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 -40°C to 90°C.

- **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**

- 4701-15
  Soft Seal

- 4790-92
  Extra Soft

- 4790-79
  Slow Rebound

- 4701-30
  Very Soft

- 4701-37
  AquaPro®

- 4701-50
  Firm

- 4701-60
  Very Firm

**Value-Added Capabilities**

- Dura-Shape® materials
- PET Supported
- ThinStik® materials
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<td><strong>Compression Set, % max.</strong></td>
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<td><strong>Compression Force Deflection, kPa (psi)</strong></td>
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<td><strong>Density, kg/m³ (lb./ft³)</strong></td>
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<td><strong>Tensile Strength, min kPa (psi)</strong></td>
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<td><strong>ISO 1856 Test A @ 70°C (158°F)</strong></td>
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**Notes:**
- **Test Methods:**
  - ASTM D 3574-95
  - ASTM D 3574-75 Test E
  - ASTM D 264-91 Die C
  - ASTM D 1894
  - ASTM D 1505
  - ASTM D 882

- **Tolerance:** ±10
- **Product Series:**
  - Core Standard Products
  - Energy Management Products
  - Water Sealing Products

- **Additional Standards:**
  - CAN/CSA-C22.2 No. 94-M91
  - UL 94HBF (File E20305) (Pass ≥)
  - Flammability: CSA Comp HBF (File 188149) (Pass ≥)
  - MVSS 302 (Pass ≥)

- **Other Tests:**
  - 22hrs @ 80°C (176°F) in a forced-air oven
  - Strain Rate: 0.51 cm/min (0.2"/min)
  - Typical kN/m (pli): 0.5 (3)
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 Prediction 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.

Natural Frequency Curves

Compression Force Deflection (CFD) Graph

- 0.50 in Pad Thickness, 10 psi Load, 100 Hz Forcing Frequency
- Natural Frequency (Hz) vs. Specific Load (psi)
- 0.50 to 4.75 mm Thickness
- 0.60 N/mm² Maximum Stress
- 30-20125 (3.18 mm)
- 40-20125 (3.18 mm)
- 50-20125 (3.18 mm)

Impact Performance Comparison

- Brass Ball, 5.5 m/s Velocity
- Impact Prediction Tool
- Maximum Force (kgf) vs. Gap Width

Gap Filling Tool

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

Impact Prediction Tool

- Using temperature and impact energy input, this tool can help choose the PORON® material that best meets your design requirements.

Elastomeric Material Solutions Application Design Tool

- Filtering and sorting options for various properties
- Sort by Specific Property (Primary): Compression Force Deflection Typical Value
- Sort by Specific Property (Secondary): Product Name

Product 4701-30-15 4790-79-12 Condux Plus™ Foam - 0.53 mm
- Physical Properties
  - Thickness (Min): 4.78 mm
  - Thickness (Max): 12.70 mm
  - Thickness Tolerance: +/-10%
  - Density: 240 kg/m³
  - Color: Black
  - Compression Force Deflection Typical Value: 21.0 kPa @ 25%
  - Compression Set: 10.0% @ 70°C
  - Tensile Elongation %: 161% @ ASTM D 3574

Configuration

- Application: Sealing & Gasketing
- 5.1 - 15.0 mm Thickness
- Medium Compressibility

BISCO® Silicones
- BISCO® HT-800
- BISCO® L3XX-20
- BISCO® RS-720
- BISCO® RS-750
- BISCO® 7330
- BISCO® HT-350

PORON® Polyurethanes
- PORON® 4701-40
- PORON® AquaPro™ 4701-41
- PORON® Dura-Shape™ Foams
- PORON® ShockSeal™ Materials
- PORON® V-0 Foam
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.

www.rogerscorp.com

North America
Elastomeric Material Solutions
PORON Polyurethane Foams
Woodstock, CT, USA
Tel: 860.928.3622
Fax: 860.928.3906
Toll Free: 800.935.2940
solutions@rogerscorp.com

Rogers Taiwan, Inc.
New Taipei City, Taiwan
Tel: 886-2-8660-9056
Fax: 886-2-8660-9057

Rogers Technologies Singapore Inc.
Singapore
Tel: 65-6747-3521
Fax: 65-6747-7425

Europe
Rogers BVBA
Evergem, Belgium
Tel: +32 9 2353611
Fax: +32 9 2353658

Rogers Technologies, Co.
Shanghai, China
Tel: 86-21-6217-5599
Fax: 86-21-6267-7913

Asia
Rogers Japan, Inc.
Tokyo, Japan
Tel: 81-3-5200-2700
Fax: 81-3-5200-0571

Rogers Technologies, Co.
Shenzhen, China
Tel: 86-755-8236-6060
Fax: 86-755-8236-6123

Rogers Korea, Inc.
Gyonggi-do, Korea
Tel: 82-31-360-3622
Fax: 82-31-360-3623

Rogers Technologies, Co.
Beijing, China
Tel: 86-10-8559-7599
Fax: 86-10-8559-7585

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

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