



SOFT & FIRM URETHANE SHOCK FOAM



- **Soft Compressible Foam.**
- **Reacts Like Stiff Foam On Impact.**
- **Environmentally Friendly.**
- **UL94 HF1.**
- **Special Electronics Grade Foam.**

Shock protection for fragile components like disk drives, LCDs, and PCBs in handheld, truck, bus and avionic mounted devices. Ideal for knock and drop protection and vibration isolation. Most resilient foams when further compressed become harder and push back at whatever is compressing them. At a certain point all the cells collapse and the foam becomes solid. These properties can be useful but cannot meet the requirements of applications where high compressions are necessary to fit into small gaps. Nor can they meet space filling needs when tolerance stack ups i.e variable topography produces and inconsistent gap.

For these applications a soft foam with stress relaxation properties is much more desirable. The foams are designed to compress and conform under sustained pressure and slowly rebound when the weight is released. But when the foams receive a direct impact they behave like semi rigid foams, resist collapse and absorb the weight internally. Available in four stiffness's, recognized UL94 HF-1 by Underwriter's Laboratory at 2-mm, the special PCB version meets at a thickness of 1mm. Also see our soft gel sheet for narrow space protection.

Material Properties

Item / Unit	Test Reference or Apparatus	40 EG	45 EG	34 EG RCF 4
Colour	n/a	Yellow (Soft)	Blue (Med Firm)	Green (Soft)
IFD (lbs/50in2)	ASTM D3574 (95) Test B1 Modified (1)	15 – 28	42 – 55	15 – 28
Flammability	UL94	Listed HF1 @ min 2.0mm	Listed HF1 @ min 2.0mm	Meets HF1 @ min 1.0mm
Tear Resistance	ASTM D3574 (95)	2.1	3.0	3.0
Tensile Strength	ASTM D3574 (95)	11.0	20.1	14.0
Elongation (%)	ASTM D3574 (95)	135	140	125
Tg (Peak Loss Modulus)	From DMA at 10Hz & 0.3 Amplitude, 30% Compression (2)	2°C	17 – 20°C	-15°C
Peak Tan Delta @ Temp (°C)	From DMA at 10Hz & 0.3 Amplitude, 30% Compression (2)	1.3 – 1.4 @ 26°C	1.1 – 1.3 @ 36°C	1.1 @ 38°C
Compression Set (%) (21°C)	ASTM D3574 (95) 22hrs @ 21°C Compressed 50%	<1.0	<1.0	<1.0
Compression Set (%) (70°C)	ASTM D3574 (95) 22hrs @ 70°C Compressed 50%	<2.0	<1.0	<4.0
Density (lb/ft3)	ASTM D3574 (95)	5.6 – 6.0	5.6 – 6.0	3.6 – 4.2
Surface Resistivity (Ohms/Square)	ASTM D3574 Concentric Rings 1-in thick.	Not Measured	Not Measured	>1014
Contains Volatile Silicones	Dynamic headspace analysis with GC/MS	No	No	No
Contains Poly-Brominated Biphenyl Oxides (3)	n/a	No	No	No
Contains Metal Oxides (3)	n/a	No	No	No

(1) Modified with no pre flexing and smaller indentation foot with a constant multiplier of 10.24 to adjust for indentation foot size.

(2) Internal test based on ASTM D5279 modified for foam sample 1-in diam, 7m thick, compressed 30% in Torsional mode at

(3) 10Hz Amplitude, Heat Ramp - 2°C/min.

(4) Verification possible via X-Ray Fluorescence FTR or other test method.

These foams are formulated without metallic or halogenated flame retardants. The formulations also have no silicone off-gassing. Ideal for shock and padding protection in electronics applications. There is also a special foam version for PCBs, used as a self moulding shock pad between the board and hard drive. The foam has a density of 4pcf rather than the standard density of 6 pcf plus very low compression force deflection values. The foam exerts little return pressure that could bend the boards and interfere with performance. It also has low surface tack which makes stacked die cut parts easy to separate and install.

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