CoreFix®

Park’s 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 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 cure temperature and short cure times provide maximum production efficiency

Product Forms
- Available in roll form
- Compatible with vacuum bag/oven or press processes

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 4-4V
- BMS 4-6L

Global Availability
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Storage
CoreFix® is chemically and thermally stable when stored in dry, room temperature conditions.

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 Cure
- 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 1.3 cm 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 (156 – 312 g/m, 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 635 mmHg should be maintained
- Oven cure under vacuum at 120°C for 20 minutes
- Allow the cured assembly to cool to 60°C before removing the stabilized piece

Press Cure
- 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 1.3 cm 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 103 – 138 kPa
- Cure at 120°C for 20 minutes
- Release pressure and allow part to cool to 60°C

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.
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Machining
- CoreFix® stabilized product can be easily vacuum chucked on multi-axis machining centers. The cured 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 minimum residue behind on the core.

Any residual CoreFix has demonstrated compatibility to typical 121/177°C core epoxy system. A comprehensive compatibility matrix has been completed by Boeing as part of CoreFix BMS 4-4 and BMS 4-6 qualifications.