MATERIAL SELECTION GUIDE
INDUSTRIAL APPLICATIONS
For product designers and engineers, Rogers Corporation is the elastomeric materials solutions partner of choice when quality, innovation, and collaborative support are critical to design optimization and product functionality.

Rogers’ materials are designed into products and applications in segments where high reliability and mission-critical performance are essential: automobiles, aerospace, mass transit, electronics, protective gear, footwear, medical products, and much more.

With unrivaled technical support, we foster successful customer relationships through a dedication to technical know-how, application expertise, and global support.

PORON® Polyurethane Materials are the unrivaled long-lasting solution for product designers and engineers addressing mission-critical sealing, shock, and vibration challenges.

For further information on Rogers’ portfolio of elastomeric material solutions, please contact the Rogers’ facility closest to you or visit rogerscorp.com.
KEY BENEFITS

- **Resistance to Stress Relaxation and Compression Set**
  Durable, long-term performance for gasketing, sealing and cushioning.

- **Energy Absorption**
  High resiliency, good vibration isolation and impact absorption.

- **Low Outgassing**
  No plasticizers to migrate, non-corrosive to metal, environmentally safe and clean.

- **Broad Temperature Range**
  Reliable performance from -40ºC to 90ºC.

- **Chemical Resistance**
  Information is available on material exposure to acids, bases, organic fluids, automotive fluids, and household fluids.

- **Flame Retardant**
  Many of the materials meet flammability requirements of UL HBF and MVSS 302.

- **Easy to Fabricate**
  Die cuts cleanly and readily accepts adhesive without surface preparation.

- **Product Consistency**
  Quality manufacturing resulting in reliable, consistent material properties.

- **Broad Product Offering**
  Wide range of firmness, density, thickness, and color options available.

- **Quality Service**
  All products are supported by knowledgeable Rogers Sales and Applications Engineers, Technical Service and Customer Service Representatives.

MATERIAL SAMPLES
PORON® POLYURETHANE FOAMS

**Core Standard Products**

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>4701-15</td>
<td>Soft Seal</td>
<td></td>
</tr>
<tr>
<td>4790-92</td>
<td>Extra Soft</td>
<td>Slow Rebound</td>
</tr>
<tr>
<td>4790-79</td>
<td>Shock Seal*</td>
<td></td>
</tr>
<tr>
<td>4790-76</td>
<td>Firm</td>
<td></td>
</tr>
<tr>
<td>4790-77</td>
<td>Very Soft</td>
<td></td>
</tr>
<tr>
<td>4790-78</td>
<td>AquaPro*</td>
<td>Slow Rebound</td>
</tr>
<tr>
<td>4790-77</td>
<td>Soft, Enhanced Sealability</td>
<td></td>
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</tbody>
</table>

**Value-Added Capabilities**

- Dura-Shape* materials
- PET Supported
- ThinStik* materials
## ASTM D 3574-95 Test J/Test D autoclave

### Compression Set, % max.

<table>
<thead>
<tr>
<th>Force Deflection, kPa (psi)</th>
<th>Tolerance, %</th>
<th>± 10</th>
<th>± 10</th>
<th>± 10</th>
<th>± 10</th>
<th>± 10</th>
<th>± 10</th>
<th>± 16 (±1)</th>
<th>± 10</th>
<th>± 10</th>
<th>± 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.51 cm/min (0.2”/min)</td>
<td>Strain Rate Force</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</table>

### ASTM D 3574-95, Test A

<table>
<thead>
<tr>
<th>240 (15)</th>
<th>320 (20)</th>
<th>400 (25)</th>
<th>320 (20)</th>
<th>400 (25)</th>
<th>240 (15)</th>
<th>320 (20)</th>
</tr>
</thead>
<tbody>
<tr>
<td>224 (14)</td>
<td>304 (19)</td>
<td>240 (15)</td>
<td>320 (20)</td>
<td>480 (30)</td>
<td>224 (14)</td>
<td>304 (19)</td>
</tr>
</tbody>
</table>

### Density, kg/m³ (lb./ft³)

| Standard Color (Code) | Black (04) | Black (04) | Black (04) | Black (04) | Black (04) | Black (04) | Black (04) | Gray (90) | Black (04) | Black (04) | Black (04) | Black (04) | Black (04) | Black (04) |
|-----------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 0.51 cm/min (0.2”/min) | Strain Rate Force |      |      |      |      |      |      |            |      |      |      |

### Flammability, mm (in)

<table>
<thead>
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<th>Standard Color (Code)</th>
<th>Black (04)</th>
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<th>Gray (90)</th>
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</table>
Elastomeric Material Solutions Application Design Tool

The Elastomeric Material Solutions Application Design Tool assists in the identification of PORON® Polyurethane and BISCO® Silicone materials that best meet your design requirements and provides material options based upon your application requirements.

Compression Force Deflection (CFD) Tool

Using stress-strain data, the CFD Curve Tool helps in the identification of the PORON® material(s) that meet your engineering requirements.

Vibration Isolation Tool

The Vibration Isolation Tool recommends the proper PORON® polyurethane and BISCO® silicone materials for your vibration mitigation applications. This tool uses your system specifications to calculate the isolation efficiency of Rogers' materials, and provides the most effective material option.

Impact Performance Comparison

Impact Force vs. Velocity

Impact Prediction Tool

This tool was developed to help you choose the best PORON® Polyurethane or BISCO® Silicone material for energy absorbing applications.

Product Properties Guide

The Product Properties Guide filters PORON® product information by various criteria, providing several material options based on your application requirements.

Impact Force vs. Time

Konstantin Shklovsky

Tensile Elongation %

ASTM D 3574

Density

COMPETITOR COMPARISON

Max Force (kgf)

Gap Filling Tool

The Gap Filling Tool will assist you in choosing the proper PORON® material to meet gap thickness requirements.

Impact Performance Comparison

Impact Force vs. Velocity

Impact Prediction Tool

This tool was developed to help you choose the best PORON® Polyurethane or BISCO® Silicone material for energy absorbing applications.
APPLICATIONS

Environmental Seals
Protective Cases
Water Sealing
Spacers
Motor Mounts
Cushioning
Vibration Isolation
Springs
Gaskets
EMI / RFI Shielding
Sound Damping
Gap Filling
Light Blocking
and more …

For more information
please visit us at
www.rogerscorp.com/ems/poron/index.aspx
World Class Performance

Rogers Corporation (NYSE:ROG) is a global leader in engineered materials to power, protect, and connect our world. With more than 180 years of materials science experience, Rogers delivers high-performance solutions that enable clean energy, internet connectivity, and safety and protection applications, as well as other technologies where reliability is critical. Rogers delivers Power Electronics Solutions for energy-efficient motor drives, vehicle electrification and alternative energy; Elastomeric Material Solutions for sealing, vibration management and impact protection in mobile devices, transportation interiors, industrial equipment and performance apparel; and Advanced Connectivity Solutions for wireless infrastructure, automotive safety and radar systems.

Headquartered in Arizona (USA), Rogers operates manufacturing facilities in the United States, China, Germany, Belgium, Hungary, and South Korea, with joint ventures and sales offices worldwide.

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For more information visit rogerscorp.com/ems

The information contained in this Material Selection Guide is intended to assist you in designing with Rogers' Elastomeric Material Solutions. It is not intended to and does not create any warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose or that the results shown in this Material Selection Guide will be achieved by a user for a particular purpose. The user should determine the suitability of Rogers’ Elastomeric Material Solutions for each application. The Rogers, PORON, BISCO, ARLON, DSP and DEWAL logos, PORON, BISCO, Shock Seal, Dura Shape, ThinStik, Condux Plus, KUSHON, and AquaPro are trademarks of Rogers Corporation or one of its subsidiaries. © 2012-2017, 2018 Rogers Corporation. All rights reserved. Printed in USA 1118-2.5, Publication #17-239

Rogers is committed to producing quality products in a safe environment manufactured with robust management systems certified to industry standards.