Molding Materials

E-A-R's proprietary, highly damped ISODAMP® thermoplastic, VersaDamp™ thermoplastic rubber materials and ISOLOSS® thermoset elastomers are custom-molded to provide high performance shock, vibration and noise control configurations.

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.

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

Typical Properties

Property	*C-1002*	*C-1105*	*C-1100*	*C-8002*	*ISOLOSS HD*	*ISOLOSS VL*
Description	Vinyl Solid Thermoplastic	Vinyl Solid Thermoplastic	Vinyl Solid Thermoplastic	TPE Solid Thermoplastic	Urethane Solid Thermoset	Urethane Solid Thermoset
Hardness ASTM D2240 Shore A Durometer 23C (73F) 5 sec impact						
15 sec impact	56	63	70	57	58	24
Flammability UL 94 0.15 cm (0.06 in thick)	Listed V-0	Listed V-0	Listed V-0		Listed HB	Listed V-0
0.32 cm (0.125 in)				Listed V-0		
FMVSS-302	Meets at 0.040 cm (0.015 in)	Meets at .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)	Meets at 0.32 cm (0.125 in)
FAR 25.853 (a) Appendix F Part I (a) (1) (ii) (12 sec)	Meets at .152 cm (.060 in)					
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)	751 (109)	565 (82)	110 (16)
20% kPa (psi)	1682 (244)	2206 (320)	3413 (495)	1530 (222)	1241 (180)	152 (22)
30% kPa (psi)	3682 (534)	4785 (694)	7122 (1033)	2440 (354)	2103 (305)	193 (28)
Compression Set (%) ASTM D395 Method B						
22 hr at 22C (72F)	14	23	24	18	4.5	4.5
22 hr at 70C (158F) *50C(122F)	62	51	55	66*	6.1	13.3*
Tensile Strength kPa (psi) ASTM D412	10852 (1574)	12459 (1807)	14190 (2058)	7930 (1150)	8963 (1300)	1765 (256)
Tear Strength kN/m (lbf/in) ASTM D624	35 (202)	42 (241)	53 (305)	30 (173)	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)	17C to 41C (62F-105F)	13C to 41C (55F to 105F)	0C to 32C (32F to 90F)
Recommended Maximum Intermittent Temperature	82C (180F)	82C (180F)	82C (180F)	80C (176F)	107C (225F)	49C (120F)
Maximum Continuous Service Temperature	70C (158F)	70C (158F)	70C (158F)	70C (158F)	90C (194F)	32C (90F)
RoHS Compliant	Yes	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.

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Molding Materials

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

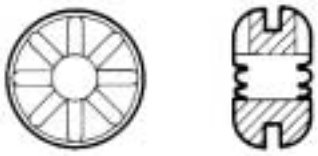
- Excellent physical integrity, especially compared with materials that have similar dynamic properties
- Soft and pliable, yet physically strong
- Good flame resistance
- Excellent wear resistance
- Very high loss factor, for effective structureborne shock, vibration and noise control at the source
- Tight tolerances
- Emergency assistance available for custom designs

Typical Properties

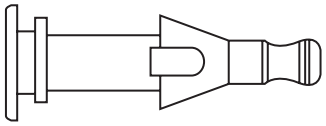
Property	*V-2325*	*V-2590*	*V-2599*	*V-2775*
Description	TPR Thermoplastic	TPR Thermoplastic	TPR Thermoplastic	TPR Thermoplastic
Hardness				
ASTM D2240 Shore A Durometer 23C (73F) 5 sec post impact	41	57	50	64
15 sec post impact		40		
Flammability UL 94 0.15 cm (0.06 in thick)				
0.32 cm (0.125 in)		Listed HB		
FMVSS-302	Meets at 0.32cm (0.125 in)	Meets at 0.32cm (0.125 in)	Meets at 0.32 cm (0.125 in)	Meets at 0.32 cm (0.125 in)
FAR 25.853 (a) Appendix F Part I (a) (1) (ii) (12 sec)		Meets at .152 cm (.060 in)		
Compression Load Deflection kPa (psi) ASTM D575 at 0.51 cm/min (0.2 in/min)				
10% kPa (psi)	210 (30)	551 (80)	469 (68)	766 (111)
20% kPa (psi)	450 (65)	1102 (160)	855 (124)	1663 (241)
30% kPa (psi)	817 (118)	1719 (249)	1448 (210)	
Compression Set (%) ASTM D395 Method B				
22 hr at 22C (72F)	15	15	16	21
22 hr at 70C (158F)	26	26	32	33
Tensile Strength kPa (psi) ASTM D412	2620 (380)	4502 (653)	4930 (715)	5695 (826)
Tear Strength kN/m (lbf/in) ASTM D624	10.2 (58)	23.1 (132)	21.5 (123)	22.1 (126)
Temperature Range C (F) Peak Damping Performance Temperature Range	-40C to 50C (-40F to 122F)	-40C to 50C (-40F to 122F)	-40C to 50C (-40F to 122F)	-40C to 50C (-40F to 122F)
Recommended Maximum Intermittent Temperature	125C (257F)	125C (257F)	125C (257F)	125C (275F)
Maximum Continuous Service Temperature	100C (212F)	100C (212F)	100C (212F)	100C (212F)
RoHS Compliant	Yes	Yes	Yes	Yes

Typical Standard Configurations

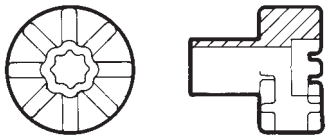
Ribbed Grommets



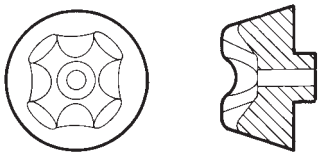
Fan Mounts



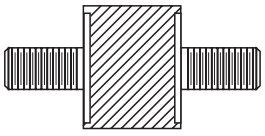
Rings and Bushings



Feet



Sandwich Mounts



(Urethane Only)

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