



STRENGTH  
THAT LASTS



# CERAMIC **FIBRE** PRODUCTS

# About Us

**Apple Cerawool Pvt. Ltd.** is a leading manufacturer and supplier of refractory fibre products and high-temperature insulation solutions. Our product range includes Ceramic Fibre Blankets, Boards, Modules, Paper, and Textiles, designed to deliver reliable performance in the most demanding thermal environments.

We proudly serve industries such as iron & steel, cement, petrochemical, power, glass, and foundry, providing products that ensure energy efficiency, safety, and durability.

Our reputation is built on premium-quality materials, advanced production technology, and consistent customer satisfaction. With a team of skilled engineers and a commitment to innovation, we help our clients achieve maximum efficiency and cost savings through proper product application and technical support.

As one of India's trusted names in the refractory industry, **Apple Cerawool Pvt. Ltd.** continues to expand its reach both domestically and internationally, delivering quality that stands up to the world's toughest conditions.



## Our Vision

To be a leading manufacturer of high-performance refractory fibre and insulation products, known for quality, innovation, and reliability — delivering lasting value to our customers and industry partners.

## Our Mission

- To produce superior ceramic fibre products using advanced technology and quality raw materials.
- To achieve customer satisfaction through consistent product performance and reliable service.
- To promote energy efficiency and cost-effective insulation solutions for industrial applications.
- To maintain a safe, sustainable, and innovation-driven work culture that supports continuous growth.

## Why Us

- **Uncompromised Quality:** Manufactured under strict quality control using high-grade fibres.
- **Technical Expertise:** Skilled team ensuring proper application and high performance.
- **Wide Product Range:** Blankets, boards, modules, papers, ropes, and textiles under one roof.
- **Customer-Centric Approach:** Solutions tailored to meet specific industrial requirements.
- **Reliable Support:** Prompt service and long-term product dependability.

# What is Ceramic Fibre

Ceramic fibre is a lightweight, high-temperature insulating material developed in the late 1950s to meet the growing demand for efficient heat-resistant products. It originated from experiments with white clay known as Kaolin, found in regions such as Georgia and the Carolinas. During the production of dense refractory materials, engineers discovered that when Kaolin clay was heated to extremely high temperatures, it formed fine, long fibres and tiny glass-like beads known as "shot." These fibres were found to possess remarkable heat insulation properties, leading to the development of ceramic fibre as a modern refractory material.

Over the years, ceramic fibre has evolved into one of the most widely used insulation materials in industries that operate under extreme temperatures. It can withstand temperatures up to 1425°C (2600°F) while maintaining low thermal conductivity and minimal heat storage. Its combination of light weight, flexibility, and durability makes it an ideal choice for applications where energy efficiency and thermal performance are critical.

Ceramic fibre is now manufactured in various forms such as bulk fibre, blankets, boards, modules, and papers, each designed to suit specific industrial requirements. It is extensively used in steel plants, cement industries, foundries, glass manufacturing, and power generation, among others.

Beyond its insulation capability, ceramic fibre also offers excellent resistance to thermal shock and most chemicals, ensuring long service life even in demanding environments. Its development marked a major shift from heavy, traditional refractories to lightweight, energy-efficient materials — a transformation that continues to shape modern industrial insulation today.



## Table of Content

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Ceramic Fibre Bulk	05
Ceramic Fibre Blanket	07
Ceramic Fibre Board & Blocks	09
Ceramic Fibre Gasket	11
Ceramic Fibre Module	13
Ceramic Fibre Paper	15
Ceramic Fibre Rope	17
Ceramic Fibre Cloth Tape	19

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## ► Apple Cerawool **Bulk Fibre**



### Description:

- APPLECERAWOOL is a high-temperature insulating refractory fibre processed from high-purity alumina and silica constituents, specially selected for high strength, refractoriness, and stability even under severe conditions.
- The spun texture of APPLECERAWOOL provides exceptionally long fibres and superior mechanical properties, essential to withstand rugged service conditions.
- APPLECERAWOOL bulk fibres offer superior acoustic benefits in addition to high thermal performance – a significant advantage in process furnaces.
- APPLECERAWOOL can be easily handled and used in expansion joints, wall penetrations, and other areas with nominal skill requirements. In specific cases, our application engineers are available to assist with heat loss, surface temperature, and heat management solutions.

### Characteristics:

- High-temperature resistance (up to 1600°C)
- Low thermal conductivity for excellent insulation
- Lightweight and flexible – easy to handle and install
- Excellent thermal shock resistance
- Non-brittle with low heat storage, ensuring energy efficiency
- Good chemical and corrosion resistance

### Applications:

- Burner openings
- Kiln insulation
- Furnace patch sealing
- Emergency refractory repairs
- Glass tanks and glass processing
- Furnace repairs
- Expansion joints

### Specifications:

Physical Properties		RT	RTZ	HTZ
Melting Temperature (°C)		1760	1700	>1650
Specific Heat (KJ/Kgk)		1.07	1.07	1.07
Fibre Diameter (Mean)		2.8 um	2.8 um	2.8 um
Linear shrinkage (%) after 24 hours Firing / Soaking	1000°C	1.5	1.5	
	1100°C	2.2	2.2	
	1200°C	3.0	3.0	2.7
	1300°C			3.5
	1400°C			4.0
Max. service temp. (°C)		1260	1260	1425

Chemical Composition		RT	RTZ	HTZ
Al2o3		46-48	41-48	29-35
Sio2		52-54	49-58	42-57
ZrO2			0-7	13-18

Leachable      <10ppm      <10pp      <10pp



► Apple Cerawool

## Fibre Blanket



### Description:

- APPLECERAWOOL Blanket is a lightweight, flexible, and high-temperature insulating refractory fibre mat made without any binder, produced from APPLECERAWOOL fibres — the only superspun, double-needled fibre in the country today.
- Manufactured using advanced spinning and needling techniques, it offers superior tensile strength, durability, and easy handling, even under severe operating conditions.
- APPLECERAWOOL RTZ and HTZ Blankets are zirconia-stabilised and suitable for continuous use up to 1260°C and 1425°C respectively. Both grades exhibit excellent resistance to most chemicals and retain their thermal and physical properties even after contact with oil or water. Designed for long service life and consistent insulation performance, these blankets combine low thermal conductivity, high flexibility, and excellent heat shock resistance, ensuring reliable performance in demanding thermal environments.

### Characteristics:

- High-temperature resistance (up to 1425°C)
- Low thermal conductivity, excellent insulation performance
- Lightweight, flexible, and easy to install
- Excellent thermal shock and chemical resistance
- Non-brittle, asbestos-free, and environmentally friendly
- Maintains performance even after wetting or compression

### Applications:

- Annealing furnaces and glass kilns
- Reformers and ducts in petrochemical, fertilizer, and boiler industries
- High-temperature pipe insulation
- HRSG and stack linings
- Glass furnace crown insulation
- Tundish covers and transfer cars in steel plants
- Soaking pit seals, kilns, and kiln cars in the ceramic industry
- Reusable insulation blankets for field stress relieving of welds
- Insulation for steam and gas turbines, and fire protection
- Insulation wrap for investment casting moulds
- Temporary refractory furnace lining and roof repairs
- High-temperature filter media and gaskets
- Furnace door seals, linings, and nuclear insulation applications

### Specifications:

Grade	1260°C Regular Temp			1425°C High Temp		
	White			White		
Density(Kg/m <sup>3</sup> )	64	96	128	64	96	128
Mechanical Properties						
Tensile Strength (Kg/cm)	>0.15	>0.25	>0.40	>0.15	>0.25	>0.40
Mean Fibre Dia (micron)	2.0 - 4.0	2.0 - 4.0	2.0 - 4.0	2.0 - 4.0	2.0 - 4.0	2.0 - 4.0
Shot content (%)	<20	<20	<20	<20	<20	<20
Thermal Properties						
Linear Shrinkage (%) for 24hrs	<3.5	<3.5	<3.5	<4.0	<4.0	<4.0
	at 1200°C			at 1400°C		
Thermal Conductivity (W/m°K) at 500°C Mean Temp.	0.173	0.160	0.150	0.173	0.160	0.150
Chemical Properties						
Al2O3%	41-48%			29-37%		
SiO2%	49-58%			42-57%		
ZrO2%	0-7%			13-18%		



► Apple Cerawool

## Boards & Blocks



### Description:

- APPLECERAWOOL Boards and Blocks are rigid, high-temperature insulation products manufactured from high-purity Applecerawool fibres using a multi-component organic/inorganic bonding process. Produced through vacuum forming, these materials combine strength, light weight, and thermal stability for superior performance in industrial insulation applications.
- They exhibit excellent resistance to thermal shock, chemical attack, and high-temperature deformation, while maintaining structural integrity and dimensional accuracy. Easy to cut, shape, or machine, Applecerawool Boards and Blocks are ideal for use as refractory back-up insulation, furnace linings, and hot-face layers in demanding thermal environments.

### Characteristics:

- High-temperature resistance up to 1600°C
- Low thermal conductivity for efficient insulation
- Lightweight yet rigid and self-supporting
- Excellent thermal shock and chemical resistance
- Easy to cut, drill, or machine for custom shapes
- Non-brittle with minimal shrinkage at high temperatures

### Applications:

- Furnace linings (electric, fuel-fired, and glass tank)
- Refractory backup insulation for castables and bricks
- Combustion chambers and kiln car insulation
- Boiler doors, flue and chimney linings
- Distribution troughs and molten metal handling
- Industrial dryers, ducts, and hot gas insulation

### Specifications:

- Density: 260–320 kg/m<sup>3</sup> and 720 kg/m<sup>3</sup>
- Standard Sizes: 915 × 600 mm, 1000 × 500 mm, 1200 × 600 mm
- Thickness: 10–100 mm

TYPE	GRADE	DENSITY	LOI	CHEMICAL ANALYSIS(%)				K VALUE (W/Mk)	
				SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	ZrO <sub>2</sub>	Fe <sub>2</sub> O <sub>3</sub>		
Ceramic Board	1260	260 - 380	<8	51 - 58	40 - 48	<5	<0.1	0.12	
High Density Board	1260	650 - 720	<10	49 - 57	41 - 48	<5	<0.1	0.13	
High Temp Board	1425	300 - 380	<6	45 - 50	29 - 35	13 - 17	<0.1	0.12	
TYPE	GRADE	DENSITY	COMPRESSIVE STRENGTH (Kg/cm <sup>3</sup> )				FLEXURAL STRENGTH	LINEAR SHRINKAGE	
			10% DEFORMATION		25% DEFORMATION		(Kg/m <sup>3</sup> )	1400 °C	1200 °C
Ceramic Board	1260	300 - 380	>3		>6		>7	-	<3.5
High Density Board	1260	650 - 720	>18		-		>34	-	<1.0
High Temp Board	1425	300 - 380	>3		>6		>7	<4.0	<2.0



## ► Apple Cerawool **Gasket**



### Description:

- APPLECERAWOOL Gaskets are precision-cut, high-temperature sealing materials made from Applecerawool ceramic fibre sheets or papers. They are engineered to provide reliable thermal insulation and gas-tight sealing in extreme heat conditions. The combination of low thermal conductivity, flexibility, and high-temperature resistance ensures long service life and excellent sealing performance.
- These gaskets maintain integrity even when exposed to high heat, pressure, and corrosive atmospheres, making them ideal for critical applications where both mechanical strength and insulation are required. Available in various thicknesses and custom-cut shapes, Applecerawool Gaskets are easy to install and replace.

### Characteristics:

- Temperature resistance up to 1260°C (available up to 1425°C on request)
- Low thermal conductivity and excellent insulation
- Chemically stable and corrosion resistant
- Flexible and easy to handle or cut into custom sizes
- Asbestos-free and environmentally safe

### Applications:

- Furnace and kiln door seals
- Expansion joints and high-temperature flanges
- Boiler and heat exchanger seals
- Refractory lining interfaces
- Foundry, petrochemical, and power plant insulation

### Specifications:

- Density: 220–320 kg/m<sup>3</sup>
- Temperature Range: Up to 1260°C (Standard), 1425°C (High Grade)
- Available Thickness: 1–10 mm (custom sizes on request)

► **Apple Cerawool  
Module**



**Description:**

- APPLECERAWOOL Modules are high-performance, pre-compressed ceramic fibre insulation blocks manufactured from Applecerawool blankets, designed for fast, efficient, and reliable installation in high-temperature furnaces and kilns. Each module is precisely engineered and anchored to provide tight interlocking joints that minimize heat loss and ensure structural stability even under severe thermal conditions.
- The modular design allows for rapid installation, reduced downtime, and easy maintenance, making them ideal for use in new linings or furnace repair projects. Modules retain their flexibility, resilience, and excellent thermal performance throughout prolonged exposure to high temperatures.

**Characteristics:**

- High-temperature resistance (up to 1600°C)
- Low thermal conductivity for superior insulation
- Fast & easy installation with secure anchoring systems
- Excellent thermal shock resistance
- Lightweight, flexible, and durable
- Minimal heat storage and energy loss

**Applications:**

- Furnace, kiln, and heater linings
- Boiler walls and roof insulation
- Petrochemical reformers and heat treatment furnaces
- Ceramic and glass furnaces
- Ducts, stacks, and high-temperature vessels
- Backup insulation for refractory linings
- Chemical process heaters
- Bell annealing/Incinerators
- Soaking pit seals & covers
- Ladle preheaters

**Specifications:**

- Density: 128, 160, 190, 220 kg/m<sup>3</sup>
- Thickness: 100–300 mm (anchored),  
50–75 mm (reheating furnaces) 305x305 mm

Physical Properties		
Grade	RT-1260°C (2300°F)	HTZ-1425°C (2600°F)
Melting Point °C.	1780 °C	1780 °C
Max Continuous Use Temp. °C.	1050 °C	1200 °C
Color	White	White
Fiber Diameter (µm) (Micron)	2.7 ~ 3.6	2.7 ~ 3.6



## ► Apple Cerawool **Fibre Paper**



### Description:

● APPLECERAWOOL Ceramic Fibre Paper is a lightweight, flexible, and high-efficiency insulation material made from high-purity Applecerawool fibres with 20-25% organic content for exceptional pliability. It provides uniform thickness, smooth surface, and excellent handling, making it ideal for precision insulation and sealing applications.

Designed for high-temperature performance, the paper offers low thermal conductivity, superior thermal stability, and excellent resistance to heat and chemical attack. Even when exposed to water, steam, or oil, its original properties are restored upon drying, ensuring long-lasting and reliable insulation performance.

### Characteristics:

- High temperature resistance up to 1260°C
- Low thermal conductivity for excellent insulation
- Flexible, lightweight, and easy to cut or shape
- Excellent thermal shock and chemical resistance
- Low organic content, minimal smoke or odor
- Non-combustible and asbestos-free

### Applications:

- Furnace and kiln gaskets & seals
- Refractory lining insulation and expansion joints
- Heat shields and high-temperature electrical insulation
- Molten metal filtration and casting mould wraps
- Aerospace and automotive heat protection

### Specifications:

- Density: 220 kg/m³

Main Properties		
Grade	1260°C	1425°C
SiO2%	49-58%	42-57%
Al2O3%	41-48%	29-37%
ZrO2%	0-7%	13-18%
Availability and Packaging	1000 mm × 500 mm	1000 mm × 500 mm
Chemical Properties		
Colour	White	White
Density (Kg/cm³)	>190	>190
Tensile Strength (Kg/cm²)	0.8	0.8
Linear Shrinkage (24hrs)	4% Max at 1200°C	5% Max at 1400°C
Loss on Ignition	7-12%	
Physical Properties		
Thermal Conductivity at Mean Temp. (W/m.K)		
500°C	0.150	0.150



## ► Apple Cerawool **Fibre Rope**



### Description:

- APPLECERAWOOL Ceramic Fibre Rope is a dense and resilient insulation product made from high-purity Applecerawool fibres. It is available in Twisted and Braided forms, offering excellent flexibility, mechanical strength, and thermal stability for demanding sealing and packing applications. The rope includes 15–20% organic carrier fibre that burns off at lower temperatures without affecting its overall performance.
- Braided ropes can also be reinforced with SS304 or SS310 stainless steel wire for enhanced durability and higher mechanical strength in extreme temperature environments. Its unique structure ensures excellent thermal insulation, chemical resistance, and long service life under continuous high-heat exposure.

### Characteristics:

- High temperature resistance (up to 1260°C–1400°C)
- Low thermal conductivity and superior insulation
- Excellent flexibility, mechanical strength, and durability
- Resistant to thermal shock, corrosion, and chemical attack
- Available in Twisted and SS Braided types
- Asbestos-free and environmentally friendly

### Applications:

- High-temperature sealing and gasketing
- Furnace, boiler, and oven door packing
- Pipe and exhaust insulation
- Expansion joints and flange seals
- Metallurgical, petrochemical, and power plant insulation

### Specifications:

- Density: 300 kg/m³ (min.)
- Sizes: 6–100 mm dia

Technical Index		
Product Name	Ceramic Fiber Round Rope	Ceramic Fiber Round Rope
Temperature	1260°C	1425°C
Product construction	Glass Filament / Stainless Steel Resin	Glass Filament /Stainless Steel/Resin
Density (Kg/m³)	200/500	200/680
Long-term operation on temp (°C)	400/850	500/1050
Water content (%)	<=2	<=2
Organic content (%)	<=15	
Packing	Cartons or woven bags and box	



## ► Apple Cerawool **Fibre Cloth Tape**



### Description:

- APPLECERAWOOL Cloth and Tape are high-temperature, specialty insulating fabrics made from premium Applecerawool ceramic fibres. They are designed for industrial sealing, wrapping, and heat protection applications that demand both flexibility and durability. The fabric contains 15–20% organic carrier fibre to aid processing, which burns off at lower temperatures without affecting mechanical strength or stability.
- These fabrics exhibit excellent resistance to most corrosive agents and provide long-lasting performance even under continuous heat exposure. With their combination of strength, chemical stability, and thermal resistance, Applecerawool Cloth and Tape are ideal solutions for insulation and protection in harsh industrial conditions.

### Characteristics:

- High temperature resistance up to 1260°C
- Excellent chemical stability and corrosion resistance
- Flexible, durable, and easy to install
- Non-combustible and asbestos-free
- Available in multiple widths and thicknesses

### Applications:

- Furnace and boiler door seals
- Heat shields and expansion joints
- Cable and pipe insulation wraps
- Welding curtains and protective covers
- High-temperature gaskets and seals

### Specifications:

#### Available Sizes:

- Cloth: 3 mm × 300 mm / 1000 mm × 10 mtr
- Tape: 3 mm × 50 mm × 25 mtr



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