

Furnace Technologies' Ceramic Fibre Blanket presents unparalleled refractories and thermal insulation.

Our blankets offer superior insulating performance, flexibility, resilience and are unaffected by most chemicals.

Thermal and physical properties are retained after drying following wetting by oil, steam or water. The blankets are completely inorganic so there are no fumes when heating for the first time.

TYPICAL APPLICATIONS:

- Annealing Furnaces
- Furnace door linings and seals
- Soaking pit covers and seals
- Furnace hot face repairs
- Reheating furnace and ladle covers

FEATURES:

- High tensile strength and low shrinkage
- Good resiliency with low heat storage
- Low thermal conductivity
- Thermal shock resistance
- Good sound absorption



Description	STD RCF Blanket		HP RCF Blanket			HPG RCF Blanket			HZ RCF Blanket		
Chemical Composition (%)											
Al ₂ O ₃	≥ 44		≥ 45			≥ 46			≥ 34		
SiO ₂	≥ 52		≥ 54			≥ 53			≥ 50		
Fe ₂ O ₃ +TiO ₂	≤ 1		≤ 0.5			≤ 0.3			≤ 0.5		
ZrO ₂	-		-			-			≥ 15		
K ₂ O+Na ₂ O	≤ 1		≤ 0.2			≤ 0.2			≤ 0.2		
Physical Properties											
Density (kg/m ³)	96	128	96	128	160	96	128	160	96	128	160
Classification Temperature (°C)	1260		1260			1260			1430		
Fibre Diameter (µm)	3.5		3.5			3.5			3.5		
Shot Content (%)	≤ 18		≤ 15			≤ 15			≤ 12		
Linear Shrinkage after heating (%)	1000°C x24hrs≤ 2.5		1100°C x24hrs≤ 2.5			1100°C x24hrs≤ 2.5			1350°C x24hrs≤ 3.5		
Thermal Conductivity (W/m.k)											
400°C	0.090	0.095	0.124	0.114	0.101	0.124	0.114	0.101	0.138	0.122	0.118
500°C	0.119	0.123	0.145	0.135	0.120	0.145	0.135	0.120	0.179	0.153	0.149
600°C	0.152	0.158	0.202	0.191	0.175	0.202	0.191	0.175	0.233	0.184	0.172
Tensile Strength (MPa)	0.040	0.050	0.050	0.060	0.075	0.055	0.065	0.080	0.050	0.060	0.075

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Furnace Technologies Pty Ltd

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Furnace Technologies' Ceramic Fibre Board is manufactured and designed for thermal applications requiring high degrees of rigidity. The thermal insulation properties and abrasion resistance of the board have been improved due to a higher density.

Ceramic Fibre board is a vacuum formed product that resists higher gas velocities than ceramic blanket and is ideal for furnace, boiler duct and stack lining thanks to its low thermal conductivity and low heat storage. This makes for shorter cycle times and quicker access for maintenance in industrial applications.

TYPICAL APPLICATIONS:

- ◆ Refractory lining for industrial furnaces
- ◆ Combustion chamber liner for boilers and heaters
- ◆ Back up insulation for monolithic refractories
- ◆ Transfer of non-ferrous metals
- ◆ Expansion joint boards
- ◆ Barrier against flame



Description	STD RCF Board	HP RCF Board	HZ RCF Board
Density (kg/m ³)	280/300/320	280/300/320	280/300/320
Classification Temperature (°C)	1260	1260	1430
Maximum Operating Temperature (°C)	1100	1200	1350
Water Content (%)	≤ 1	≤ 1	≤ 1
Linear Shrinkage after Heating (%)	1000°C x24hrs<2.5	1100°C x24hrs<2.5	1350°C x24hrs<3.5
Thermal Conductivity (W/m.k)			
200°C	0.074	0.055	0.078
400°C	0.092	0.073	0.102
500°C	0.103	0.086	0.116
600°C	0.127	0.105	0.135
Cold Crushing Strength (MPa)	0.2	0.12-0.2	0.12
Loss of Ignition (wt%)	≤ 7	≤ 7	≤ 7

FEATURES:

- ◆ High Rigidity and light weight
- ◆ Low thermal conductivity
- ◆ Resistance to thermal shock and gas erosion
- ◆ Easy cutting and engineering, mechanical flexibility
- ◆ Resists penetration by molten aluminium and other non-ferrous metals.

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Furnace Technologies supplies Ceramic Fibre Paper for a range of uses. The blend of high quality alumina-silica fibres, binders and additives provides a flexible and uniform sheet with low shrinkage, good strength and low thermal conductivity.

The paper has a highly uniform structure and is easily handled and cut while its flexibility allows it to be rolled for storage. Its well controlled weight and thickness assures homogenous thermal conductivity and a clean smooth surface. Ceramic Fibre Paper is completely free of asbestos and is designed to be an economic replacement for asbestos paper.

TYPICAL APPLICATIONS:

- ◆ Asbestos paper replacement
- ◆ Investment cast mould wrap insulation
- ◆ One-time consumable insulation applications
- ◆ Back lining for metal troughs
- ◆ Hot top lining
- ◆ Thermal and electrical insulation



Description	STD Paper	HI Paper
Chemical Composition (%)		
Al ₂ O ₃	47	48
SiO ₂	52	51
Fe ₂ O ₃	≤ 0.5	≤ 0.5
Na ₂ O	≤ 0.2	≤ 0.2
Physical Properties		
Density (kg/m ³)	200	250
Classification Temperature (°C)	1260	1260
Maximum Operating Temperature (°C)	1000	1100
Organic Content (%)	≤ 9	
Colour	White	
Loss of Ignition (%)	≤ 10	
Tensile Strength (MPa)	≥ 0.3	

FEATURES:

- ◆ Easily handled and engineered
- ◆ Low thermal conductivity
- ◆ Good resilience
- ◆ Resistance to thermal shock and flame
- ◆ Superior dielectric strength

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Furnace Technologies Ceramic Fibre Modules are made from compressed ceramic fibre blanket. These modules are specially designed to meet or improve the thermal insulation requirements of industrial furnaces in special thermal conditions.

The Ceramic Fibre Modules can be supplied with various anchoring systems to enable quick, easy and efficient installation in most furnace linings. Module linings prevent heat loss, increasing the furnace productivity and reducing maintenance costs.

TYPICAL APPLICATIONS:

- ◆ Boiler insulation
- ◆ Stack Linings
- ◆ Refining and Petrochemical
- ◆ Ethylene furnace roof and walls
- ◆ Pyrolysis furnace lining
- ◆ Reformer furnace roof and walls



Description	STD Module	HP Module	HZ Module
Chemical Composition (%)			
Al ₂ O ₃	≥44	≥45	≥34
SiO ₂	≥52	≥54	≥50
Fe ₂ O ₃ -TiO ₂	≤1.0	≤0.5	≤0.5
ZrO ₂	-	-	≥15
K ₂ O+Na ₂ O+Fe ₂ O ₃	≤1.0	≤0.2	≤0.2
Physical Properties			
Density (kg/m ³)avg	220	220	220
Classification Temperature (°C)	1260	1260	1430
Linear Shrinkage after heating (%)	1000°C x24hrs≤2.5	1100°C x24hrs≤2.5	1350°C x24hrs≤3.5
Thermal Conductivity (W/m.k)			
400°C	0.090	0.101	0.118
500°C	0.119	0.120	0.149
600°C	0.152	0.175	0.172

FEATURES:

- ◆ Fast and Easy installation
- ◆ Lower heat storage and costs
- ◆ Fast temperature cycling
- ◆ Easy repair and low insulation costs

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Furnace Technologies supply a range of Ceramic Fibre Textiles which include Rope, Tape, Yarn and Cloth.

The textiles are woven or braided from yarn consisting of refractory ceramic fibre with around 20% organic fibre. Reinforcing materials are inserted into the yarn to increase the tensile strength of the product. Reinforcing can include stainless steel for strength or glass filament for electrical resistance.

TYPICAL APPLICATIONS:

- ◆ Gasket and wrapping material
- ◆ Cable and wire insulation
- ◆ Welding curtains and blankets
- ◆ Furnace curtains and heat zone separators
- ◆ Fuel line insulation
- ◆ Expansion joints
- ◆ High temperature seals and packing in Furnaces
- ◆ Door seals for stoves and ovens
- ◆ Thermally insulating pipe wrap

FEATURES:

- ◆ Low thermal conductivity
- ◆ Low heat storage
- ◆ Excellent thermal shock resistance
- ◆ Resistance to gas velocity
- ◆ Easy installation
- ◆ Adheres to most ceramic and metal surface
- ◆ Inert to most chemicals
- ◆ **Asbestos free**



Description	GF Cloth	SS Cloth	GF Tape	SS Tape
Density (kg/m ³)	500	500	500	500
Classification Temperature (°C)	1260			
Maximum Operating Temperature (°C)	500-600	1000	500-600	1000
Water Content (%)	≤ 1			
Organic Content (%)	≥ 15			
Reinforced Material	Glass Filament	Stainless Steel	Glass Filament	Stainless Steel

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