



Materials and Coatings

Polyimide Foams

Multi-use foam that insulates for sound, heat and cold

The winner of NASA's 2007 Commercial Invention of the Year, these multi-use polyimide foams are effective for sound, heat, and cold insulation. They are lightweight and fire-resistant and can be formed into a variety of shapes. The foams are the second generation of a material originally developed as a thermal insulator for reusable launch vehicles.

BENEFITS

- Effective thermal insulation from minus 400 to plus 400 degrees Fahrenheit
- Inherently fire-resistant
- Low cost and fast production
- Foams can be molded into different shapes and can be either rigid or flexible

technology solution



NASA Technology Transfer Program

Bringing NASA Technology Down to Earth

THE TECHNOLOGY

The polyimide foams are produced at low densities, ranging from 3.2 to 17 kg/m³ (0.2 to 1.0 pounds per cubic foot) and are inherently fire retardant due to their chemical composition. These materials are cured by microwave, which offers lower cost and faster production than other manufacturing methods for polyimide foams. The foams can be manufactured to be either rigid or flexible.



Foam sample

APPLICATIONS

The technology has several potential applications:

- ➔ Aerospace
- ➔ Naval and Marine
- ➔ Residential and Commercial Construction

PUBLICATIONS

Patent No: 6,956,066; 7,541,388

National Aeronautics and Space Administration

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NASA's Technology Transfer Program pursues the widest possible applications of agency technology to benefit US citizens. Through partnerships and licensing agreements with industry, the program ensures that NASA's investments in pioneering research find secondary uses that benefit the economy, create jobs, and improve quality of life.

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