

## Kaowool Bulk Fibre



### CLASSIFICATION TEMPERATURE

Kaowool Standard Fibre: 1260°C  
Kaowool Zirconia Fibre: 1425°C

The maximum use temperature depends on the application but is normally taken as 100°C below the classification temperature in clean, oxidising conditions and 200°C lower in strongly reducing conditions. In case of doubt, refer to your local Morgan Thermal Ceramics distributor for advice.

### APPLICATIONS

#### Bulk A

General insulation: as infill for the roofs and walls of certain types of furnaces and kilns.

Packing: expansion joints, patching and emergency repairs in furnaces, boilers, heaters, etc.

Sealing: around penetrations in furnace, heaters and boiler walls, e.g. tubes, burners and sight holes.

**High yield:** Secondary product processing: vacuum forming, papers, mastics, mouldables, sprays and coating etc.

Reinforcements: used in composite materials based on plastics, resins, metals and cements etc.

### DESCRIPTION

Kaowool™ Bulk Fibre consists of a mass of randomly orientated, long length, refractory blown fibres.

It is available in two grades: Standard and Zirconia. Both grades are high purity fibres and are unaffected by chemicals except for Hydrofluoric and Phosphoric acids and strong alkalis. If wet by oil or water, their physical and thermal properties will be fully restored on drying.

### TYPE

Mechanically-fixed modules

### AVAILABLE FORMS

#### Bulk ALubricated

Standard  
Zirconia

#### High Yield Bulk Un-lubricated

Standard unchopped  
Standard coarse chopped E25  
Standard medium chopped  
E12 Standard fine chopped E08  
Zirconia unchopped  
Zirconia coarse chopped E25

### Control of shot

Using modern technology, Morgan Thermal Ceramics is able to control the fibre Index (100 - shot content) of all the grades of chopped fibre. This is necessary where excess shot can be detrimental to the process or to the finished product. The above mentioned Kaowool chopped fibres have a fibre Index of 55. Two different fibre indices of 85 and 98 are also available in the Engineered Fibre range. For additional information on these fibres see the Engineered Fibres data sheet.

### BENEFITS

- Refractoriness: the fibres are stable up to elevated temperatures
- Low thermal conductivity: the fibres are opaque to infra-red radiation and so maintain their low thermal conductivity up to high temperature
- Chemical inertness: the fibres are of high purity, chemically inert and non-corrosive
- Resilience: the fibres are resilient giving complete and uniform packing in voids. They are also resistant to mechanical damage

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## Kaowool Bulk Fibre

Main Properties		Kaowool Standard Fibre	Kaowool Zirconia Fibre
Classification Temperature	°C	1260	1425
<b>Properties Measured at Ambient Conditions (23°C/50% RH)</b>			
Colour		White	White
Specific gravity	kg/dm <sup>3</sup>	2.56	2.65
Fibre diameter	Micron	2.3	2.5
Beaker value*			
Bulk unchopped	ml	450	450
Coarse chopped E25	ml	200	200
Coarse chopped E25	ml	150	-
Fine chopped E08	ml	80	-
*Beaker value (a measure of the fibre length. The larger the beaker value the longer the fibre)			
<b>High temperature performance</b>			
Loss on ignition after 2 hours at 800°C	%	0	0
Specific heat capacity at 980°C	kJ/kg.K	1.07	1.07
<b>Chemical Composition</b>			
SiO <sub>2</sub> (on calcine product)	%	53	50
Al <sub>2</sub> O <sub>3</sub>	%	47	36
ZrO <sub>2</sub>	%	-	14
Fe <sub>2</sub> O <sub>3</sub>	%	<0.08	42.6
CaO + MgO	%	<0.08	0.10
Na <sub>2</sub> O +K <sub>2</sub> O	%	0.4	0.10
Leachable Chloride	%	< 20	< 20
B <sub>2</sub> O <sub>3</sub>	%	<0.02	<0.02

## Kaowool Bulk Fibre

### Availability and Packaging

Kaowool Fibres are packed in polythene bales on pallets which are shrink wrapped with recyclable plastic.

Type of product	Standard Fibre		Standard Fibre	
	Bale Kg	Pallet Kg	Bale Kg	Pallet Kg
Bulk A lubricated unchopped	20	360	20	360
High Yield Bulk unchopped	20/40	360/720	20/40	360/720
Unlubricated coarse chopped E25	20/40	360/720	20/40	360/720
Unlubricated medium chopped E12	20/40	360/720	-	-
Unlubricated fine chopped E08	20/40	360/720	-	-

\*Alternative pallet weights can be arranged for special orders

The values given herein are typical average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice. Therefore the data contained herein should not be used for specification purposes. Check with your Thermal Ceramics office to obtain current information or a Compliance Data Sheet where guaranteed property specifications are required. Before using these materials, it is strongly recommended that the installer consults Thermal Ceramics manual "storage and installation manual" copies of which are obtainable from Thermal Ceramics offices or distributors.

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