
TECHNICAL DATA SHEET: High-Temperature Ceramic Fiber Blanket

Product Series: AdTech-CFR Series

Material Type: Aluminosilicate Refractory Fiber

Classification Temperature: 1260°C (2300°F) / 1430°C (2600°F)

Manufacturer: AdTech Metallurgical Materials Co., Ltd.

Website: <https://www.c-adtech.com>

1. Product Description

AdTech **Ceramic Fiber Blanket** is a high-strength, needled insulating blanket that is manufactured from high-purity spun ceramic fibers. The double-needling process increases the interweaving and tensile strength of the fibers, allowing the blanket to maintain its structural integrity even under high-temperature airflow and mechanical stress.

Our blankets contain no organic binders or lubricants, ensuring that they do not emit smoke or fumes during the initial heating process. They are widely used for furnace linings, pipe insulation, and high-temperature gaskets in the metallurgical, petrochemical, and power generation industries.



2. Technical Specifications

Physical & Chemical Properties	Standard (1260°C)	High-Zirconia (1430°C)
Classification Temperature	1260°C	1430°C
Working Temperature	1050°C	1350°C
Color	Pure White	Pure White
Bulk Density (kg/m³)	64, 96, 128, 160	96, 128, 160
Chemical Composition	\$Al_2O_3\$: 46%	\$SiO_2\$: 53%
Tensile Strength (128kg/m³)	≥ 0.04 MPa	≥ 0.04 MPa
Linear Shrinkage (24h)	≤ 3.0% (at 1100°C)	≤ 3.0% (at 1350°C)
Thermal Conductivity (128 kg/m³)	0.09 W/(m · K) at 400°C	0.12 W/(m · K) at 600°C

3. Key Features & Advantages

Excellent Thermal Stability: Resists devitrification and maintains flexibility at high temperatures.

Low Heat Storage: Lower heat capacity compared to refractory brick, allowing for faster heating and cooling cycles.

High Tensile Strength: Double-needled construction prevents tearing or thinning during installation.

Superior Corrosion Resistance: Unaffected by most chemicals (except hydrofluoric and phosphoric acids and concentrated alkalis).

Excellent Sound Absorption: Provides effective noise reduction in industrial ducting and furnace environments.

Thermal Shock Resistance: Structural integrity is maintained under rapid temperature fluctuations.

4. Typical Applications

Metallurgy & Foundries: Annealing furnace linings, ladle covers, investment casting mold wrapping, and expansion joint seals.

Petrochemical: Crude oil heater linings, reformer tubes, and high-temperature pipe insulation.

Power Generation: Steam and gas turbine insulation, heat recovery steam generators (HRSG) linings.

Ceramic & Glass: Kiln car insulation, glass tank crown insulation, and expansion joints.

Fire Protection: Fire-rated doors, commercial kitchen duct wrap, and fireproofing for structural steel.

5. Standard Dimensions & Packaging

AdTech blankets are supplied in rolls, shrink-wrapped in plastic, and packed in heavy-duty export cartons.

Thickness: 10mm, 12.5mm, 20mm, 25mm, 38mm, 50mm

Width: 610mm (Standard), 1220mm

Length: 3600mm, 7200mm, 14400mm (depends on thickness)

6. Installation & Safety Guidelines

Installation:

Surface Prep: Ensure the furnace shell is clean and free of rust.

Fastening: Use stainless steel anchors (SS304/SS310) or ceramic anchors to secure the blanket. Apply in layers with staggered joints to prevent "thermal bridging."

Cutting: Use a sharp knife or heavy-duty shears. For complex shapes, a template is recommended.

Safety Precautions:

Personal Protection: Use gloves, long sleeves, and safety glasses. If working in poorly ventilated areas, wear a dust mask (N95 or higher).

Skin Care: After handling, wash skin with cold water and mild soap to remove fibers.

Dust Management: Use wet-mop cleaning methods; avoid compressed air for cleaning up fiber debris.

7. Global Quality Standards

AdTech is committed to excellence. Our Ceramic Fiber Blankets are tested according to ASTM C892 and ISO 9001:2015 standards, ensuring that every roll provides the reliable thermal protection your facility requires.

Contact Us for a Custom Quote

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