

AEROSPACE THERMAL MANAGEMENT SOLUTIONS

Advanced Lightweight Thermal
Insulation & Fire Protection
Solutions for Aerospace Systems



LIGHTWEIGHT
Reduce weight
and improve
efficiency



FIRE PROTECTION
Delay heat
penetration and
flame spread



THERMAL BARRIER
Minimize heat transfer
and protect critical
systems



**VIBRATION
RESISTANCE**
Withstand harsh
operating
conditions



**FABRICATION
CAPABILITY**
Custom shapes
and easy
installation

WHY AEROSPACE THERMAL PROTECTION MATTERS

In aerospace systems, thermal insulation materials must withstand extreme temperatures and fire environments while meeting demanding requirements for safety, reliability and performance.

CCEWOOL® provides lightweight, high-performance solutions to protect critical systems and ensure mission success.



LIGHTWEIGHT

Reduce weight and improve efficiency



LOW THERMAL CONDUCTIVITY

Minimize heat transfer



FIRE PROTECTION

Delay heat penetration and flame spread



VIBRATION RESISTANCE

Withstand harsh operating conditions



SPACE SAVING

Thin solutions for tight spaces



FABRICATION CAPABILITY

Custom shapes and easy installation

TYPICAL AEROSPACE APPLICATIONS

CCEWOOL® solutions are used in a wide range of commercial, defense and space applications.



ENGINE NACELLE & THRUST REVERSER

High-temperature thermal protection for engine areas



APU

Thermal insulation for auxiliary power units



BLEED AIR DUCT & DE-ICING SYSTEM

Flexible insulation for high-temperature air duct systems



FLIGHT DATA RECORDER

Fire protection for critical data recording devices



BATTERY SYSTEM PROTECTION

Thermal runaway protection for battery modules and packs



WIRE & CABLE PROTECTION

Insulation and fire protection for wiring and electrical systems



CABIN & FUSELAGE FIRE PROTECTION

Thermal insulation and fire barriers for cabin structures and fuselage areas



SPACECRAFT THERMAL SHIELD

Lightweight thermal barriers for spacecraft and advanced aerospace platforms



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ENGINE NACELLE & THRUST REVERSER

Lightweight Thermal Protection for High-Temperature Engine Areas

CCEWOOL® solutions help reduce heat transfer to surrounding structures while maintaining low weight and excellent thermal efficiency in extreme environments.



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FABRICATION CAPABILITY

Custom shapes and easy installation

RECOMMENDED PRODUCTS

- Microporous Board
- Aluminum Foil Ceramic Blanket
- Ceramic Fiber Paper
- Polycrystalline Fiber Paper

MICROPOROUS BOARD



ALUMINUM FOIL CERAMIC BLANKET



CERAMIC FIBER PAPER



POLYCRYSTALLINE FIBER PAPER



APU, BLEED AIR & DE-ICING SYSTEMS

Flexible Thermal Insulation for High-Temperature Airflow Systems

CCEWOOL® insulation solutions helps maintain air temperature, reduce heat loss and protect surrounding structures in high-temperature airflow systems.

APPLICATIONS

- ◆ Auxiliary Power Unit (APU)
- ◆ Exhaust Duct
- ◆ Bleed Air Duct
- ◆ De-Icing Duct
- ◆ Environmental Control System (ECS)

RECOMMENDED PRODUCTS

- ◆ Microporous Board
- ◆ Aluminum Foil Blanket
- ◆ Cloth
- ◆ Tape
- ◆ Rope



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PROTECTING CRITICAL COMPONENTS

FLIGHT DATA RECORDER

Flight Data Recorders require compact, lightweight and highly efficient thermal barriers to delay heat transfer and protect critical data storage systems in fire or crash conditions.

RECOMMENDED PRODUCTS

- Microporous Board
- Polycrystalline Fiber Paper
- Polycrystalline Ultra-Thin Blanket
- Customized Fiber Gaskets



OUTER SHELL
Steel Case

THERMAL BARRIER
Microporous Insulation

DATA STORAGE
Memory Module



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BATTERY THERMAL RUNAWAY PROTECTION

Advanced solutions for the next generation of electric aircraft and aerospace energy storage systems.

APPLICATIONS

- Cell-to-Cell Barrier
- Module Protection
- Pack Insulation
- Vent Path Protection

RECOMMENDED PRODUCTS

- Polycrystalline Paper
- Polycrystalline Ultra-Thin Blanket
- Ceramic Fiber Paper
- Fabrication Components



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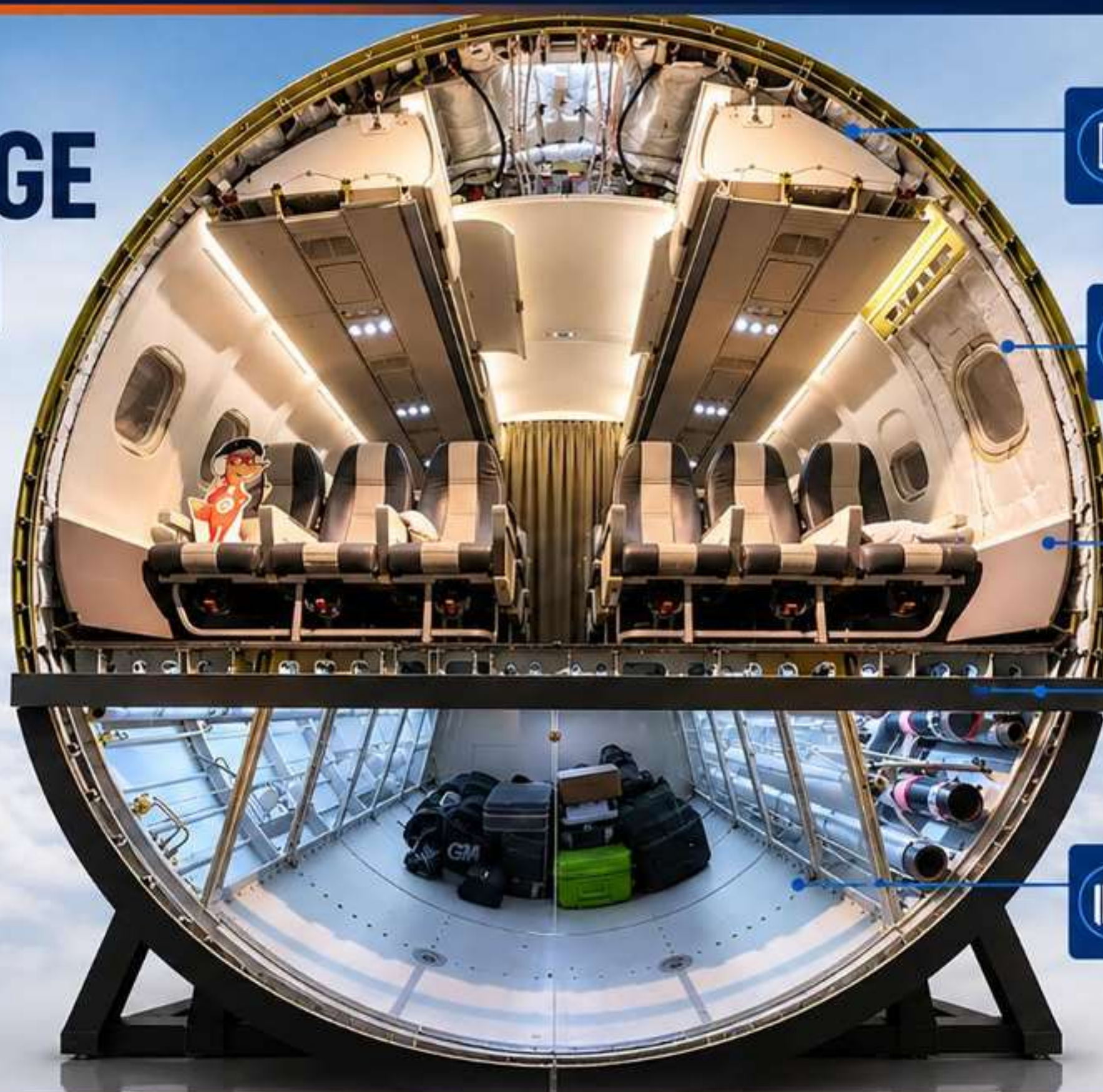
FABRICATION CAPABILITY
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CABIN & FUSELAGE FIRE PROTECTION

Providing thermal insulation, fire barriers and acoustic protection for aircraft cabin structures.

APPLICATIONS

- ✓ Cabin Wall
- ✓ Cargo Area
- ✓ Floor Structure
- ✓ Firewall
- ✓ Equipment Bay
- ✓ Lavatory & Galleys



CABIN WALL
Thermal insulation
& fire protection

CARGO AREA
Insulation for cargo
compartment

FIREWALL
Fire barrier for
maximum safety

FLOOR
Acoustic & thermal
protection

EQUIPMENT BAY
Insulation for avionics
& systems



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WIRE, CABLE & PIPE PROTECTION

Flexible wrapping and localized thermal protection for critical aerospace systems.

APPLICATIONS

- Wire & Cable Harness
- Hydraulic Lines
- Fuel Lines
- Pneumatic Lines
- High-Temperature Pipes

RECOMMENDED PRODUCTS

- Ceramic Fiber Cloth
- Ceramic Fiber Tape
- Ceramic Fiber Rope
- Sleeve
- Gasket



FLEXIBLE & LIGHTWEIGHT

Easy installation,
minimal added weight



HIGH TEMP RESISTANCE

Withstands extreme
operating conditions



RELIABLE PROTECTION

Protects cables and pipes
from heat and abrasion



DURABLE SOLUTION

Long service life and
stable performance

WIRE & CABLE HARNESS



HYDRAULIC LINE



FUEL LINE



SPACECRAFT THERMAL PROTECTION SYSTEMS

Lightweight thermal barriers for spacecraft and advanced aerospace platforms operating in extreme environments.

APPLICATIONS

- Instrument Protection
- Heat Shield
- Thermal Barrier
- Lightweight Components
- Re-entry Protection



INSTRUMENT PROTECTION

Safeguard sensitive instruments from extreme temperatures.



HEAT SHIELD

High-performance insulation for safe re-entry and heat resistance.



THERMAL BARRIER

Minimize heat transfer and ensure structural integrity in harsh conditions.



LIGHTWEIGHT COMPONENTS

Reduce weight without compromising thermal protection.

RECOMMENDED AEROSPACE PRODUCTS

MICROPOROUS BOARD	CERAMIC FIBER PAPER	POLYCRYSTALLINE PAPER (PCW)	POLYCRYSTALLINE BLANKET (PCW)	TEXTILE & CLOTH	FABRICATION COMPONENTS
					
APPLICATION Heat Shield Insulation FD R Protection	APPLICATION Thin Thermal Barrier Gaskets Electrical Insulation	APPLICATION Battery Barrier Electrical Insulation High Temp Paper	APPLICATION Thermal Runaway Protection High Temp Insulation	APPLICATION Cable Wrapping Duct Insulation Fire Protection	APPLICATION Customized Shapes Gaskets Seals

ADVANCED THERMAL MANAGEMENT SOLUTIONS

CCEWOOL® delivers innovative and reliable thermal insulation, fire protection and fabrication solutions for aerospace systems worldwide. We partner with our customers to create safer, lighter and more efficient aircraft and spacecraft.



INNOVATION



QUALITY



RELIABILITY



GLOBAL SUPPORT

CCEWOOL®
— INSULATION FIBER SPECIALIST —



www.ceramicfibres.com



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www.ccewool.com



Global Project Support

Double Egret Thermal Insulation Co., Ltd



Minying Industrial Park Development
Zones Zibo, Shandong, 255000



Info@ccewool.com



U.S. Warehouse Stock Supply & Local Project Support

CCEWOOL Thermomax Inc.



1203 Galleria Blvd, Rock Hill, SC 29730, United States



+1-7047402348



salesusa@ccewool.com

