

# BISCO™

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## SILICONES

### **BISCO™ Silicones expand the parameters of possibility in product design engineering.**

BISCO™ Cellular Silicones are ideal for use as sealing cushioning, vibration isolation, insulation and thermal management gaskets. Their resistance to environmental extremes, mechanical resilience and safety features make them perfectly suited for critical applications in transportation equipment, communications and electrical enclosures, electronic products and components, industrial machinery and appliances.

#### **BISCO™ Cellular Silicones Offer:**

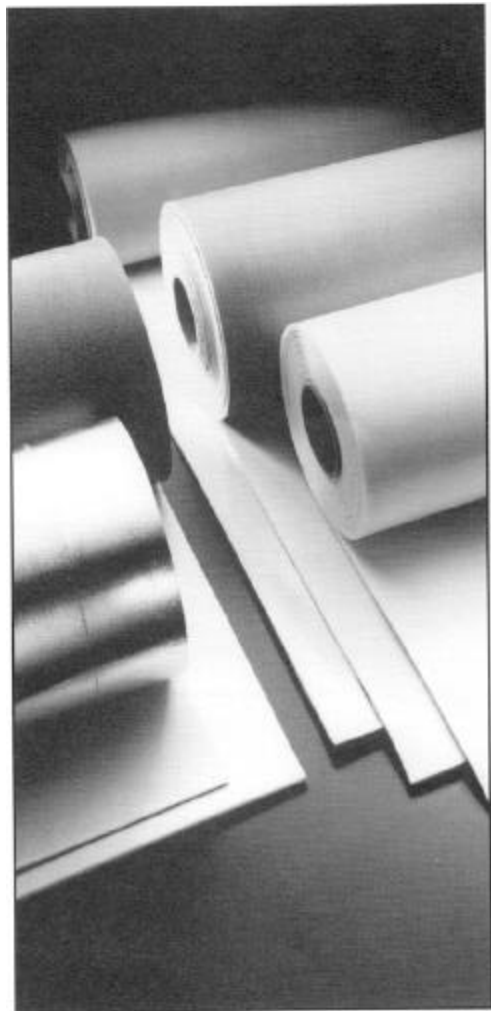
- Outstanding sealability to extreme environments and conditions
- Unsurpassed compression-set resistance
- Application temperature range of -67°F to 400°F (-55°C to 204°C)
- Superb flame resistance (UL94 V-0 and HF-1 approved)
- Variable grades of closure force from very soft to very firm
- Extremely low toxic gas emission when exposed to fire
- Excellent resistance to ozone and ultraviolet exposure
- FDA approved materials



This facility is registered to ISO 9002  
Certificate No. A-5857

This information does not create any warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose. Results may vary under specific conditions of use, and the customer should determine the suitability of Rogers BISCO™ materials for each application.

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# ROGERS

# Typical Physical Properties

## BISCO™ Cellular Silicone Materials

PROPERTY	TEST METHOD	BF-1000
<b>Physical Properties</b> Compression Force Deflection, psi (kpa) @ 25% Deflection Compression Set @ 70°C (158°F) Compression Set @ 100°C (212°F) Density, lb/ft <sup>3</sup> (kg/m <sup>3</sup> ) Tensile Strength, psi (kpa) Elongation, %	ASTM D-1056 ASTM D-1056 ASTM D-1056 ASTM D-3574 ASTM D-412 ASTM D-412	2(14) < 1% < 5% 12 (192) 35 (241) 100
<b>Environmental Properties</b> Gasketing & Sealing Rating Water Absorption UV Resistance Ozone Effect Rating Stain Resistance Corrosion Resistance	UL 157 ASTM D-471 SAE J-1960 ASTM D-1171 ASTM D-925(A) AMS-3568	N/A 3.50% No Degradation 0 (No Cracks) No Staining Pass
<b>Flammability &amp; Outgassing</b> ***Flame Resistance  Flame Spread Index (I <sub>s</sub> ) Limiting Oxygen Index (LOI) Smoke Density (D <sub>s</sub> ) @ 4.0 Minutes Smoke Density (D <sub>s</sub> ) @ 1.5 Minutes Toxic Gas Emissions Rating Weight Loss After 168 Hours @ 135°C (275°F)	UL 94 UL 94 ASTM E-162 ASTM D-2863 ASTM E-662 ASTM E-662 SMP-801 & BSS ASTM D-573	HF-1 (Listed) V-0 (Listed) < 25 34% < 50 < 20 Pass 1.20%
<b>Electrical &amp; Thermal Properties</b> Dielectric Constant Dielectric Strength (Volts/mil) Dry Arc Resistance (Seconds) Volume Resistivity (Ohm - cm) Thermal Conductivity (BTU in./hr/ft <sup>2</sup> /°F) (Wm/°K)	ASTM D-149 ASTM D-150 ASTM D-495 ASTM D-257 ASTM C-518	1.34 89 90 10 <sup>14</sup> 0.39 0.06
<b>Temperature Resistance</b> Hot Flex @ 230°C (446°F) Low Temperature Embrittlement Recommended Use  Recommended Intermittent High Temperature Use	ASTM D-573 ASTM D-746(B) SAE J-2236  Rogers Internal	Pass -55°C (-67°F) -55°C to 200°C (-67°F to 392°F) 250°C (482°F)
<b>Dimensions</b> Available Thickness Range  Standard Widths Standard Colors		1/16" - 1" (1.6mm - 25.4mm) 36" (914mm)* White**
<b>Specifications Available</b> FDA Approved		BMS 1-68 White & Gray Color Only

\* BF-1000 greater than 3/4" (19mm) thick is supplied in standard, 30" wide rolls. \*\* BF-1000 is standard in Gray color in 1/16"

\*\*\*Underwriters limits fire ratings to specific colors, thickness and density. Consult available UL Yellow Cards for more detail.

HT-870	HT-800	HT-820	HT-840
4.5 (31) < 1% < 5% 15 40 90	8(55) < 1% < 5% 20 (320) 45 (310) 80	14(97) < 1% < 5% 24(384) 60(414) 65	22(152) < 1% < 5% 28(449) 70(483) 55
N/A 2.50% No Degradation 0 (No Cracks) No Staining Pass	JMLU-2 (Listed) 1.40% No Degradation 0 (No Cracks) No Staining Pass	N/A 0.80% No Degradation 0 (No Cracks) No Staining Pass	N/A 0.20% No Degradation 0 (No Cracks) No Staining Pass
HBF (Listed) < 25 38% < 50 < 20 Pass 1.05%	HF-1 (Listed) V-0 (Listed) < 25 40% < 50 < 20 Pass 0.90%	HF-1 (Listed) V-0 (Listed) < 25 42% < 50 < 20 Pass 0.80%	HF-1 (Listed) V-0 (Listed) < 25 44% < 50 < 20 Pass 0.70%
1.38 90 91 10 <sup>14</sup> 0.49 0.071	1.42 91 92 10 <sup>14</sup> 0.63 0.09	1.50 93 96 10 <sup>14</sup> 0.75 0.11	1.58 95 98 10 <sup>14</sup> 0.84 0.12
Pass -55°C (-67°F) -55°C to 200°C (-67°F to 392°F) 250°C (482°F)	Pass -55°C (-67°F) -55°C to 200°C (-67°F to 392°F) 250°C (482°F)	Pass -55°C (-67°F) -55°C to 200°C (-67°F to 392°F) 250°C (482°F)	Pass -55°C (-67°F) -55°C to 200°C (-67°F to 392°F) 250°C (482°F)
1/16" - 1/2" (1.6mm - 12.7mm) 36" Black, Red	1/32" - 1/2" (0.8mm - 12.7mm) 36" (914mm) Red, Gray & Black	1/32" - 1/4" (0.8mm - 6.4mm) 36" (914mm) Gray	1/16" - 1/4" (1.6mm - 6.4mm) 36" (914mm) Gray
	AMS-3195 Gray Color Only	AMS-3196 Gray Color Only	N/A N/A

(1.6mm), 1/8" (3.2mm), 1/4" (6.4mm) and 1/2" (12.7mm) thicknesses.

**Available With Acrylic or Silicone Pressure Sensitive Adhesive. (See Back Cover)**  
Properties and specifications listed apply to BISCO™ material prior to adhesive lamination only.

# Pressure Sensitive Adhesive Options

## ACRYLIC ADHESIVE

Nomenclature:	<b>Base Material</b>	<b>Base Material w/Adhesive</b>
	BF-1000	BF-1005(A)
	HT-870	HT-875(A)
	HT-800	HT-805(A)
	HT-820	HT-825(A)
	HT-840	HT-845(A)

TYPICAL PROPERTIES		TEST METHOD
Construction	2.5 mil. acrylic/.5 mil. carrier	
Release Liner	70-80# Poly-Coated Kraft	
Peel Adhesion 20 min. Dwell	75 oz./in.	PSTC-1
Shear Adhesion 500 grams (1" x 1")	+120 hr.	PSTC-7
Shelf Life	6 months	
Temperature Range	-32 to 149°C (-25 to 300°F)	

## SILICONE ADHESIVE

Nomenclature:	<b>Base Material</b>	<b>Base Material w/Adhesive</b>
	BF-1000	BF-1005(S)
	HT-870	HT-875(S)
	HT-800	HT-805(S)
	HT-820	HT-825(S)
	HT-840	HT-845(S)

TYPICAL PROPERTIES		TEST METHOD
Construction	2 mil. unsupported silicone	
Release Liner	2 mil. polyester	
Peel Adhesion 20 min. Dwell	25 oz./in.	PSTC-1
Shear Adhesion 500 grams (1" x 1")	+ 24 hr.	PSTC-7
Shelf Life	3 months	
Temperature Range	-51 to 232°C (-60 to 450°F)	

**NOTE:** Peel and shear adhesion data is for the adhesive only. Figures will vary with different substrate and substrate thicknesses.