

ISOLOSS[®] LS Foams

ISOLOSS LS materials are fine-celled, low compression-set, high density polyurethane foams, offering unique combinations of design features for difficult mechanical energy control problems.

ISOLOSS LS products exhibit very low compression set and excellent resistance to collapse as well as good shock absorption and vibration isolation performance. They also feature low outgassing and good dimensional stability, with tight thickness tolerances.

ISOLOSS LS foams are easily and cleanly die cut, and can be fabricated with various facings and combinations of pressure sensitive adhesives (PSAs). PSA backings simplify parts installation and reduce product assembly costs.

ISOLOSS LS foams provide excellent shock control and cushioning, yet are durable enough for gasketing, padding and sealing applications.

Gasketing—ISOLOSS LS materials meet the gasket and seal requirements of UL 50, 508 and 514B.

Vibration isolation—Lightweight isolation applications take advantage of the foams' low stiffness, high strength and controlled compression characteristics.

Shock protection—Good durability, resilience and high energy absorption make the foams ideal for cushioning and shock applications, in plain form or laminated to fabrics, scrims or other facings.

- Low compression set
- High energy absorption
- Effective vibration isolation
- Low outgassing
- High internal strength
- Chemical resistance
- Flame resistance
- Broad service temperature range
- Wide range of thicknesses and densities

Typical Properties

Property	LS-1000LM	LS-1500	LS-2000	LS-2500
Density Nominal kg/m³ (lb/ft³)				
ASTM D3574	160 (10)	240 (15)	320 (20)	400 (25)
Flammability				
UL 94	Meets HBF	Listed HBF	Listed HBF	Listed HBF
FMVSS-302	Meets	Meets	Meets	Meets
Volume Resistivity				
ASTM D257, ohms	1.3 x 10 ¹¹	1.3 x 10 ¹¹	1.3 x 10 ¹¹	1.3 x 10 ¹¹
Hardness				
ASTM D2240 Durometer				
15 sec post impact, Shore O		12	19	25
15 sec post impact, Shore OO	34			
Brittleness Temperature C (F)				
ASTM D746	-52C (-62F)	-52C (-62F)	-52C (-62F)	-52C (-62F)
Sealing				
Qualified for mfrd or natural gas; diesel, fuel or lubricating oil; liquidified petroleum gas; under UL 157 test standards				
UL 50	Meets	Listed	Listed	Listed
UL 508	Meets	Listed	Listed	Listed
UL 514B	Meets	Listed	Listed	Listed
Compression Set (%) (50% compression)				
ASTM D1667 22 hr at 23C (73F)	0.60	0.19	0.19	0.76
ASTM D3574 22 hr at 70C (158F)	2.1	3.0	1.3	2.9
ASTM D3574 after 5 hr autoclave at 121C (250F)	1.9	1.4	2.2	2.0
Compression Load				
Deflection kPa (psi)				
ASTM D3574, Deflection:				
25% kPa (psi)	21.4 (3.1)	48 (7)	83 (12)	110 (16)
50% kPa (psi)	37.2 (5.4)	103 (15)	159 (23)	228 (33)
Tensile Strength kPa (psi)				
ASTM D3574	338 (49)	586 (85)	862 (125)	1241 (180)
Tear Strength kN/m (lbf/in)				
ASTM D624	1.04 (5.9)	1.4 (8.0)	2.1 (12.0)	3.5 (20.0)
Elongation(%)				
ASTM D3574	125	100	120	130
Temperature Range C (F)				
Normal Operating	-40C to 107C (-40F to 225F)	-40C to 107C (-40F to 225F)	-40C to 107C (-40F to 225F)	-40C to 107C (-40F to 225F)
Recommended Max. Intermittent	120C (248F)	120C (248F)	120C (248F)	120C (248F)
Outgassing				
ASTM E595 Modified per Ball Aerospace BASG 33074 24 hr at 10-5 Torr & 70C (158F), Weight Loss, %	1.0	1.1	6.6	7.2
Volatile Condensable Material, %	1.0	0.036	2.0	3.1
Corrosion Resistance				
AMS D3568	Excellent	Excellent	Excellent	Excellent
Cold Flexibility				
MIL-P-1240C 4hr at -40C (-40F)	Passes	Passes	Passes	Passes
AMS 3568 4hr at -18C (0F)	Passes	Passes	Passes	Passes
Dielectric Strength				
ASTM D149	56 V/mil	56 V/mil	56 V/mil	56 V/mil

The data listed in this materials summary are typical or average values or engineering estimates based on tests conducted by independent laboratories or by the manufacturer. They are indicative only of the results obtained in such tests and should not be considered as guaranteed maximums or minimums. Materials must be tested under actual service to determine their suitability for a particular purpose.