

**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.



KUSHON®

HeatSORB



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



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



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
Slow Rebound



4790-79
Shock Seal®



4701-30
Very Soft



4701-37
AquaPro®
Very Soft



4701-40
Soft



4701-41
AquaPro®
Soft, Enhanced Sealability



4701-50
Firm



4701-60
Very Firm

Value-Added Capabilities



Dura-Shape®
materials



PET
Supported



ThinStik®
materials

Supporting Material: Clear Polyester Film (PET)						
Property	Coefficient of Friction A/B, (Static)	Density, kg m ⁻³ (lb./in. ³)	Modulus, MEd, kPa (psi)	Shrinkage, MEd, % (TD)	Tensile Strength, MEd, kPa (psi)	Ultimate Elongation
Test Method	ASTM D 1894	ASTM D 1505	ASTM D 882	ASTM D 882	ASTM D 882	ASTM D 882
Value	0.4	1.395 (87.1)	3.5x10 ⁹ (500,000)	1.2 (0.2)	2.1x10 ⁸ (30,000)	150

DESIGN TOOLS

Product Properties Guide

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

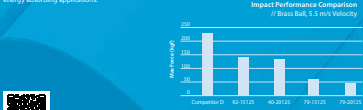
[Filters](#)
// Group: Basic Physical Properties
// Sort by Specific Property (Primary): Compression Force Deflection Typical Value
// Sort by Specific Property (Secondary): Product Name
// 20 to 75 Range

Products						
Product	4701-30-15	4750-79-12	Combus Plus™ Foams - 0.53 mm	4790-63-20	4701-70-11	4701-70-13
Physical Properties						
Thickness (Bbl) (mm)	4.76	2.03	0.53	2.06	12.50	12.50
Thickness (Bbl) (mm)	12.70	9.53	N/A	N/A	25.00	25.00
Thickness Tolerance (%)	+/-10%	+/-10%	+/-15%	+/-10%	+/-10%	+/-10%
Density (ASTM D 1535 Test A, (kg/m³))	240	192	N/A	320	168	208
Color	Black	Black	Metallic / Black	Black	PkA	Blue
Compression Force Deflection Typical Value @ 25 % defl.	21.0	21.0	21.0	22.0	28.0	34.0
Compression Set (DIN)						
Max. Value (ASTM D 1535 Test C, %)	10.0	10.0	10.0	10.0	10.0	10.0
Resilience (Resilience % Typical Value (ASTM D 1535, %))	161	> 145	N/A	N/A	295	360

<http://tools.rogerscorp.com/emc/products/poron-properties/index.aspx>

Impact Prediction Tool

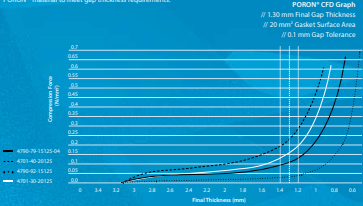
This tool was developed to help you choose the best PORON® Polyurethane or BISCO® silicone material for energy absorbing applications.



<http://www.rogerscorp.com/emc/tools/impact/prediction/index.aspx>

Gap Filling Tool

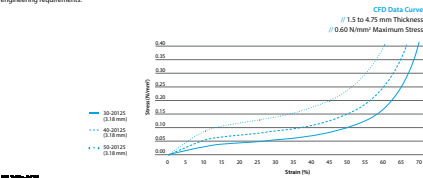
The Gap Filling Tool will assist you in choosing the proper PORON® material to meet gap thickness requirements.



<http://tools.rogerscorp.com/emc/gapfilling/index.aspx>

Compression Force Deflection (CFD) Tool

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



<http://tools.rogerscorp.com/emc/cfdcurve/index.aspx>

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.

PORON® Polyurethanes
// PORON® 4701-40
// PORON® AquaPur® 4701-41
// PORON® Dura Shape® Foams
// PORON® ShockGel® Materials
// PORON® V-0 Foam

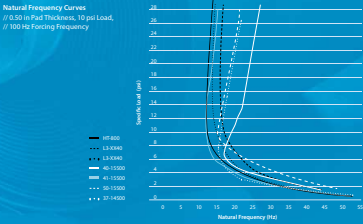
BISCO® Silicones
// BISCO® HT-800
// BISCO® L3X-20
// BISCO® R5-720
// BISCO® R5-750
// BISCO® HT-350

Configuration
// Applications: Sealing & Gasketing
// 5.1 - 15.0 mm Thickness
// Medium Compressibility

<http://tools.rogerscorp.com/emc/products/emsg/index.aspx>

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.



Product	BISCO® Silicones			PORON® Polyurethanes		
	HT-800	L3-8X40	L3-0040	41-15000	50-10000	57-14000
Thickness (in)	0.500	0.472	0.600	0.500	0.500	0.500
Isolation Efficiency (%)	> 97.00	> 94.00	> 94.00	> 97.00	> 95.00	> 94.00
Natural Frequency (Hz)	12	17	15	19	12	16

<http://tools.rogerscorp.com/emc/vibration/index.aspx>

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 ...](#)



Car Lights
Water Sealing,
Light Blocking



Appliance Foot Pads
Spacing, Cushioning



Smartphone Protective Case
Gasketing

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



For more information visit rogerscorp.com/ems

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

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