

INSITUCORE™ TECHNOLOGY

# FOAMING MATERIALS FOR COMPOSITE MANUFACTURING.

**InsituCore™** Foaming Core Technology is a family of one-component, heat-activated foaming structural materials that can be used to create composites with foam core. Placed in a heated tool, the material foams to fill the mold cavity and form net-shape parts without time-consuming machining processes or energy-intensive autoclave operations.

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# INSITUCORE™

INTERNAL PRESSURE ENABLES NET SHAPES

## BENEFITS

With **InsituCore™** thermosetting and thermoplastic foaming materials, internally generated pressure is used to create net shape, 3D parts that are both lightweight and strong in a simple, clean process. Compared to traditional

manufacturing and machining methods, these materials enable faster cycle times, a reduction in waste material, and optimized production processes by eliminating secondary machining and assembly operations.



With a wide range of volumetric expansion (up to 3,000%), **InsituCore™** enables lightweighting over traditional materials.

## KEY PRODUCT ATTRIBUTES



### HIGH STRENGTH

- High compressive strength
- High stiffness-to-weight ratio with a wide range of volumetric expansion



### PROCESS OPTIMIZATION

- Enables fast cycle times
- Minimal waste, low capital investment, and small manufacturing footprint
- Requires no liquid resin infusion



### DESIGN FLEXIBILITY

- Good acoustic & thermal insulation
- Fire-resistant products available
- Enables lightweighting



### SAFE & EASY HANDLING\*

- No isocyanates
- Alternative to polyurethane foams

\* Gloves are recommended. Always follow SDS guidelines for safe handling.

## THREE STEPS TO A NET-SHAPE PART



Place the **InsituCore™** material into the cavity mold with reinforcement fiber layers.

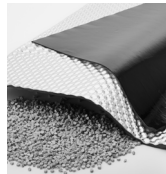


Close and heat the mold. The material foams, building pressure to fill the cavity completely.



Once cooled, open the mold and extract the structural foam part.

## MATERIAL FORMATS



- Extruded sheets
- Pellets

## APPLICATION EXAMPLES



- Aircraft tray tables
- Sporting goods
- Thermal insulation panels
- Lightweight wall panels, floors, doors, and hatch covers
- Automotive OEM & aftermarket parts



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