



Shock, Noise and Vibration Solutions

Electronic Materials Brochure



Aearo Technologies LLC • a 3M company

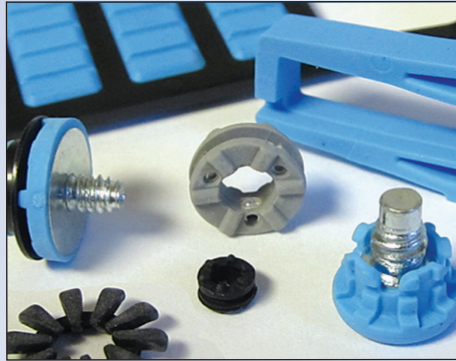




## TABLE OF CONTENTS

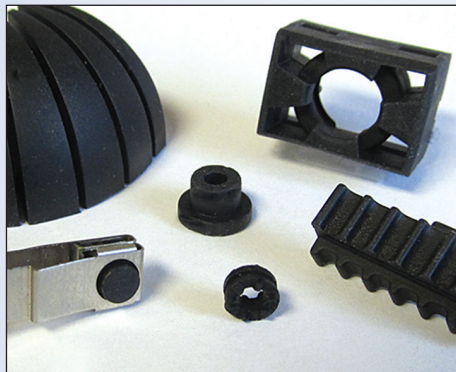
- 3 Introduction to Materials
- 4 ISODAMP™ C-8000 Materials
- 6 ISOLOSS™ SL Molding Materials -  
Thermosets
- 8 CONFOR™ EG Foams
- 10 CONFOR™ SC Foams





### ISODAMP™ C-8000 MATERIALS

- Highly damped thermoplastic molded products for noise, shock and vibration control
- RoHS compliant
- JIG-101 compliant
- Non-halogenated
- Listed UL 94 V-0 flame rating
- Available in durometers from 40 to 88 Type A



### ISOLOSS™ SL MATERIALS

- Highly damped thermoset molded products for noise, shock and vibration control
- RoHS compliant
- JIG-101 compliant
- Non-halogenated
- Available in durometers from 20 to 60 Type A
- Available in listed UL 94 and non-listed formulations



### CONFOR™ EG FOAMS

- Highly compliant shock and energy absorbing, strain-rate sensitive, open-cell foam products
- Listed UL 94 HF-1 flame rating
- RoHS compliant
- JIG-101 compliant
- Non-halogenated
- Available in a range of stiffnesses and parts



### CONFOR™ SC FOAMS

- Small cell, slow-recovery foam that can be easily compressed up to 95% for shock protection and gasketing in tight spaces.
- Low compression set
- Highly comformable gap filler
- Listed HF-1 @ 0.5mm-3.0mm
- RoHS Compliant and non-halogenated
- JIG-101 Compliant

## Typical Properties

Property	C-8012	C-8002	C-8070	C-8130
<b>Description</b>	TPE Solid Thermoplastic	TPE Solid Thermoplastic	TPE Solid Thermoplastic	TPE Solid Thermoplastic
<b>Hardness</b> ASTM D2240 Type A Durometer 23C (73F) 15 sec impact	40	51	70	88
<b>Compression Load Deflection kPa (psi)</b> ASTM D575 at 0.51 cm/min (0.2 in/min)				
10% kPa (psi)	324 (47)	455 (66)	951 (138)	3619 (525)
20% kPa (psi)	627 (91)	883 (128)	1799 (261)	6494 (942)
30% kPa (psi)	958 (139)	1358 (197)	2799 (406)	9087 (1318)
<b>Compression Set (%)</b> ASTM D395 Method B				
22 hr at 22C (72F)	12	15	15	35
22 hr at 70C (158F)	100	99	98	90
<b>Tensile Strength kPa (psi)</b> ASTM D412	3309 (480)	5309 (770)	10059 (1459)	11279 (1636)
<b>Tear Strength kN/m (lbf/in)</b> ASTM D624	18 (100)	25 (141)	50 (285)	72 (410)
<b>Temperature Range C (F)</b> Peak Damping Performance Temperature Range				
@ 10 Hz	-26 to 22	-6 to 37	4 to 42	5 to 27
@ 100 Hz	-19 to 35	-2 to 50	8 to 53	10 to 34
@ 1000 Hz	-13 to 55	4 to 71	14 to 68	16 to 41

The above technical information and data should be considered representative or typical only and should not be used for specification purpose.

## Environmental Properties

Property	C-8012	C-8002	C-8070	C-8130
<b>Flammability</b> UL 94	Listed V-0 @ 6 mm (0.24in)	Listed V-0 @ 3.4 mm (0.13 in)	Meets V-0 @ 3.2mm (0.125 in)	Listed V-0 @ 3.5 mm (0.14 in)
<b>RoHS Compliant</b>	Yes	Yes	Yes	Yes
<b>Halogen Free*</b>	Yes	Yes	Yes	Yes

Halogen-free per IEC 61249-2-21.



Toll-free hotline  
(877) EAR-IDEA  
(327-4332)

www.earshockandvibe.com solutions@earsc.com

7911 Zionsville Road  
Rm. 807, 8/F, B Area

Indianapolis, IN 46268  
Zhongtianyuan Logistics Center Taohua Rd.  
Shenzhen, China (P.R.C.)

Phone (651) 575-0151  
Phone: 86-755-8348-5522

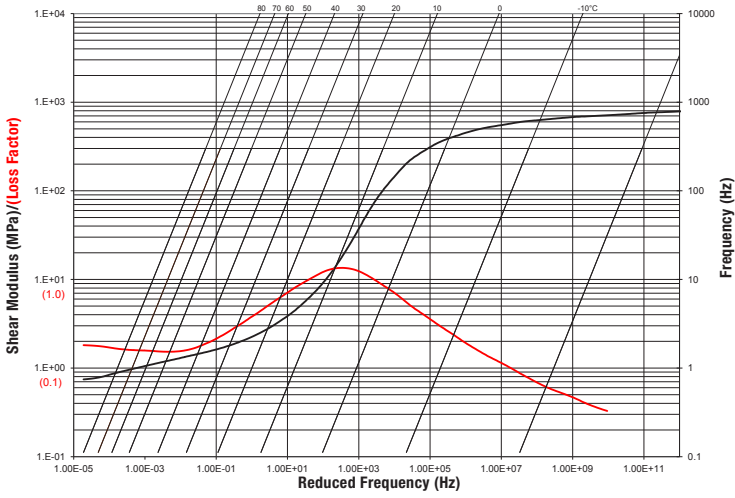
Fax (317) 982-3401  
Futian Free Trade Zone  
Fax: 86-755-8348-5533

©2014 Aearo Technologies • Printed 9.16

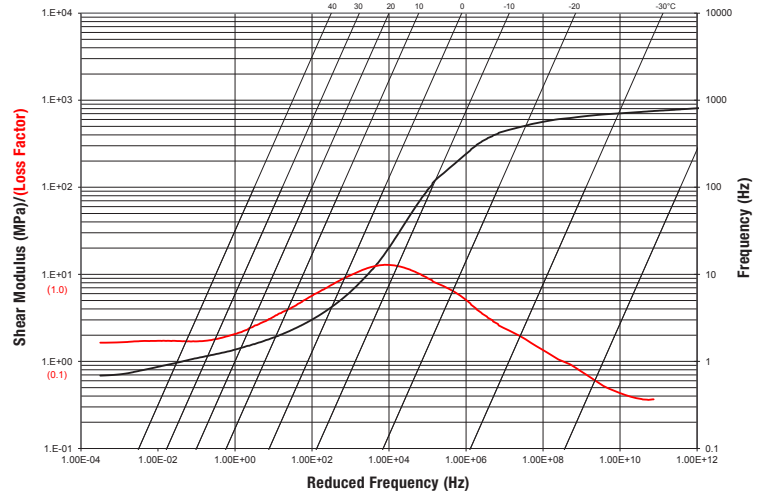




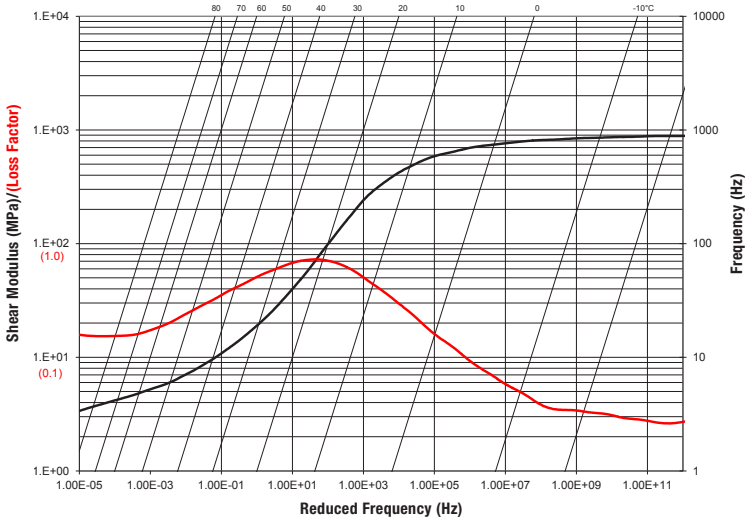
### ISODAMP C-8002



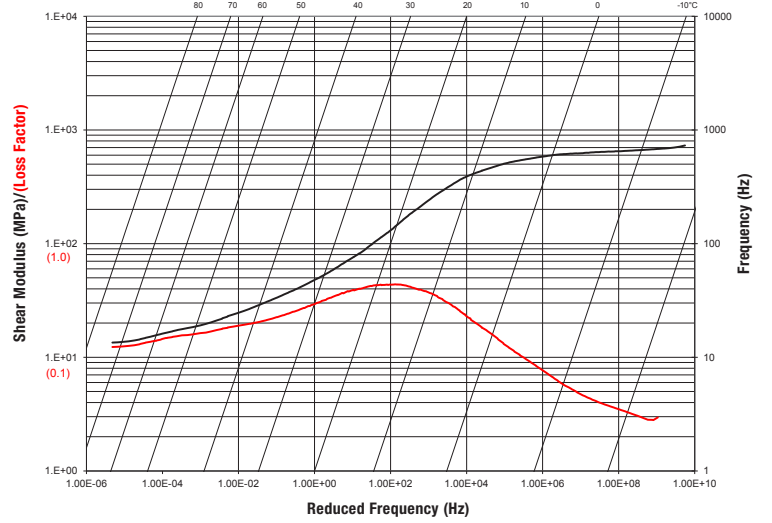
### ISODAMP C-8012



### ISODAMP C-8070



### ISODAMP C-8130



www.earshockandvibe.com solutions@earsc.com

Toll-free hotline  
(877) EAR-IDEA  
(327-4332)

7911 Zionsville Road  
Rm. 807, 8/F, B Area

Indianapolis, IN 46268  
Zhongtianyuan Logistics Center Taohua Rd.  
Shenzhen, China (P.R.C.)

Phone (651) 575-0151  
Phone: 86-755-8348-5522

Fax (317) 982-3401  
Futian Free Trade Zone  
Fax: 86-755-8348-5533

©2014 Aearo Technologies • Printed 9.16



## Typical Properties

Property	SL-20300	SL-35300	SL-50300	SL-60300
<b>Description</b>	Synthetic Rubber	Synthetic Rubber	Synthetic Rubber	Synthetic Rubber
<b>Hardness</b> ASTM D2240 Type A Durometer 23C (73F) 15 sec impact	19	30	45	56
<b>Compression Load Deflection kPa (psi)</b> ASTM D575 at 0.51 cm/min (0.2 in/min)				
10% kPa (psi)	117 (17)	193 (28)	338 (49)	517 (68)
20% kPa (psi)	221 (32)	379 (55)	669 (97)	1013 (132)
30% kPa (psi)	352 (51)	607 (88)	1096 (159)	1689 (222)
<b>Compression Set (%)</b> ASTM D395 Method B 22 hr at 22C (72F) 22 hr at 70C (158F)	3 7	4 6	2 7	3 4
<b>Tensile Strength kPa (psi)</b> ASTM D412	4185 (600)	5667 (822)	10149 (1472)	10721 (1555)
<b>Tear Strength kN/m (lbf/in)</b> ASTM D624	11.4 (65)	20.1 (115)	18.9 (108)	24.15 (138)
<b>Temperature Range C</b> Peak Damping Performance Temperature Range				
@ 10 Hz	-23 to 29	-21 to 30	-5 to 42	-10 to 35
@ 100 Hz	-18 to 47	-16 to 47	-2 to 63	-4 to 47
@ 1000 Hz	-14 to 71	-12 to 72	4 to 82	1 to 60

The above technical information and data should be considered representative or typical only and should not be used for specification purpose.

## Environmental Properties

Property	SL-20300	SL-35300	SL-50300	SL-60300
<b>Flammability</b> UL 94	Listed HB @ 2.3mm-2.5mm	Listed HB @ 3.0mm	Listed HB @ 3.0mm	Listed HB @ 3.0mm
<b>RoHS Compliant</b>	Yes	Yes	Yes	Yes
<b>Halogen Free*</b>	Yes	Yes	Yes	Yes

\*Halogen-free per IEC 61249-2-21.



Toll-free hotline

(877) EAR-IDEA  
(327-4332)

www.earshockandvibe.com solutions@earsc.com

7911 Zionsville Road

Rm. 807, 8/F, B Area

Indianapolis, IN 46268

Zhongtianyuan Logistics Center Taohua Rd.  
Shenzhen, China (P.R.C.)

Phone (651) 575-0151

Phone: 86-755-8348-5522

Fax (317) 982-3401

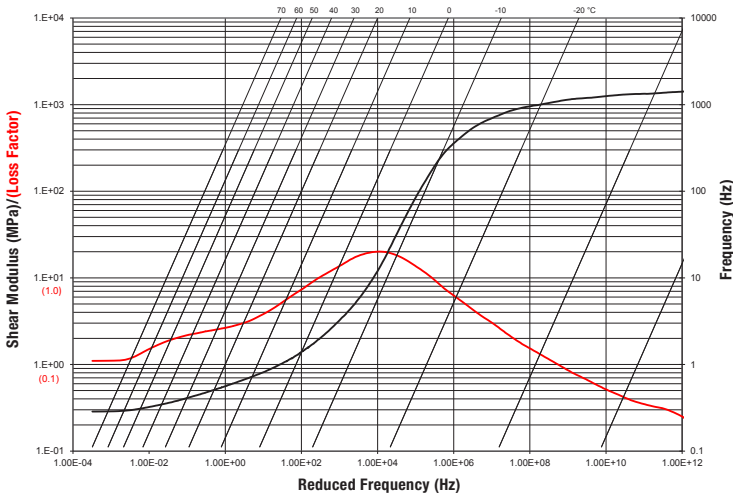
Futian Free Trade Zone  
Fax: 86-755-8348-5533

©2014 Aearo Technologies • Printed 9.16

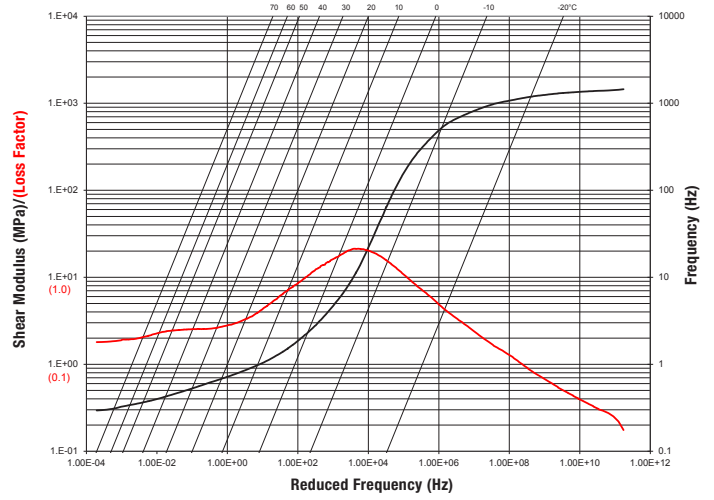




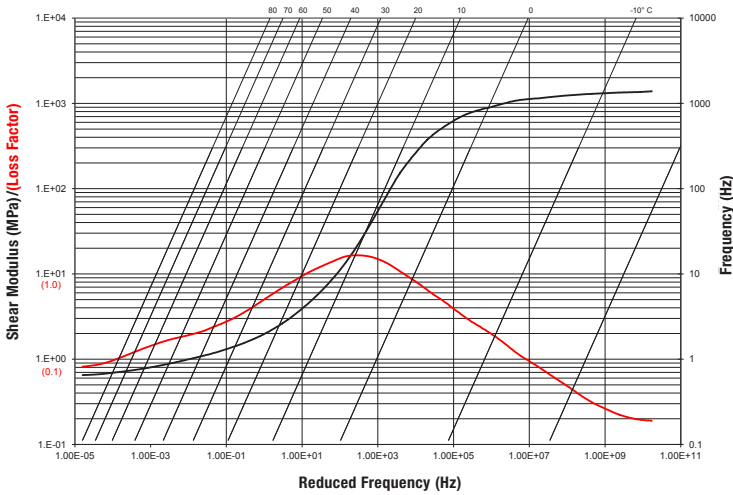
### ISOLOSS SL-20300



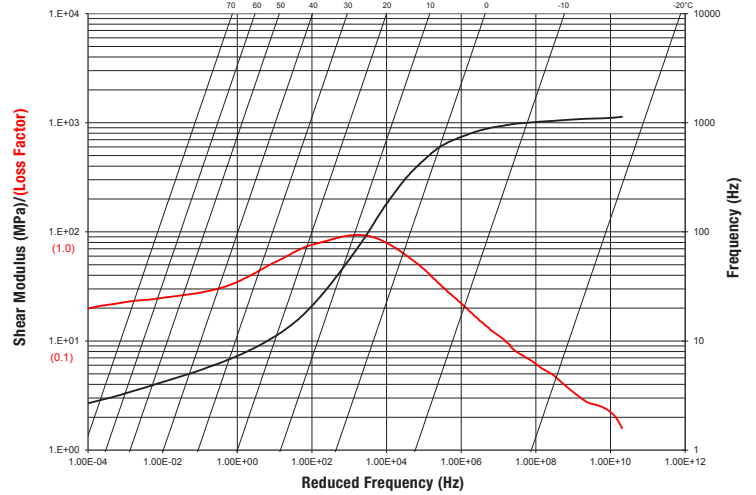
### ISOLOSS SL-35300



### ISOLOSS SL-50300



### ISOLOSS SL-60300



Typical Properties

Property	CFNT-EGS	CF-40EG	CF-42EG	CF-45EG	CF-47EG
<b>Density Nominal kg/m<sup>3</sup> (lb/ft<sup>3</sup>)</b> ASTM D3574	83 (5.18)	96.1 (6)	96.1 (6)	96.1 (6)	96.1 (6)
<b>Ball Rebound %</b> ASTM D3574	< 1	< 1	< 1	< 1	< 1
<b>Thermal Conductivity – K Value</b> ASTM C518 W/m*K (BTU in/hr ft <sup>2</sup> F)	.0039 (0.27)	.0039 (0.27)	.0040 (0.28)	.0040 (0.27)	.0039 (0.27)
<b>Compression Set (%)</b> ASTM D357 22hr @ 22C (72 F), Compressed 50%	< 1	< 1	< 1	< 1	< 1
<b>Indentation Force Deflection</b> ASTM D3574 Test B1 Modified 25% Deflection for 12" x 12" x 2" sample 22C (72F) @ 50% Relative Humidity (lbf)	10-17	15-28	29-41	42-55	55-70
<b>Tensile Strength kPa (psi)</b> ASTM D3574 5.1mm/min (20 in/min)	48 (6.7)	53 (7.7)	90 (13)	129 (19)	229 (33)
<b>Tear Strength kN/m (lbf/in)</b> ASTM D3574 5.1 mm/min (20 in/min) @ 22C (72F)	0.28 (1.6)	0.32 (1.8)	0.56 (3.2)	0.63 (3.6)	1.1 (6.5)
<b>Tg (Peak Loss Modulus), °C</b> DMA, 10 Hz & 0.3 amplitude, 30% compression	-2.5	2.7	6.7	14	19
<b>Peak Tan Delta @ Temp C (F)</b> DMA, 10 Hz & 0.3 amplitude, 30% compression	1.34 @ 22 C	1.33 @ 26 C	1.26 @ 30 C	1.17 @ 39 C	1.07 @ 46 C
<b>Compression Load Deflection</b> ASTM D 3574C Modified*					
Force @ 10% Compression kPa (psi)	0.83 (0.12)	1.65 (0.24)	2.83 (0.41)	3.03 (0.44)	6.89 (1.00)
Force @ 20% Compression kPa (psi)	1.1 (0.16)	1.86 (0.27)	2.90 (0.42)	3.59 (0.52)	6.89 (1.00)
Force @ 30% Compression kPa (psi)	1.2 (0.18)	2.07 (0.30)	3.31 (0.48)	4.0 (0.58)	7.58 (1.08)
Force @ 40% Compression kPa (psi)	1.5 (0.22)	2.41 (0.35)	3.93 (0.57)	4.76 (0.69)	8.96 (1.27)
Force @ 50% Compression kPa (psi)	1.8 (0.26)	3.03 (0.44)	4.96 (0.72)	6.0 (0.87)	11.03 (1.60)
Force @ 60% Compression kPa (psi)	2.4 (0.35)	4.21 (0.61)	6.89 (1.04)	8.96 (1.25)	15.86 (2.29)
Force @ 70% Compression kPa (psi)	3.9 (0.57)	7.58 (1.1)	13.1 (1.89)	16.34 (2.37)	28.96 (4.19)
Force @ 80% Compression kPa (psi)	9.0 (1.3)	21.4 (3.09)	37.9 (5.5)	51.0 (7.42)	89.63 (13.0)

The above technical information and data should be considered representative or typical only and should not be used for specification purpose.

\* 12.7mm thick specimen compressed at a rate of 5.1 mm/min

Environmental Properties

Property	CFNT-EGS	CF-40EG	CF-42EG	CF-45EG	CF-47EG
<b>Flammability</b> UL 94	Meets HBF	Listed HF-1 @ 2 mm	Listed HF-1 @ 2 mm	Listed HF-1 @ 2 mm	Listed HF-1 @ 2 mm
<b>RoHS Compliant</b>	Yes	Yes	Yes	Yes	Yes
<b>Halogen Free*</b>	Yes	Yes	Yes	Yes	Yes

\*Halogen-free per IEC 61249-2-21.



Toll-free hotline  
(877) EAR-IDEA  
(327-4332)

7911 Zionsville Road  
Rm. 807, 8/F, B Area

Indianapolis, IN 46268  
Zhongtianyuan Logistics Center Taohua Rd.  
Shenzhen, China (P.R.C.)

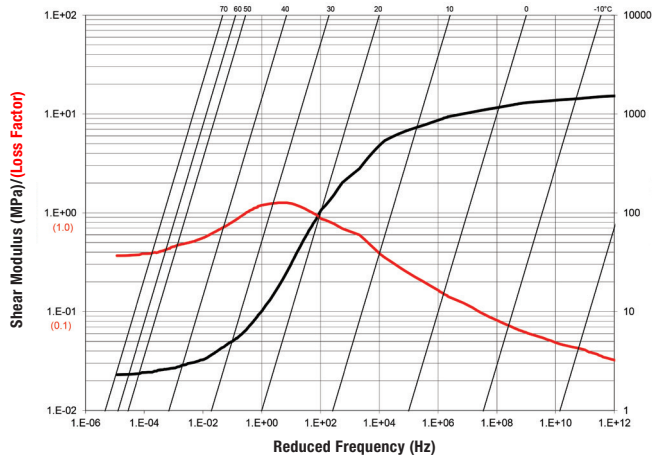
Phone (651) 575-0151  
Phone: 86-755-8348-5522

Fax (317) 982-3401  
Futian Free Trade Zone  
Fax: 86-755-8348-5533

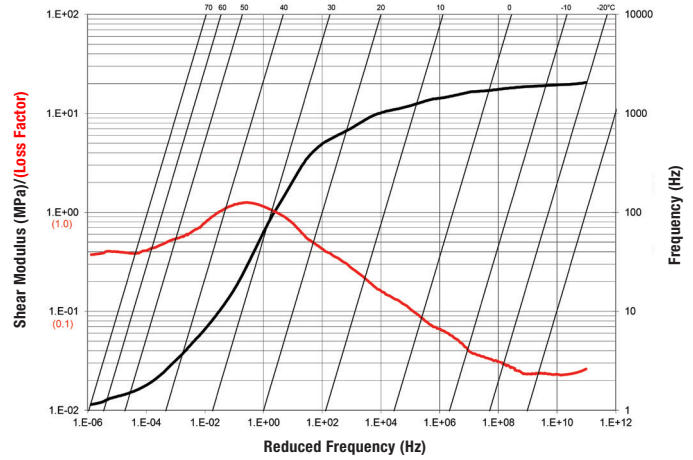




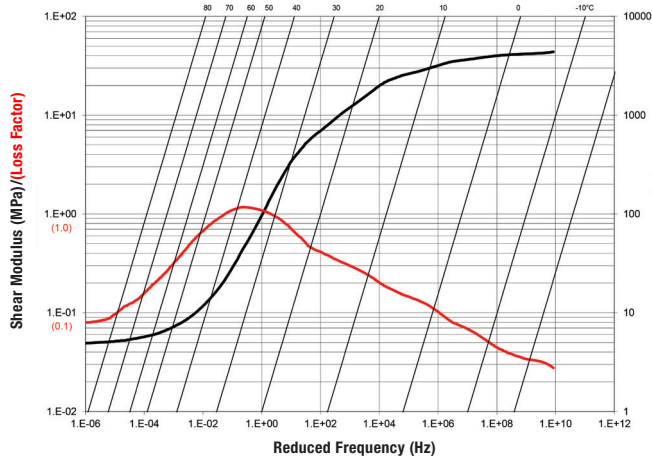
### CF-40EG



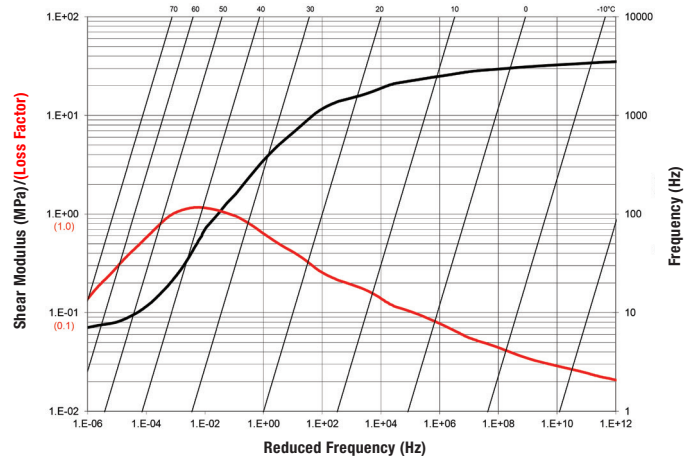
### CF-42EG



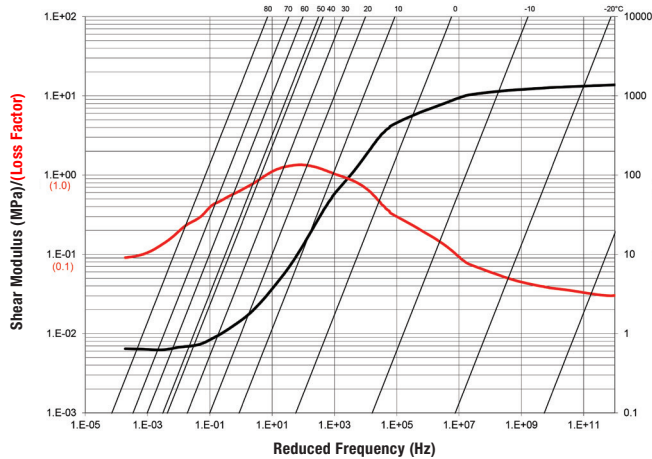
### CF-45EG



### CF-47EG



### CFNT-EGS



## Typical Properties

Property	CF-42SC	CF-47SC
<b>Density Nominal kg/m3 (lbs/ft3)</b> ASTM D 3574-03 Test A	101 kg/m3 (6.3 lbs/ft.³)	101 kg/m3 (6.3 lbs/ft.³)
<b>Tensile Strength kPa (psi)</b> ASTM D 3574-03 Test E	131 (19.1)	288.82 (41.89)
<b>Tear Resistance kN/m (lbf/in)</b> ASTM D 3574-03 Test F	0.53 (3.0)	1.26 (7.19)
<b>Elongation</b> ASTM D 3574-03 Test F	181%	142%
<b>Compression Set (%)</b> ASTM D3574-03 Test D- 50% Compression 22 hr at 22C (72F) 22 hr at 60C (140F)	<2%	<1%
<b>Compression Load Deflection kPa (psi)</b> ASTM D3574-03 Test C Modified		
@ 10% Deflection	3.22 (0.47)	12.4 (1.80)
@ 20% Deflection	3.64 (0.53)	13.5 (1.96)
@ 30% Deflection	4.17 (0.60)	13.9 (2.02)
@ 40% Deflection	4.98 (0.72)	15.8 (2.30)
@ 50% Deflection	6.30 (0.91)	19.8 (2.87)
@ 60% Deflection	8.73 (1.30)	27.6 (4.00)
@ 70% Deflection	14.8 (2.10)	48.8 (7.07)
@ 80% Deflection	39.8 (5.80)	147.0 (21.30)
<b>Dust Resistance</b> IEC 60529-Category 2 50% Compression 70% Compression	IP 5X Rating Dust Proof Dust Proof	IP 5X Rating Dust Proof Dust Proof

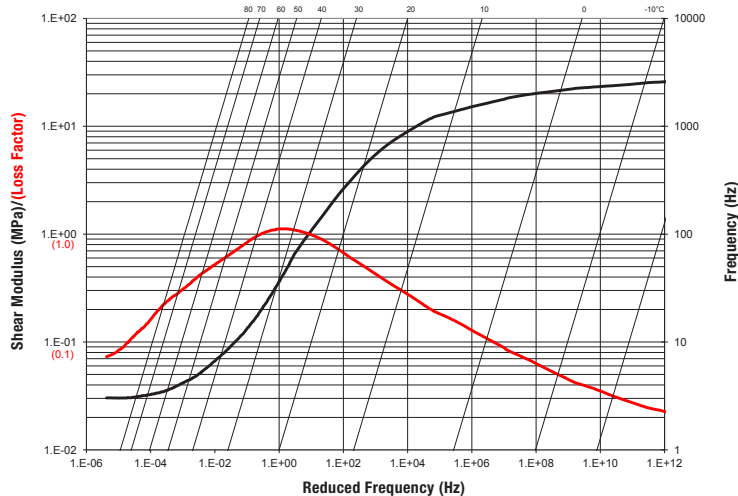
The above technical information and data should be considered representative or typical only and should not be used for specification purpose.

## Environmental Properties

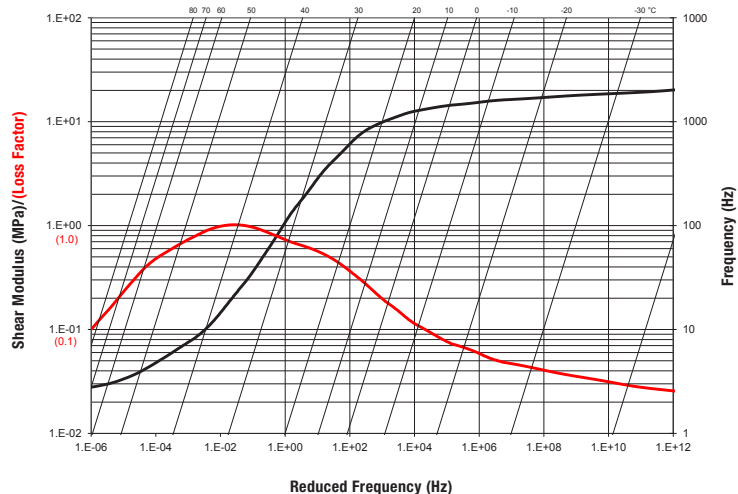
Property	CF-42SC	CF-47SC
<b>Flammability</b> UL 94	Listed HF-1 @ 0.5 mm – 3.0mm	Meets HF-1 @ 1.6 mm – 3.5mm
<b>RoHS Compliant</b>	Yes	Yes
<b>Halogen Free*</b>	Yes	Yes

\*Halogen-free per IEC 61249-2-21.

### CF-42 SC



### CF-47 SC



Toll-free hotline

(877) EAR-IDEA  
(327-4332)

7911 Zionville Road  
Rm. 807, 8/F, B Area

Indianapolis, IN 46268

Zhongtianyuan Logistics Center Taohua Rd.  
Shenzhen, China (P.R.C.)

Phone (651) 575-0151

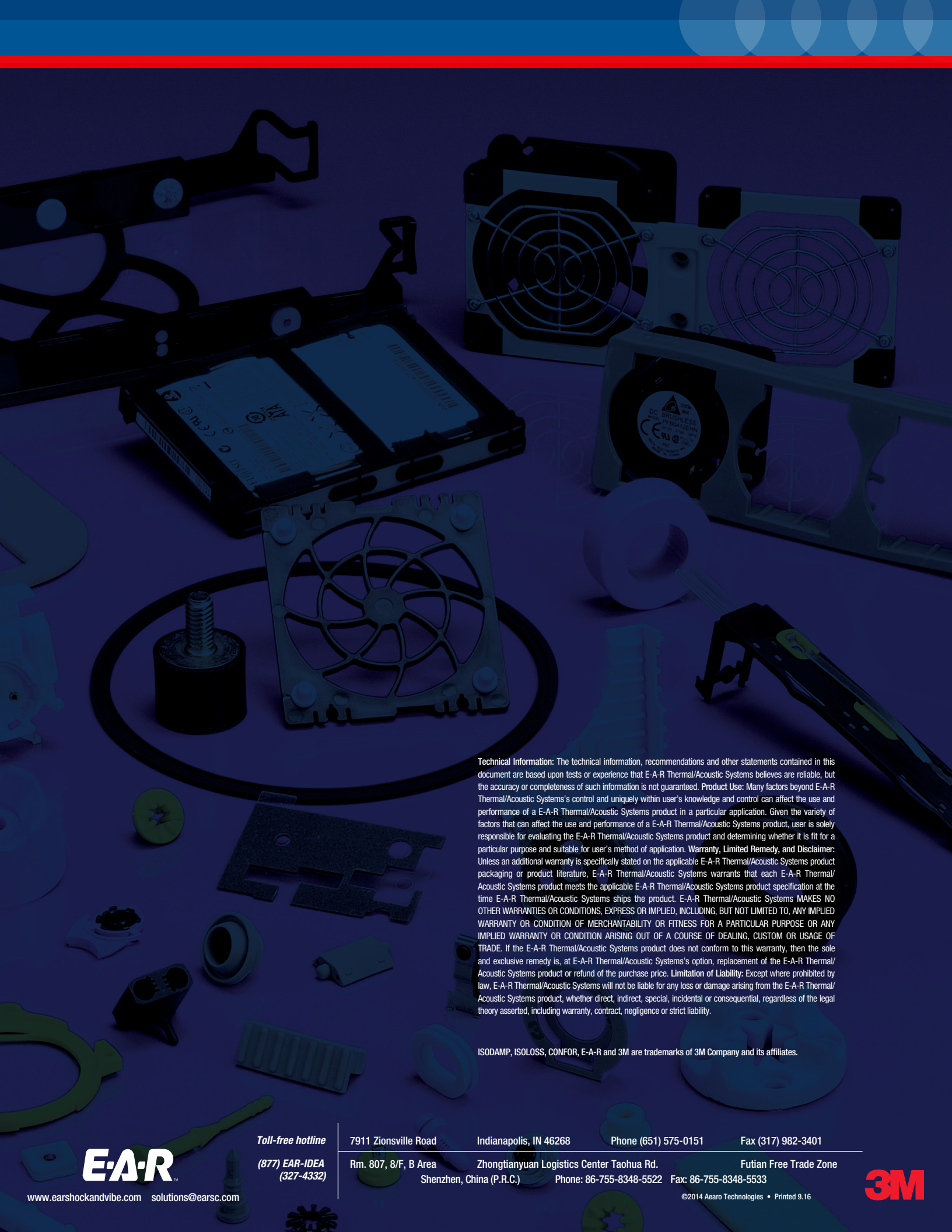
Phone: 86-755-8348-5522

Fax (317) 982-3401

Futian Free Trade Zone  
Fax: 86-755-8348-5533







**Technical Information:** The technical information, recommendations and other statements contained in this document are based upon tests or experience that E-A-R Thermal/Acoustic Systems believes are reliable, but the accuracy or completeness of such information is not guaranteed. **Product Use:** Many factors beyond E-A-R Thermal/Acoustic Systems's control and uniquely within user's knowledge and control can affect the use and performance of a E-A-R Thermal/Acoustic Systems product in a particular application. Given the variety of factors that can affect the use and performance of a E-A-R Thermal/Acoustic Systems product, user is solely responsible for evaluating the E-A-R Thermal/Acoustic Systems product and determining whether it is fit for a particular purpose and suitable for user's method of application. **Warranty, Limited Remedy, and Disclaimer:** Unless an additional warranty is specifically stated on the applicable E-A-R Thermal/Acoustic Systems product packaging or product literature, E-A-R Thermal/Acoustic Systems warrants that each E-A-R Thermal/Acoustic Systems product meets the applicable E-A-R Thermal/Acoustic Systems product specification at the time E-A-R Thermal/Acoustic Systems ships the product. E-A-R Thermal/Acoustic Systems MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY OR CONDITION ARISING OUT OF A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. If the E-A-R Thermal/Acoustic Systems product does not conform to this warranty, then the sole and exclusive remedy is, at E-A-R Thermal/Acoustic Systems's option, replacement of the E-A-R Thermal/Acoustic Systems product or refund of the purchase price. **Limitation of Liability:** Except where prohibited by law, E-A-R Thermal/Acoustic Systems will not be liable for any loss or damage arising from the E-A-R Thermal/Acoustic Systems product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability.

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

**E-A-R**

Toll-free hotline  
(877) EAR-IDEA  
(327-4332)

www.earshockandvibe.com solutions@earsc.com

7911 Zionville Road  
Rm. 807, 8/F, B Area  
Shenzhen, China (P.R.C.)

Indianapolis, IN 46268  
Zhongtianyuan Logistics Center Taohua Rd.  
Phone: 86-755-8348-5522

Phone (651) 575-0151

Fax (317) 982-3401

Futian Free Trade Zone  
Phone: 86-755-8348-5533

©2014 Aearo Technologies • Printed 9.16

**3M**



[www.earshockandvibe.com](http://www.earshockandvibe.com) [solutions@earsc.com](mailto:solutions@earsc.com)

*Toll-free hotline*

*(877) EAR-IDEA  
(327-4332)*

7911 Zionsville Road

Rm. 807, 8/F, B Area

Indianapolis, IN 46268

Zhongtianyuan Logistics Center Taohua Rd.  
Shenzhen, China (P.R.C.)

Phone (651) 575-0151

Phone: 86-755-8348-5522

Fax (317) 982-3401

Futian Free Trade Zone  
Fax: 86-755-8348-5533

©2014 Aearo Technologies • Printed 9.16

