
- No drying or curing required - so available for production operation immediately after installation
- The anchor system is remote from the module hot face, maintaining the metal components at a relatively low temperature
- The anchor system can be secured to the furnace casing with a variety of fasteners: power activated fasteners, welded studs or cotter key-life pins, nuts and bolts, self tapping screws or pop rivets

### Applications

Z-Blok 1 have a multitude of uses in heat containment applications in all industry groups, a selection of which are as follows:

- **Petrochemical**

Process heaters, reformers, ductwork pyrolysis heaters

- **Iron and Steel**

Transfer ladle lids, soaking pit covers, reheating furnace, multi and single stack coil annealing furnaces, continuous annealing and coating furnaces, rotary hearth furnaces, car bottom furnaces, roller furnaces, lift-off furnaces, oftakes and ductwork.

- **Aluminium**

Soaking pits and covers, bale out furnaces, homogenising furnaces and ductwork.

- **Ceramic**

Tunnel and intermitted kilns for whiteware, sanitary ware and brick firing Hoffman kilns, kilns for firing technical ceramics, insulation for ducts and fires.

- **Utilities**

Thermal oxidisers, waste heat recovery units, combustion chambers and boiler ductwork.

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Properties	Kaowool S/ Cerablanket	Kaowool SZr/ Cerachem Blanket	Cerachrome Blanket	Maftec Blanket
Colour	White	White	Blue/ Green	White
Classification, °C (°F)	1260	1425	1425	1600
Density, kg/m <sup>3</sup> (pcf)	160	160	160	160
High Temperature Performance				
Specific heat capacity at 1090°C (kJ/kg.K )	1.13	1.13	1.13	2
Thermal conductivity for all four grades, at nominal density 160kg/m3 and mean temperature:				
	128kg/m3	160kg/m3		
400°C (752°F)	0.12	0.11		
600°C (1112°F)	0.19	0.16		
800°C (1472°F)	0.27	0.23		
1000°C (1832°F)	0.36	0.31		

### Fixing Components

These are supplied with the module and comprise:

- Support beams in ASTM 321 stainless steel
- Clips and channels in ASTM 304 stainless steel
- Attachment clips of either of two types: rectangular or washer

Fixing components can be supplied on request or for operation in exceptional conditions.

### Standard Dimensions and Availability

The modules as normally supplied are 305mm square and thickness ranging from 100mm to 350mm in 25mm steps, though other sizes and densities are available on request.

### Packaging

Z-Blok 1 are packed in cartons or on pallets which are shrink wrapped.

### Installation

Full details of the recommended technique for installing Morgan Thermal Ceramics modules are included in our Module Installation Manual.

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