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## DESCRIPTION

Fiberfrax Bonded Modules are prefabricated blocks, manufactured from Fiberfrax refractory ceramic fibres. They are specifically designed to improve the thermal insulation of existing industrial furnaces. Fiberfrax Bonded Modules can be cemented to the hot face of traditional refractory linings (L.O.R. method), or to the hot face of existing fibrous module linings (F.O.F. method). Alternatively, bonded modules can be used to provide a complete lining by cementing to an expanded metal frame. Available in a wide range of grade and thickness combinations, the Fiberfrax Bonded Module range offers effective solutions to thermal management problems in many industry sectors.

## GENERAL CHARACTERISTICS

Fiberfrax Bonded Modules have the following outstanding characteristics:

- High temperature stability
- Low thermal conductivity & heat storage
- Resistance to thermal shock & chemical attack
- Lightweight
- Fast installation
- Energy savings

## TYPICAL APPLICATIONS

### Petrochemical

- Furnaces & Fired heaters

### Metallurgy

- Heat treatment & Forge furnaces
- Ladle & Soaking pit covers

### Power Generation

- Tunnel kilns & Intermittent kilns

Any new and/or special use of these products, whether or not in an application listed in our literature, must be submitted to our technical department for their prior written approval.

## TYPICAL PRODUCT PARAMETERS

Bonded Modules	S	Z	MX	1500
<b>Typical Chemical Analysis (fibre wt. %)</b>				
SiO <sub>2</sub>	53.0 - 58.0	52.0 - 56.0	52.0 - 56.0	39.0 - 43.0
Al <sub>2</sub> O <sub>3</sub>	42.0 - 47.0	28.0 - 32.0	28.0 - 32.0	48.0 - 52.0
ZrO <sub>2</sub>	-	14.0 - 18.0	14.0 - 18.0	6.0 - 10.0
Fe <sub>2</sub> O <sub>3</sub> + TiO <sub>2</sub>	<0.2	<0.2	<0.2	<0.2
Alkalis	<0.25	<0.25	<0.25	<0.25
<b>Physical Properties</b>				
Colour	White	White	White	White / Tan
Melting Point (°C)	1760	1740	1740	1740
Product Density (kg/m <sup>3</sup> )	170	190	190	180
Use Limit (°C) *	1200	1350	1450	1500
<b>Thermal Conductivity (W/mK)</b>				
<b>Mean Temp.</b>				
600 °C	0.12	0.10	0.10	0.12
800 °C	0.17	0.14	0.14	0.19
1000 °C	0.23	0.18	0.18	0.28
1200 °C	-	0.28	0.28	0.38
<b>Permanent Linear Shrinkage (%) 24 Hour Soak</b>				
1200 °C	<3	-	-	-
1350 °C	-	<3	-	-
1450 °C	-	-	<3	-
1500 °C	-	-	-	<3

\*The maximum continuous use limit temperature for these products depends upon operating and application conditions. For certain applications operational temperature limits may be significantly reduced. For assistance or clarification please contact your nearest Unifrax Engineering office. Where appropriate Physical Properties are

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## AVAILABILITY

Module Dimensions (mm)			S	Z	MX	1500	Packaging
Length	Width	Thickness					Per Box
300	300*	25	✓	✓	✓		20
		38	✓	✓	✓	✓	13
		50	✓	✓	✓	✓	10
		75	✓	✓	✓	✓	6
		100	✓	✓	✓	✓	5

\* 300mm when compressed

Other densities and thicknesses may be available on request subject to minimum order requirements.

## HANDLING INFORMATION

A Material Safety Data Sheet has been issued describing the health, safety and environmental properties of this product, identifying the potential hazards and giving advice on handling precautions and emergency procedures. This must be consulted and fully understood before handling, storage or use.

Supplied by: