

# Rail Interior Solutions

Rogers' BISCO® product family offers a wide range of silicone based cellular foams and solids for use in various rail interior applications including seals, gaskets, floor isolation pads, sound barrier, anti-vibration/rattle and seating cushions.

The materials are offered in continuous rolled sheet form, enabling ease of fabrication whether slitting or die-cutting.

## EN45545 Standard

- EN 45545-1 : Fire Protection of railway Vehicles : General Guidelines
- EN 45545-2 : Fire Protection of railway Vehicles : Requirements for Fire Behavior of materials and components
- The application material requirement is dependent on the train car classification: Hazard Level Classification > Product Classification > Material Requirement Set

## BISCO Silicone Advantages

### Long-Term Durability:

- Excellent dimensional stability
- Low stress relaxation
- Low compression set
- High/low temperature resistance

### Design Reliability:

BISCO Silicones excellent durability and resistance to environment induced degradation (UV/Ozone/Chemical resistance) ensure components and systems perform as expected for the life of the car.

### Passenger Safety:

BISCO Silicones are manufactured to comply with EN 45545 requirements without the use of restricted toxic substances. The fire-resistant properties are inherent to the homogenous cell structure, eliminating the need for fire-block layers.

### Reducing Maintenance Costs:

By utilizing the BISCO MF1® silicone seat foam, transit authorities can have significant savings in maintenance costs and revenue lost to downtime as MF1 foams enable a longer lasting cushion life compared to commonly used urethane cushions.

EN 45545 Requirement Set	Seals / Gaskets / Insulation / Gap-Filling			
	BF-2000	BF-1000	HT-870	HT-800
	ULTRA SOFT	EXTRA SOFT	SOFT	MEDIUM
R1- Interiors Primary	---	---	---	0.79mm [HL1]
R2- Interiors Limited Use	---	25.4mm [HL3]	---	0.79mm [HL2] 12.7mm [HL3]
R3- External Features	---	25.4mm [HL3]	---	0.79mm [HL2] 12.7mm [HL3]
R7- External Features	---	---	---	0.79mm [HL1]
R8- External Roof Features	---	---	---	12.7mm [HL3]
R9- Bogies Rubber Elements	---	---	2mm - 19mm [HL3]	2mm - 12.7mm [HL3]
R10- Flooring Components	---	---	2mm - 19mm [HL3]	2mm - 12.7mm [HL3]
R18- Full Seat	---	---	---	---
R19- Staff Seats	---	---	---	---
R21- Seal Components	---	---	---	---
R22- Interior Seals	3.18mm - 12.7mm[HL3]	1.6mm - 25.4mm [HL2]	---	0.79mm - 12.7mm [HL3]
R23- Exterior Seals	3.18mm - 12.7mm[HL3]	1.6mm - 25.4mm [HL2]	---	0.79mm - 12.7mm [HL3]
<b>Physical Properties (Typical Values)</b>				
Density, kg/m <sup>3</sup> (lb/ft <sup>3</sup> )	160 (10)	192 (12)	240 (15)	352 (22)
Compression Force Deflection, kPa (psi)	10.3 (1.5)	20.7 (3)	27.6 (4)	62.0 (9)
Tensile Strength, kPa (psi)	172 (25)	241 (35)	207 (30)	310 (45)
Elongation, %	85	90	90	80
Thermal Conductivity, Wm/k	---	---	---	---
Compression Set, %				
Water Absorption				
Temperature Range, °C				

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## Applications:

### Interior/Exterior Gasket and Seals [R22 / R23]

- HVAC: Access panel seals, enclosure seals, roof mount seals, fan gaskets, anti-rattle seals and gap fillers.
- Lighting & Electronics: Light panel seals, LCD & display gasket, dust & moisture seal, electrical panel gasket, camera housing / lens seal
- BF-2000
- BF-1000
- HT-800

### Sound Barrier [R1]

- Flexible acoustic barrier for ceiling and sidewall panels
- HT-200

### Vibration Isolation Pad/Strips - Floor [R10]

- Vibration isolation pads/strips for floating floor systems
- HT-870
- HT-800
- L3-XX40
- HT-840

### Seat Cushion [R18 / R19 / R21]

- Open-cell cushion
- MF1-35
- MF1-55
- MF1-75
- Offering longer cushion life and lasting passenger comfort

Vibration Isolation Pads (Floors)		Acoustic Barrier	Seat Cushion Foam		
L3-XX40	HT-840	HT-200 FG	MF1-55		
MEDIUM FIRM	FIRM	SOLID ON FIBERGLASS	MEDIUM		
4mm [HL2]	---	0.7mm - 4mm [HL-2]	---		
4mm - 25mm [HL3]	1.6mm - 6.35mm [HL3]	0.7mm - 4mm [HL-3]	---		
4mm - 25mm [HL3]	1.6mm - 6.35mm [HL3]	0.7mm - 4mm [HL-3]	---		
4mm [HL2]	---	0.7mm - 4mm [HL-3]	---		
---	---	---	---		
---	---	---	---		
4mm - 25mm [HL3]	1.6mm - 6.35mm [HL3]	---	---		
---	---	---	HL3 (Foam Only)		
---	---	---	HL3		
---	---	---	HL3		
4mm - 25mm [HL3]	1.6mm - 6.35mm [HL3]	---	---		
4mm - 25mm [HL3]	1.6mm - 6.35mm [HL3]	---	---		
				<b>Test Standard</b>	
	352 (22)	449 (27)	See Data Sheet	112 (7)	---
	89.6 (13)	151.7 (22)		6.2 (0.9)	ASTM D1056 (25% compression)
	172 (25)	414 (60)		86 (12.5)	ASTM D412
	40	60		45	ASTM D412
	---	---		0.05	ASTM C518
5					ASTM D1056 (100°C @ 50% compression)
5					Rogers (24 hrs @ 23°C)
5 to 200					Rogers Internal / ASTM D1056

