
TECHNICAL DATA SHEET: Rigid Ceramic Fiber Board

Product Series: AdTech-CFB (Board)

Material Type: Vacuum-Formed Aluminosilicate Fiber

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

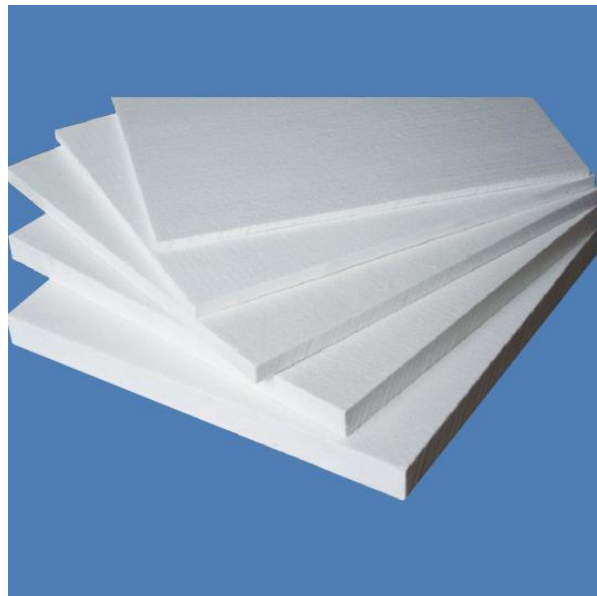
Manufacturer: AdTech Metallurgical Materials Co., Ltd.

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

1. Product Description

AdTech **Ceramic Fiber Board** is a high-performance, rigid insulation product manufactured through a specialized vacuum-forming process. By blending high-purity alumina-silica fibers with inorganic and organic binders, we create a board that offers low thermal conductivity, high structural integrity, and excellent resistance to hot gas erosion.

Unlike ceramic fiber blankets, our boards provide a rigid solution for applications requiring load-bearing capabilities or resistance to mechanical stress. They are easily machined, drilled, or sawn to meet precise industrial specifications.



2. Technical Specifications

| Physical & Chemical Properties | Standard (1260°C) | High-Zirconia (1430°C) |
|-----------------------------------|---|---------------------------|
| Classification Temperature | 1260°C | 1430°C |
| Continuous Working Temperature | 1050°C | 1350°C |
| Bulk Density (kg/m ³) | 280 - 320 (Standard) | 300 - 350 |
| Chemical Composition | Al ₂ O ₃ : 45-47% | SiO ₂ : 52-54% |
| Compressive Strength | ≥ 0.5 MPa | ≥ 0.55 MPa |
| Linear Shrinkage (1100°C, 24h) | ≤ 3.5% | ≤ 3.0% (at 1350°C) |
| Organic Content (LOI) | ≤ 5% | ≤ 5% |

Thermal Conductivity (at 300 kg/m³)

at 400°C: 0.085 W/(m · K)

at 600°C: 0.132 W/(m · K)

at 1000°C: 0.180 W/(m · K)

3. Key Performance Advantages

High Rigidity & Modulus of Rupture: Maintains its shape and thickness under mechanical pressure and high-velocity airflow (up to 30 m/s).

Low Heat Storage: Low density and low thermal mass allow for rapid furnace cycling and improved energy efficiency.

Excellent Machinability: Can be easily cut with standard woodworking tools or CNC routed into complex shapes for gaskets and baffles.

Thermal Shock Resistance: Withstands rapid heating and cooling cycles without cracking or delaminating.

Non-Wetting to Molten Metals: Ideal for aluminum foundry applications where contact with non-ferrous metals may occur.

4. Typical Applications

Furnace & Kiln Linings: Hot-face linings for industrial kilns, flue linings, and combustion chamber insulation.

Back-up Insulation: Rigid support layer for refractory bricks or castables in ladles and melting furnaces.

Foundry Industry: Baffle plates, dam blocks, and riser sleeves for molten aluminum transfer.

Power Generation: Thermal barriers for boilers, gas turbines, and high-temperature ducting.

Glass Industry: Crown insulation and expansion joints in glass melting tanks.

Fire Protection: Fire-rated wall systems and thermal shields for equipment protection.

5. Standard Dimensions & Availability

AdTech boards are available in various sizes to minimize on-site cutting waste.

Standard Sizes: 900 x 600mm / 1000 x 600mm / 1200 x 1000mm

Thickness: 10mm, 20mm, 25mm, 40mm, 50mm, 100mm

Customization: We offer pre-cut shapes and CNC-machined components based on your CAD drawings.

6. Installation & Handling

Working with the Board:

Cutting: Use a standard fine-toothed saw or a power jigsaw. For industrial quantities, water-jet cutting is recommended to reduce dust.

Bonding: Use AdTech high-temperature inorganic adhesive to bond boards to steel shells or to each other.

Initial Burn-out: The organic binder will burn off during the first heat-up (above 200°C). This may result in minor smoke and odor. Ensure the area is well-ventilated during the first firing.

Safety Information:

PPE: Wear gloves, safety glasses, and a dust mask (P2 or N95) during cutting and installation to avoid skin and respiratory irritation.

Storage: Store in a dry, flat position. Keep in original packaging to prevent moisture absorption and corner damage.

7. Quality Assurance

AdTech Ceramic Fiber Boards are tested under ISO 9001:2015 protocols. Our vacuum-forming technology ensures uniform thickness and density throughout the entire board, providing reliable performance for critical thermal barriers.

Contact Us for a Custom Quote

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