MOLDING MATERIALS – THERMOPLASTICS

Material Summary Sheet 7







Offering solutions for a wide range of applications such as...

- Lab and office equipment
- Computers and peripherals
- Industrial equipment

Aearo Technologies LLC • a 3M company

Molding Materials – Thermoplastics

E-A-R's proprietary, highly damped ISODAMP™ thermoplastic and VersaDamp™ thermoplastic molding materials are standard- and custom-molded to provide high performance shock, vibration and noise control.

As highly damped elastomers, these materials platforms exhibit extremely low rebound characteristics, ensuring very low amplification at resonance and rapid settling to equilibrium after shock or vibration input.

Standard and custom configurations include numerous styles of isolation grommets (with or without metal inserts), bushings, mounting pads and feet, self-locking fan mounts, snubbers, gaskets, bumpers and pads.

TYPICAL PROPERTIES

PROPERTY	C-1002	C-1100	C-8002	C-8012	C-8070	C-8130
Description	Vinyl Solid Thermoplastic	Vinyl Solid Thermoplasticv	TPE Solid Thermoplastic	TPE Solid Thermoplastic	TPE Solid Thermoplastic	TPE Solid Thermoplastic
Hardness ASTM D2240 Type A Durometer 23C (73F) 15 sec impact	54	71	51	40	70	88
Flammability UL 94 1.5 mm (0.06 in thick) 3.2 mm (0.125 in)	Listed V-0	Listed V-0	Listed V-0 @ 3.4 mm (0.13in)	Listed V-0 @ 6 mm (0.24in)	Meets V-0 @ 3.2 mm (0.125 in)	Listed V-0 @ 3.5 mm (0.14 in)
FMVSS-302						
Compression Load Deflection kPa (psi) ASTM D575 at 0.51 cm/min (0.2 in/min) 10% kPa (psi) 20% kPa (psi) 30% kPa (psi)	 393 (57) 1145 (166) 2468 (358)	 1172 (170) 3688 (535) 7756 (1125)	 455 (66) 883 (128) 1358 (197)	 324 (47) 627 (91) 958 (139)	 951 (138) 1799 (261) 2799 (406)	 2495 (362) 6494 (942) 9087 (1318)
Compression Set (%) ASTM D395 Method B 22 hr at 22C (72F) 22 hr at 70C (158F) *50C(122F)	 14 62	 25 60	 15 99	 12 100	 15 98	 35 90
Tensile Strength kPa (psi) ASTM D412	8963 (1300)	13789 (2000)	5309 (770)	3309 (480)	10059 (1459)	11279 (1636)
Tear Strength kN/m (lbf/in) ASTM D624	40 (224)	65 (370)	25 (141)	18 (100)	50 (285)	72 (410)
Temperature Range C (F) Peak Damping Performance Temperature Range ASTM D4065 Loss Factor above 0.3% strain in shear mode at 10 Hz	-13C to 37C (9F to 99F)	3C to 56C (37F to 132F)	-4C to 40C (-25F to 104F)	-22C to 21C (-8F to 70F)	4C to 42C (42F to 86F)	6C to 30C (42F to 86F)

The data listed in this data sheet 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.

Warranty and Limited Remedy: Aearo Technologies LLC warrants that each Aearo Technologies LLC product meets the applicable Aearo Technologies LLC product specification at the time Aearo Technologies LLC ships the product. Aearo Technologies LLC MAKES NO OTHER EXPRESS OR IMPLIED WARRANTIES OR CONDITIONS, INCLUDING ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. If the Aearo Technologies LLC product does not conform to this warranty, the sole and exclusive remedy is, at Aearo Technologies LLC's option, replacement of the Aearo Technologies LLC product or refund of the purchase price.

Limitation of Liability: Except where prohibited by law, Aearo Technologies LLC will not be liable for any loss or damage arising from the Aearo Technologies LLC product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted.

Aearo Technologies LLC • a 3M company
7911 Zionsville Road, Indianapolis, IN 46268
U.S. Toll Free: 877-327-4332 Web: www.earglobal.com solutions@earglobal.com

E-A-R, 3M ISOLOSS, ISODAMP and VersaDamp are trademarks of 3M Company and its affiliates

printed 2/16

Molding Materials – Thermoplastics

VersaDamp materials also feature adjustable damping and stiffness, enabling custom-tuning of dynamic response. This materials family also offers an extended service temperature range.

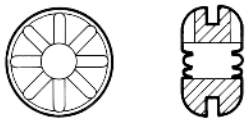
- Excellent physical integrity
- Soft and pliable, yet physically strong
- Good flame resistance
- Excellent wear resistance
- Very high loss factor, for effective structureborne shock, vibration and noise control at the source
- Tight tolerances

TYPICAL PROPERTIES

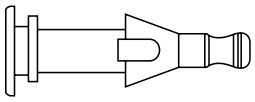
PROPERTY	V-2325	V-2590	V-2599	V-2775
Description	TPR Thermoplastic	TPR Thermoplastic	TPR Thermoplastic	TPR Thermoplastic
Hardness ASTM D2240 Type A Durometer 23C (73F) 15 sec post impact	33	52	50	60
Flammability UL 94 1.5 mm (0.06 in thick) 3.2 mm (0.125 in)		Listed HB		
FMVSS-302	Meets at 3.2 mm (0.125 in)	Meets at 3.2 mm (0.125 in)	Meets at 3.2 mm (0.125 in)	Meets at 3.2 mm (0.125 in)
Compression Load Deflection kPa (psi) ASTM D575 at 5.1 mm/min (0.2 in/min) 10% kPa (psi) 20% kPa (psi) 30% kPa (psi)	 290 (42) 538 (78) 841 (122)	 650 (90) 1041 (151) 1558 (226)	 600 (87) 1055 (153) 1606 (233)	 772 (112) 1296 (188) 1917 (278)
Compression Set (%) ASTM D395 Method B 22 hr at 22C (72F) 22 hr at 70C (158F)	 12 25	 18 30	 31 50	 18 29
Tensile Strength kPa (psi) ASTM D412	2358 (342)	3523 (511)	3613 (524)	4068 (590)
Tear Strength kN/m (lbf/in) ASTM D624	15 (83)	25 (139)	23 (129)	26 (148)
Temperature Range C (F) Peak Damping ASTM D4065 Loss Factor above 0.3%at IOH2	-52C to 11C (-62F to 12F)	-44C to 21C (-47F to 70F)	-49C to 23C (-56F to 73F)	-44C to 7C (-47F to 45F)
Maximum Continuous Service Temperature ASTM D2000	100C (212F)	100C (212F)	100C (212F)	100C (212F)

Typical Standard Configurations

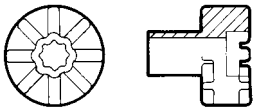
Ribbed Grommets



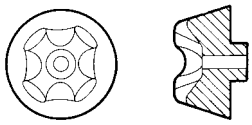
Fan Mounts



Rings & Bushings



Feet



The data listed in this data sheet 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.

Warranty and Limited Remedy: Aearo Technologies LLC warrants that each Aearo Technologies LLC product meets the applicable Aearo Technologies LLC product specification at the time Aearo Technologies LLC ships the product. Aearo Technologies LLC MAKES NO OTHER EXPRESS OR IMPLIED WARRANTIES OR CONDITIONS, INCLUDING ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. If the Aearo Technologies LLC product does not conform to this warranty, the sole and exclusive remedy is, at Aearo Technologies LLC's option, replacement of the Aearo Technologies LLC product or refund of the purchase price.

Limitation of Liability: Except where prohibited by law, Aearo Technologies LLC will not be liable for any loss or damage arising from the Aearo Technologies LLC product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted.

Aearo Technologies LLC • a 3M company
7911 Zionsville Road, Indianapolis, IN 46268
U.S. Toll Free: 877-327-4332 Office: 651-575-0151 Web: www.earglobal.com solutions@earglobal.com

E-A-R, 3M ISOLOSS, ISODAMP and VersaDamp are trademarks of 3M company and its affiliates

printed 5/16

Aearo Technologies LLC • a 3M company
7911 Zionsville Road, Indianapolis, IN 46268
U.S. Toll Free: 877-327-4332 Web: www.earglobal.com solutions@earglobal.com

E-A-R, 3M ISOLOSS, ISODAMP and VersaDamp
are trademarks of 3M Company and its affiliates

printed 2/16