



Product Data

RenShape[®] 5005 INTERMEDIATE TEMPERATURE EPOXY BOARD

RenShape 5005 board is an epoxy material that is designed for use at temperatures up to 250°F (121°C). The board is well suited for building aerospace master models, lay-up tools for low and medium-temperature curing prepregs, and other heat-resistant tooling. RenShape 5005 board features a low coefficient of thermal expansion to produce models and tools with good accuracy and dimensional stability. It has a high glass transition temperature of 287°F (142°C). Among the key benefits of RenShape 5005 board are:

| ADVANTAGES | |
|------------|--------------------------------------|
| | • Can be CNC machined or hand carved |
| | • Good edge definition |
| | • Good dimensional stability |
| | • High impact resistance |

| ACCESSORIES | Matched Epoxy Adhesives | Polyurethane Repair Paste |
|-------------|--|---|
| | CG 1305 R/H or RenLam [®] 4005/Ren [®] 1500 | RenPatch [®] 177-119/Ren 177-119 |

| TYPICAL PROPERTIES* | Test Method | Test Values |
|--|-------------|--|
| Color | Visual | Gray |
| Density, lb./ft ³ (g/cm ³) | ASTM D-792 | 35 (0.56) |
| Hardness, Shore D | ASTM D-2240 | 64 – 68 |
| Ultimate Flexural Strength, psi (MPa) | ASTM D-790 | 3,700 |
| Flexural Modulus, psi (MPa) | ASTM D-790 | 240,000 |
| Ultimate Tensile Strength, psi (MPa) | ASTM D-638 | 2,900 |
| Tg by DMA, E", °F(°C) | ASTM D-4065 | 287 (142) |
| Compressive Strength, 0.2% offset, psi (MPa) | ASTM D-695 | 5,000 |
| Compressive Modulus, psi (MPa) | ASTM D-695 | 230,000 |
| Coefficient of Thermal Expansion -22° to 86°F, in/in/°F -30° to 30°C, in/in/°C | ASTM D-3386 | 23 x 10 ⁻⁶ 41 x 10 ⁻⁶ |

* Tested @ 77°F (25°C) unless otherwise noted.

NOTE: These physical properties are reported as typical test values obtained by our test laboratory. If assistance is needed in establishing product specifications, please consult with our Product Management Department.

| MACHINING | Roughing Speed | Roughing Feed | Finishing Speed | Finishing Feed |
|------------------|-----------------------|------------------------|------------------------|-------------------------|
| | 1,600 RPM | 40 IPM (101cm/min.) | 10,000 RPM | 100 IPM (254cm/min.) |

Cutters: Roughing: 1 in. (2.5cm) Hog Ball End Mill 4-Flute HS Steel 8% cobalt
Finishing 5/8 in (16mm) Ball End Mill 2-Flute Carbide
Depth: Roughing varies from 0.25 in. to 2.5 in. (6mm to 6.35cm) with a 40% stepover
Finishing depth is 1/8 in. (3mm) leaving a 0.002 in. (0.05mm) scallop height

These machining parameters are represented as starting points. Cutter type and material, spindle speed, feed rate, machine power and rigidity all affect machining results. User must determine the best parameters for specific situations.

PACKAGING:

RenShape 5005 board is available in a limited number of standard combinations of 2 in., 4 in., and 6 in. (5cm, 10cm, 15cm) thicknesses, width of 24 in. (60cm) and length of 60 in. (152cm). Boards are finished on top and bottom faces and on all edges. Please contact Customer Service (800) 367-8793 for currently available options, price and availability.

STORAGE/HANDLING:

Store boards flat in original cartons at 60°F to 100°F (15°C to 38°C). In accord with good industrial practice, handle with due care. Avoid dusty conditions, use adequate ventilation. Avoid breathing dust. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.

SHELF LIFE:

Provided this material is stored under the recommended storage condition in the original container, it will remain in useable condition for an unlimited amount of time.

CAUTION:

Huntsman Advanced Materials Americas Inc. maintains up-to-date Material Safety Data Sheets (MSDS) on all of its products. These sheets contain pertinent information that you may need to protect your employees and customers against any known health or safety hazards associated with our products. Users should review the latest MSDS to determine possible health hazards and appropriate precautions to implement prior to using this material. Copies of the latest MSDS may be requested by calling our customer service group at 800-367-8793 or emailing your request to kathy_dewey@huntsman.com.

FIRST AID!

Eyes and skin: Flush eyes with water for 15 minutes. Contact a physician if irritation persists. Wash skin thoroughly with soap and water. Remove and wash contaminated clothing before reuse.

Inhalation: Remove subject to fresh air.

Swallowing: Dilute by giving water to drink and contact a physician promptly. Never give anything to drink to an unconscious person.

KEEP OUT OF REACH OF CHILDREN**FOR PROFESSIONAL AND INDUSTRIAL USE ONLY****IMPORTANT LEGAL NOTICE:**

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