

CoreFix®

CoreFix is an innovative prepreg used for stabilizing metallic and non-metallic honeycomb materials during handling and machining operations. CoreFix is designed to be easily removed from the core without tearing or distorting the honeycomb.

Key Features & Benefits

- Specifically designed to stabilize honeycomb cores during handling and machining.
- Compatible with both metallic and non-metallic honeycomb materials
- Releases cleanly from honeycomb after fabrication with no distortion/damage, and no appreciable residue on the core
- No cleaning processes are required after the removal of CoreFix
- Chemically stable when stored in dry, room temperature conditions, eliminating long wait times for standard cold-storage prepregs
- Provides a non-porous, flat skin compatible with vacuum-chuck machining operations
- Low temperature and short processing times provide maximum production efficiency

Product Forms

- Available in roll form
- Compatible with vacuum bag/oven or press processes
- Nominal resin content is 60%; however, other resin contents are available to meet specific customer needs

Applications / Qualifications

- Stabilization of honeycomb structures during handling and machining
- Vacuum chuck multi-axis machining centers
- Approved for metallic and non-metallic honeycomb cores
- U.S. Patent No. 6,090,729

Qualified Specifications

- BMS 4-4
- BMS 4-6

For Information about Park's materials:

Newton, KS +1.316.283.6500

info@parkaerospace.com

www.parkaerospace.com

Aerospace Composite Materials

Processing Guidelines

CoreFix

Storage

CoreFix is chemically and thermally stable when stored in dry, room temperature conditions.

Note: The following guidelines are provided to assist Park material users with general recommendations for successful processing. The recommendations are for general review purposes only and process adjustments may be required to achieve optimum results in your specific manufacturing environment.

CoreFix can be used immediately by production personnel. Because CoreFix does not need to wait long periods (8 – 12hrs) for temperature equilibration like cold-stored prepregs, manufacturing efficiency can be increased.

Vacuum Bag / Oven Processing

- Remove CoreFix from the roll and place on layup table that has been treated for easy release
- Tape the corners of the CoreFix to the table, and place the honeycomb sandwich in the center of the CoreFix
 - Allow ½" overhang of excess CoreFix on all sides of the honeycomb
- Place release film or fabric over the entire assembly
- Add 1-2 layers of breather (5 – 10 oz/yd, non-woven polyester breather material, such as Airweave)
- Orient vacuum ports at opposite corners of the honeycomb panel and apply vacuum bag
- A minimum of 25"Hg should be maintained
- Place in Oven under vacuum at 225°F (107°C) for 20 minutes
- Allow the assembly to cool to 140°F (60°C) before removing the stabilized piece

Press Processing

- Verify that press platens are smooth and parallel, and that proper release agent has been applied
- Place CoreFix on bottom platen with honeycomb core centered on top
 - Allow ½" overhang of excess CoreFix on all side of honeycomb
- A non-silicone rubber or urethane blanket can be used on top of the honeycomb to normalize pressure across the surface
- Apply pressure of 10 – 15 psi
- Hold at 225°F (107°C) for 20 minutes
- Release pressure and allow part to cool to 140°F (60°C)



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CoreFix

Machining

- CoreFix stabilized product can be easily vacuum chucked on multi-axis machining centers.
- The CoreFix product yields a non-porous skin that vacuum chucks well and holds fast during machining operations.
- Although low-angle edge beveling (scarfing) of honeycomb has always presented a challenge for traditional stabilization products, CoreFix has exhibited excellent adhesion on both metallic and non-metallic core in these machining operations.
- Cutter geometries should be selected that will minimize excessive heat in the cutting area. Traditionally, valve stem and end-mill cutters are used for honeycomb carving. Cutter speeds and feeds must be optimized for maximum cutting quality and efficiency

Product Removal

- CoreFix can be removed from the honeycomb surface with a gentle peeling motion.
- Generally, CoreFix is peeled-off in the ribbon direction of the core
- If working with frail, lightweight, or scalloped-edge honeycomb parts, a heat-gun can be used to pre-soften CoreFix and aid in product removal

CoreFix® Residue/Compatibility

After peeling, CoreFix leaves only minimal residue on the core. Any residual CoreFix compatible with typical 121/177°C cure epoxy systems. A comprehensive compatibility matrix was completed by Boeing as part of CoreFix BMS 4-4 and BMS 4-6 qualifications.

All test data provided are typical values and not intended to be specification values. For review of critical specification tolerances, please contact a company representative directly.

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