

Isolation Materials

The high internal damping of the ISODAMP® vinyl and ISOLOSS® urethane material families reduces mechanically or acoustically induced vibrations and dissipates shock and impact energy at a very rapid rate.

These properties—in conjunction with excellent physical strength, flexibility, and good environmental and flame resistance—make E-A-R isolation materials ideal for constrained layer damping, damped isolation and impact control applications.

- Highly effective damped isolation materials for source control of noise, vibration and shock
- High-performance constrained layer damping in harsh environments
- Tough, yet soft and flexible—conform to irregular and pitted surfaces
- Flame resistant, with excellent wear and physical properties
- Control unwanted motion and rebound in equipment of all types
- Low rebound properties—prevent additive effects of successive impacts
- Available in many forms—sheets, rolls, die-cut and custom-molded parts
- Ideal for high-performance damping in demanding applications such as aircraft, mining equipment, off-road vehicles, ships and military vehicles
- Perfect for do-it-yourself vibration and shock mounts for plant and process equipment

Typical Properties

| Property | ISODAMP C-1002 | ISODAMP C-1105 | ISODAMP C-1100 | ISOLOSS HD | ISOLOSS VL |
|---|------------------------------------|------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Description | Vinyl Solid | Vinyl Solid | Vinyl Solid | Urethane Solid | Urethane Solid |
| Hardness Nominal ASTM D2240 15 sec post impact at 23C (73F) | | | | | |
| Shore A Durometer | 56 | 63 | 70 | 58 | 24 |
| Shore OO | | | | | 70 |
| Flammability UL 94 0.15 cm (0.06 in) thick | Listed V-0 | Listed V-0 | Listed V-0 | Listed HB | Listed V-0 |
| FAR 25.853 (a) Appendix F Part I (a) (1) (12 sec) | Meets at 0.152 cm (0.060 in) | | | | |
| FAR 25.853 (b-3) | Meets at 0.040 cm (0.015 in) | | | | |
| MVSS-302 | Meets at 0.040 cm (0.015 in) | Meets at 0.152 cm (0.060 in) | Meets at .152 cm (0.060 in) | Meets at 0.32 cm (0.125 in) | Meets at 0.32 cm (0.125 in) |
| Dynamic Properties ASTM D5279 at 10 Hz, 0.3% Amplitude Glass Transition Temperature | -17C (1F) | -13C (9F) | -2C (36F) | -8C (18F) | -34C (-29F) |
| Max Loss Factor at 10 Hz | .93 at 8C (46F) | .93 at 17C (63F) | .79 at 25C (77F) | 0.94 at 12C (54F) | 1.20 at -14C (7F) |
| Compression Set (%) ASTM D395 Method B 22 hr at 22C (72F) | 14 | 23 | 24 | 4.5 | 4.5 |
| 22 hr at 70C (158F), *50C(122F) | 62 | 51 | 55 | 6.1 | 13.3* |
| Compression Load Deflection kPa (psi) ASTM D575 at 0.51 cm/min (0.2 in/min) | | | | | |
| 10% kPa (psi) | 490 (71) | 634 (92) | 1069 (155) | 565 (82) | 110 (16) |
| 20% kPa (psi) | 1682 (244) | 2206 (320) | 3413 (495) | 1241 (180) | 152 (22) |
| 30% kPa (psi) | 3682 (534) | 4785 (694) | 7122 (1033) | 2103 (305) | 193 (28) |
| Compression Modulus kPa (psi) | 5805 (842) | 7514 (1090) | 1267 (1838) | 5826 (845) | 945 (137) |
| Tensile Strength kPa (psi) ASTM D638 51cm/min (20 in/min) at 22C (72F) | 10852 (1574) | 12459 (1807) | 14190 (2058) | 8963 (1300) | 1765 (256) |
| Tear Strength kN/m (lbf/in) ASTM D624 | 35 (202) | 42 (241) | 53 (305) | 38 (218) | 49 (280) |
| Temperature Range C (F) Peak Damping Performance Temperature Range | 13C to 41C (55F to 105F) | 27C to 54C (80F to 130F) | 35C to 63C (95F to 145F) | 13C to 41C (55F to 105F) | 0C to 32C (32F to 90F) |
| Recommended Maximum Intermittent Temperature | 82C (180F) | 82C (180F) | 82C (180F) | 107C (225F) | 49C (120F) |
| Maximum Continuous Service Temperature | 70C (158F) | 70C (158F) | 70C (158F) | 90C (194F) | 32C (90F) |
| RoHS Compliant | Yes | Yes | Yes | Yes | Yes |

The data listed in this materials summary are typical or average values 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.