

BISCO[®] Silicones

Data Sheet



BISCO[®] L3-A

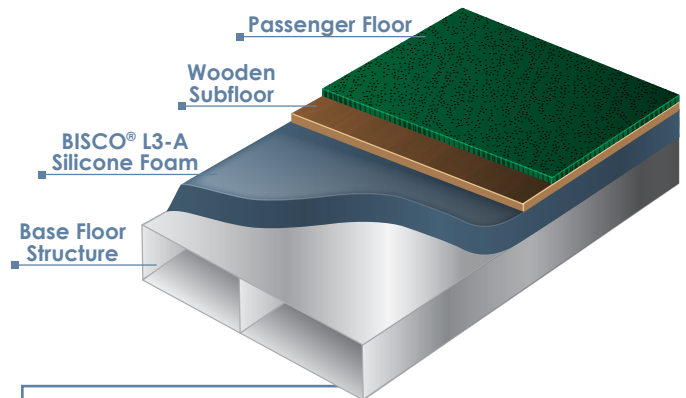
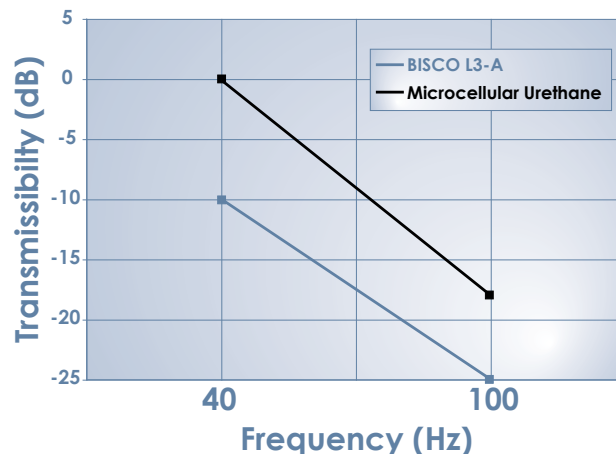
BISCO[®] L3-A silicone foams are developed specifically to meet the unique performance requirements of railcar flooring systems. By consistently demonstrating low stiffness and excellent elasticity, BISCO L3-A will ensure maximum vibration isolation properties under all travel conditions.

Reduced Vibration, Quieter Cabins

With a dynamic stiffness significantly lower than competitive foams, BISCO L3-A prevents vibration transfer to the interior cabin. The superior mechanical loss factor reduces noise further by dissipating 73% more energy than alternative materials.

Superior Durability, Less Maintenance

When exposed to stresses such as vibration, humidity, and extreme temperatures, BISCO L3-A will exhibit unmatched stress relaxation performance when compared to other foam polymers such as urethane, Neoprene and melamine. With less than one percent compression set, BISCO L3-A significantly reduces the need for costly refurbishments over a vehicle's life-span.



BISCO L3-A foam isolates the passenger floor and subfloor layers from track vibrations that are channeled through the car's base floor structure

Enhanced Flame Resistance, Improved Safety

BISCO L3-A silicone foams allow railcar designers to satisfy the highest levels of safety as mandated by British BS 6853 (Cat 1a), French NF F 16-101 (M1 F1), and U.S. NFPA 130 safety standards.

Lower Weights, Lower Costs

BISCO L3-A silicone foam is 25% lighter than competitive urethane or silicone foams. The reduced weight will improve efficiency and costs for railway operators.

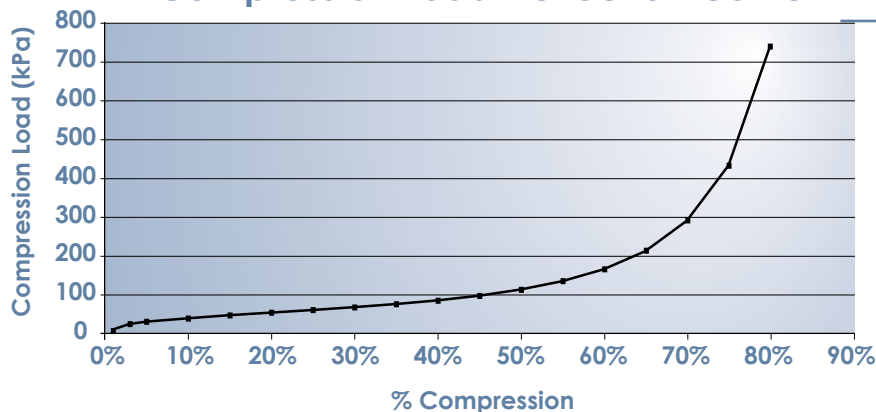
Improved Vibration Isolation

At vibration frequencies of 40Hz, leading microcellular polyurethane solutions allow more than 10% of vibration energy to transfer through railcar floors (-0.1 dB transmissibility). BISCO L3-A isolates greater than 99.9% of vibration energy (-10dB). As frequencies increase up to 100Hz or beyond, BISCO L3-A continues to reduce vibration energy transfer by attaining transmissibility levels of -25dB or better.

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BISCO® L3-A Silicone Foams Compression Load Deflection Curve



Indicates load force supported by the material in relation to the percent compression of the material's original thickness. Values are reported in kilopascals.

BISCO® L3-A Typical Properties

	PROPERTY	TEST METHOD	TYPICAL VALUE
PHYSICAL	Color		Blue Streak
	Thickness, mm (inches)		10.0 - 16.0 (0.394 - 0.630)
	Thickness Tolerance		+/- 15%
	Standard Width, mm (inches)		914 (36)
	Density, kg/m ³ (lb./ft ³)	ASTM D 1056	232 (14.5)
	Compression Force Deflection, kPa (psi)	ASTM D 1056, force load measured @ 25% deflection	36.20 (5.25)
	Compression Set, % maximum	ASTM D 1056, Test D @ 70°C (158°F), 22 hrs. ASTM D 1056, Test D @ 100°C (212°F), 22 hrs.	< 1% < 5%
VIBRATION	Storage Modulus, MPa (psi)		
	@ 40Hz	Rogers Internal, based on DIN 53513	0.33 (48)
	@ 100Hz	Rogers Internal, based on DIN 53513	0.51 (74)
	Mechanical Loss Factor	Rogers Internal, based on DIN 53513	0.40
	Dynamic Stiffness, N/m (lb-f/in)		
	@ 40Hz	Rogers Internal, based on DIN 53513	5201 (29.6)
	@ 100 Hz	Rogers Internal, based on DIN 53513	7994 (45.6)
Elongation, % minimum	ASTM D 412	40%	
Tensile Strength, minimum kPa (psi)	ASTM D 412	172 (25)	
FLAMMABILITY SMOKE TOXICITY	NF F 16-101	NF X 10-702, NF X 70-100, EN/IEC 60695-2-11, ISO 4589-2	M1 F1
	BS 6853: Table 1	BS 476-7, Annex B (NF X 70-100), Annex D	Cat 1a
	NFPA 130	ASTM E 162, ASTM E 662, ASTM C 1166, SMP-800C	Pass

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