RenShape Foam Boards are designed and formulated to offer excellent workability with a broad range of densities to be used in a variety of applications, such as modeling, aerospace, composite, architectural and design industries, signage and low density substrates. RenShape continues to lead the industry in providing the perfect balance of machinability, surface finish, edge definition, stability, and durability, all available from the largest modeling board distributor in the world, Freeman.

How to Choose a Foam Board
Consider your project requirements and refer to the chart below for recommended applications. More specifications tables can be found on the last page.

Application Guide*

<table>
<thead>
<tr>
<th>RenShape #</th>
<th>440</th>
<th>5440</th>
<th>BM-70</th>
<th>450</th>
<th>5460</th>
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<tr>
<td>CNC Proofing</td>
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<tr>
<td>Models (Architectural, styling, temporary)</td>
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<tr>
<td>Low-density substructure</td>
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<tr>
<td>Tooling aids &amp; fixtures</td>
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<td>Intermediate-temp master &amp; lay-up tools</td>
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<tr>
<td>High-temp master &amp; lay-up tools</td>
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<tr>
<td>Foundry patterns</td>
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<tr>
<td>Vacuum-form molds</td>
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<td></td>
<td></td>
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<tr>
<td>Metalforming tools</td>
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</tbody>
</table>

- Ideal
- Acceptable
- Not recommended

*Results may vary depending on your specific project

Machining Parameters

<table>
<thead>
<tr>
<th>Cutters</th>
<th>Depth</th>
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<tbody>
<tr>
<td>Roughing</td>
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<tr>
<td>Speed (RPM)</td>
<td>Feed (IPM)</td>
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<tr>
<td>5014</td>
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<td>5018</td>
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<td>5035</td>
<td>2,500</td>
</tr>
<tr>
<td>5045</td>
<td>2,500</td>
</tr>
</tbody>
</table>

Please Note
These machining parameters are starting points. Cutter type, material, spindle speed, feed rate, machine power, and rigidity all affect results. User must determine best parameters for specific applications.
Quick Facts
- Closed-cell polyurethane foam boards formulated for styling, modeling, prototyping and fabricating applications
- Can be worked by hand or machine
- Non-abrasive to cutting tools
- Not compatible with addition-cure silicone rubbers
- Compatible with condensation-cure silicone rubbers

RenShape 5018 Polyurethane Foam Board
RenShape 5018 is a rigid, low density, closed-cell urethane foam. This product has an 8 lb./ft.³ density for making economical, lightweight styling and appearance models.

RenShape 5018 Polyurethane Foam Board
SKU Thickness Width Length Bd. ft.
075851 4" 18" 96" 48
075856 8" 24" 96" 128
075854 4" 48" 96" 128
075855 6" 48" 96" 192
075852 8" 48" 96" 256
075860 18" 48" 96" 576

RenShape 5014 Polyurethane Foam Board
RenShape 5014 is our lightest weight and most economical foam styling board. It is excellent for appearance models.

RenShape 5014 Polyurethane Foam Board
SKU Thickness Width Length Bd. ft.
075805 6" 24" 96" 96
075800 2" 48" 96" 64
075801 4" 48" 96" 128
075806 6" 48" 96" 192

RenShape 5015 Polyurethane Foam Board
RenShape 5015 features a very low density of 6 lb./ft.³. This material is excellent for machining lightweight styling models and appearance models.

RenShape 5015 Polyurethane Foam Board
SKU Thickness Width Length Bd. ft.
075836 2" 24" 96" 64
075844 4" 48" 96" 128
075846 6" 48" 96" 192

RenShape 5020 Polyurethane Foam Board
Although this board provides a better surface finish than RenShape 5018, it is used in many of the same applications. The light gray color makes RenShape 5020 a great choice for architectural models.

RenShape 5020 Polyurethane Foam Board
SKU Thickness Width Length Bd. ft.
075175 2" 24" 96" 32
075176 4" 24" 96" 64
075177 6" 24" 96" 96
075178 8" 24" 96" 128
075174 2" 48" 96" 64
075182 4" 48" 96" 128
075183 6" 48" 96" 192
075180 8" 48" 96" 256

RenShape Foam Boards range in densities from 4 to 30 lb., making them suitable for lightweight models.
RenShape 5025 Polyurethane Foam Board
Improving on the RenShape 5020’s surface finish, RenShape 5025 is used in many large and lightweight styling applications. 24” x 16” boards are also available for smaller projects.

<table>
<thead>
<tr>
<th>SKU</th>
<th>Thickness</th>
<th>Width</th>
<th>Length</th>
<th>Bd. ft.</th>
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<tbody>
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<td>075132</td>
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<td>075126</td>
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<td>48”</td>
<td>96”</td>
<td>192</td>
</tr>
</tbody>
</table>

> 15 lb./ft.³ density
> Light green color

RenShape 5030 Polyurethane Foam Board
With an even better surface finish than RenShape 5025, RenShape 5030 is budget-friendly while offering a very good surface finish with excellent edge definition.

<table>
<thead>
<tr>
<th>SKU</th>
<th>Thickness</th>
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<td>075259</td>
<td>8”</td>
<td>48”</td>
<td>96”</td>
<td>48</td>
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</table>

> 20 lb./ft.³ density
> Peach color

RenShape 5035 Polyurethane Foam Board
RenShape 5035 features a medium low density of 28 lb./ft.³. It is ideal for master models, prototypes, and CAD design verification.

<table>
<thead>
<tr>
<th>SKU</th>
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<th>Bd. ft.</th>
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<tbody>
<tr>
<td>075115</td>
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<td>96”</td>
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</tbody>
</table>

> 28 lb./ft.³ density
> Peach color

RenShape 5045 Polyurethane Foam Board
RenShape 5045 provides the best surface finish and edge definition of all RenShape foam boards.

<table>
<thead>
<tr>
<th>SKU</th>
<th>Thickness</th>
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<td>075521</td>
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<tr>
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<td>075863</td>
<td>2”</td>
<td>48”</td>
<td>96”</td>
<td>64</td>
</tr>
</tbody>
</table>

> 30 lb./ft.³ density
> Brown color

RenShape 5035 and RenShape 5045 (pictured) work extremely well on the CNC. They create flakes rather than dust when machined, allowing for fast, easy clean-up.
LOCATIONS & TERMS

FREEMAN MANUFACTURING & SUPPLY CO.
1101 Moore Road, Avon, Ohio 44011
Phone 800-321-8511 • Fax 440-934-7200
www.FreemanSupply.com
contactus@freemansupply.com

Please see our website, www.FreemanSupply.com/aboutus for complete details and contact information on all of our locations.

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General Specifications

Matched Adhesives & Repair Materials Guide

| Adhesives         | RenShape 5014 | RenShape 5015 | RenShape 5018 | RenShape 5020 | RenShape 5025 | RenShape 5030 | RenShape 5035 | RenShape 5045 | Admix Ratio (%) | Mix Ratio (by wt.) | Viscosity (cps) | Gel Line @ 77°F (min.) | Light Handling Time (hr.) | Hardness (Shore D) | Density (lb./ft.³) | Density (g/cc) | TCE (in./in./ºF) | Glass Transition (ºF) | Flexural Strength (psi) | Compressive Strength (psi) | Compressive Modulus (psi) | Flexural Modulus (psi) | CTE (in./in./ºF) | Color |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|-----------------|----------------|----------------|----------------|----------------|-----------------|----------------|----------------|----------------|----------------|----------------|-------|
|                   | 27            | 27            | 8             | 0.16          | 0.25          | 0.30          | 0.45          | 48            | 1:1            | 1:1             | 1:1           | 1:1             | 1:1             | 1:1             | 1:1             | 1:1             | 1:1             | 1:1           | 1:1             | 1:1             | 1:1             | 1:1             | 1:1           | 1:1             |
|                   | X X X X X X X | X X X X       | X X X X X X   | X X X X X     | X X X X X     | X X X X X     | X X X X X     | X X X X X     | X X X X X     | X X X X X X     | X X X X X     | X X X X X X     | X X X X X X     | X X X X X X     | X X X X X X     | X X X X X X     | X X X X X X     | X X X X X X     | X X X X X X     | X X X X X X     | X X X X X X     | X X X X X X     | X X X X X X     | X X X X X X     | X X X X X X     |
|                   |               |               |               |               |               |               |               |               |               |                 |               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
|                   | D-2240        | D-792         | D-792         | D-638         | D-695         | D-695         | D-790         | D-790         | D-4065         | D-3386          |               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |

Notes:
- Color: C.T.E. (in./in./ºF) = Coefficient of Thermal Expansion; Glass Transition (ºF) = Temperature at which glass transitions from solid (brittle) to rubbery (flexible).