

# NON-HALOGENATED PRODUCTS

## 3M E-A-R environmentally-friendly formulations for shock, vibration, damping, isolation and noise solutions

With the ongoing requirement for environmentally friendly products, 3M E-A-R has developed a new generation of materials that help enable customers to meet increasingly more stringent regulatory requirements. The new technology provides customers with a non-halogenated, RoHS, JIG-101 and BSD compliant option for solving their shock, vibration,

isolation and noise challenges. The new family of green materials meets all the current industry regulations without sacrificing the performance you have come to expect from 3M E-A-R solutions. Customers can easily upgrade to the new materials using their existing tools.



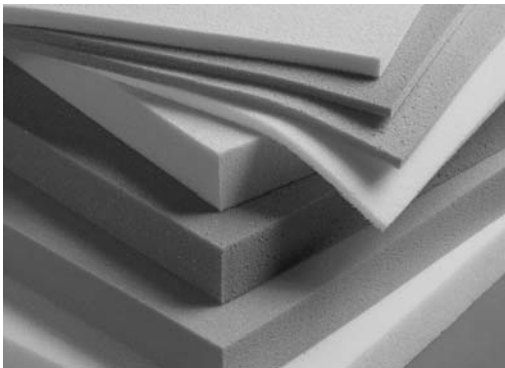
### ISODAMP® C-8000 MATERIALS

- 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 56 Shore 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 Shore 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

**E-A-R** Specialty  
Composites™

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# ISODAMP<sup>®</sup> C-8000 Materials

Typical Properties			
Property	C-8001	C-8002	C-8012
<b>Visual Color</b>	Black	Sky Blue	Gray
<b>Metal Bonding</b>	No	No	No
<b>Hardness ASTM D2240</b> (Shore A, 15 sec, 1 kg, 22C (72C))	45	57	40
<b>Tensile Strength kPa (psi)</b>			
<b>ASTM D412</b>	4437 (664)	7930 (1150)	4114 (597)
<b>Elongation % ASTM D412</b>	662	754	918
<b>Tear C kN/m (ppi)</b>			
<b>ASTM D624</b>	23.6 (134)	30.4 (173)	17.1 (97)
<b>Compression Set ASTM D395</b>			
25% @ 22C (72F)	16	18	12
25% @ 70C (158 F)	100	100	100
<b>UL 94 rating @ 3mm</b>	Meets V-0	Listed V-0	Meets V-0
<b>Maximum Continuous Service Temp** C (F)</b>			
ASTM D2000	80 (176)	70 (158)	80 (176)
<b>Compression Force Deflection kPa (psi)</b>			
ASTM D575 @ 0.51cm/min (0.2in/min)			
5%	227 (33)	345 (50)	186 (27)
10%	434 (63)	751 (109)	338 (49)
15%	634 (92)	1042 (152)	489 (71)
20%	840 (122)	1530 (222)	634 (92)
25%	1060 (154)	1812 (263)	792 (115)
30%	1308 (190)	2440 (354)	964 (140)
<b>Compression Modulus kPa (psi) @ 15%</b>	4016 (583)	6946 (1013)	3072 (446)
<b>Dynamic Properties via DMA, 20° C</b>			
Tan $\delta$ @ 10 HZ	0.45	0.71	0.32
Tan $\delta$ @ 100 HZ	0.80	1.22	0.57
Tan $\delta$ @ 1000 HZ	1.24	1.23	0.97
<b>RoHS Compliant</b>	Yes	Yes	Yes
Non-halogenated formulation	Yes	Yes	Yes
Meets JIG-101, BSD requirements	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.

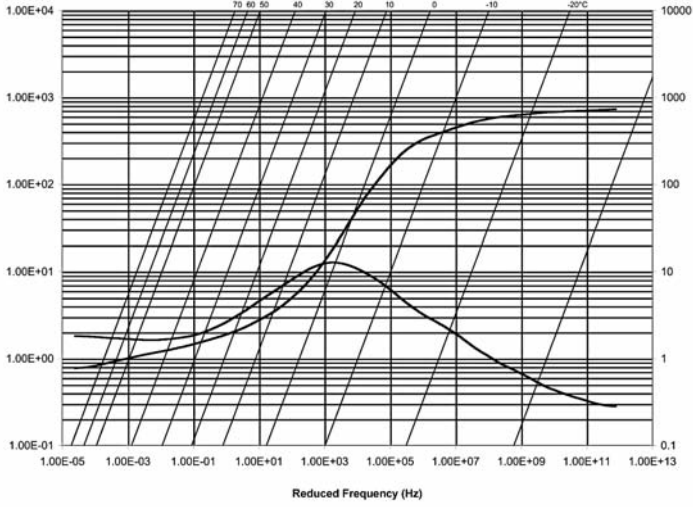


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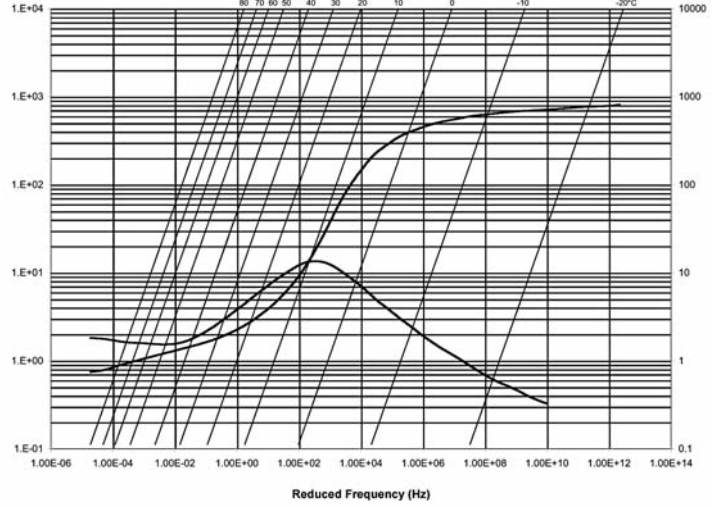
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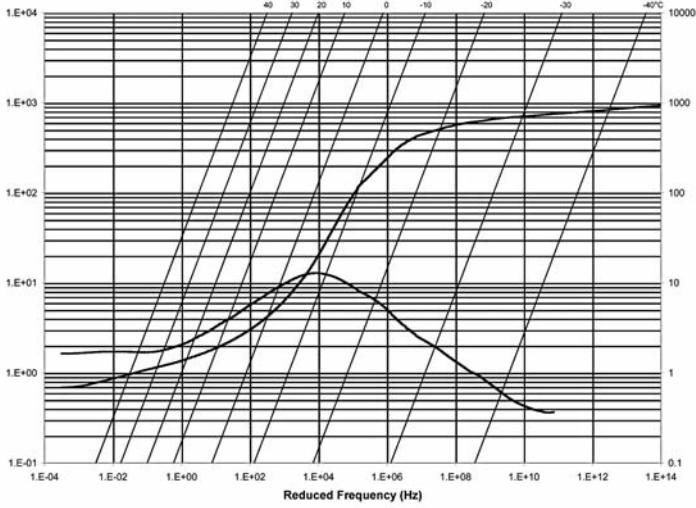
**ISODAMP C-8001**



**ISODAMP C-8002**



**ISODAMP C-8012**



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# ISOLOSS<sup>®</sup> SL Materials

Typical Properties							
Property	SL-20100	SL-20300	SL-35100	SL-35300	SL-50100	SL-50300	SL-60100
<b>Color</b>	Black	Black	Black	Black	Black	Black	Black
<b>Metal Bonding</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Hardness ASTM D2240 (Shore A, 15 sec, 1 kg, 22C (72F))</b>	21	20	35	32	50	47	60
<b>Tensile Strength kPa (psi) ASTM D412</b>	3653 (530)	4246 (616)	6120 (888)	6481 (940)	9422 (1367)	10528 (1527)	8974 (1302)
<b>Elongation % ASTM D412</b>	625	565	617	527	457	456	224
<b>Tear C ppi (kN/m) ASTM D624</b>	12.2 (69)	12.9 (73)	17.8 (101)	18.2 (103)	26.0 (147)	18.6 (105)	40 (227)
<b>Compression Set ASTM D395</b>							
25% @ 22C (72F)	3	2	3	3	4	6	3
25% @ 70C (158 F)	8	8	9	6	7	6	16
<b>UL 94 rating @ 3mm</b>	Not rated	HB	Not rated	HB	Not rated	HB	Not rated
<b>Maximum Continuous Service Temp C (F)</b>							
ASTM D2000	70 (158)	90 (194)	70 (158)	90 (194)	70 (158)	90 (194)	70 (158)
<b>Compression Force Deflection kPa (psi) ASTM D575 @ 0.51cm/min (0.2in/min)</b>							
5%	69 (10)	76 (11)	124 (18)	96 (14)	214 (31)	206 (30)	442 (64)
10%	124 (18)	124 (18)	248 (36)	172 (25)	407 (59)	372 (54)	897 (130)
15%	179 (26)	179 (26)	366 (53)	255 (37)	593 (86)	531 (77)	1344 (195)
20%	241 (35)	234 (34)	497 (72)	344 (50)	780 (113)	710 (103)	1829 (265)
25%	310 (45)	303 (44)	642 (93)	448 (65)	980 (142)	910 (132)	2381 (345)
30%	393 (57)	372 (54)	780 (113)	558 (81)	1207 (175)	1145 (166)	3043 (441)
<b>Compression Modulus kPa (psi) @ 15%</b>	1117 (162)	1192 (173)	2435 (353)	1703 (247)	3956 (573)	3956 (573)	9101 (1319)
<b>Dynamic Properties via DMA, 20° C</b>							
Tan δ @ 10 HZ	0.40	0.38	0.43	0.76	0.81	0.95	0.71
Tan δ @ 100 HZ	0.76	0.73	0.85	1.45	1.45	1.52	1.05
Tan δ @ 1000 HZ	1.44	1.34	1.60	1.80	1.66	1.52	1.11
<b>RoHS Compliant</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Non-halogenated formulation	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Meets JIG-101, BSD requirements	Yes	Yes	Yes	Yes	Yes	Yes	Yes

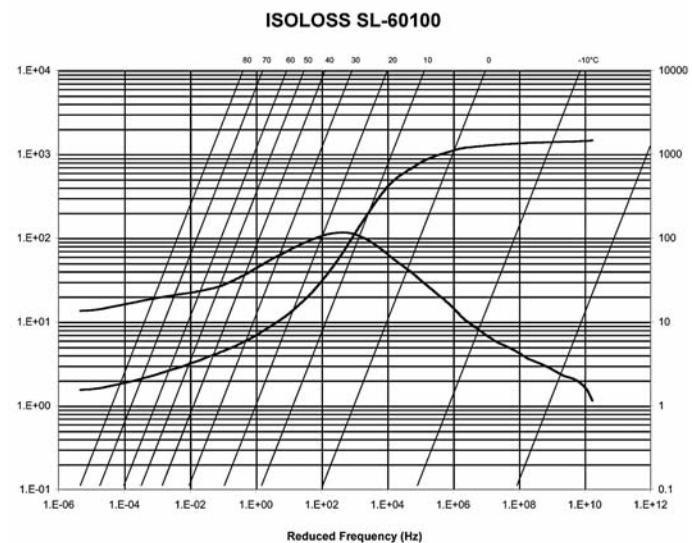
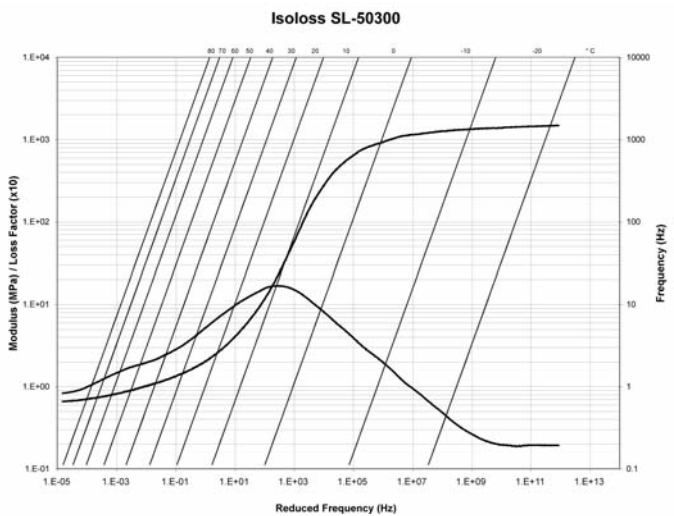
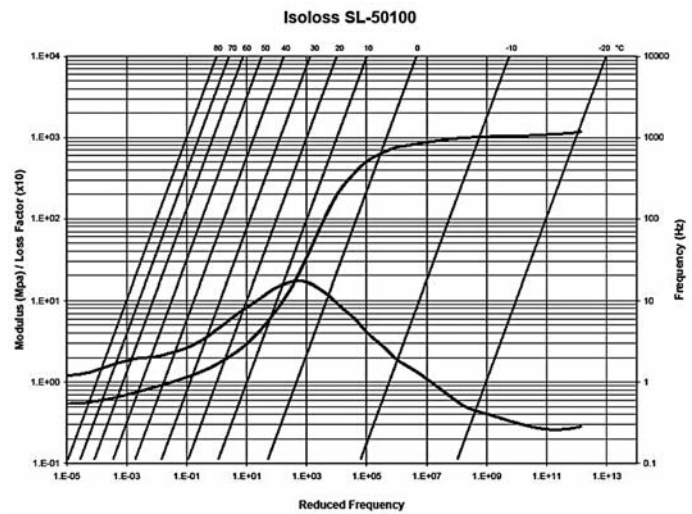
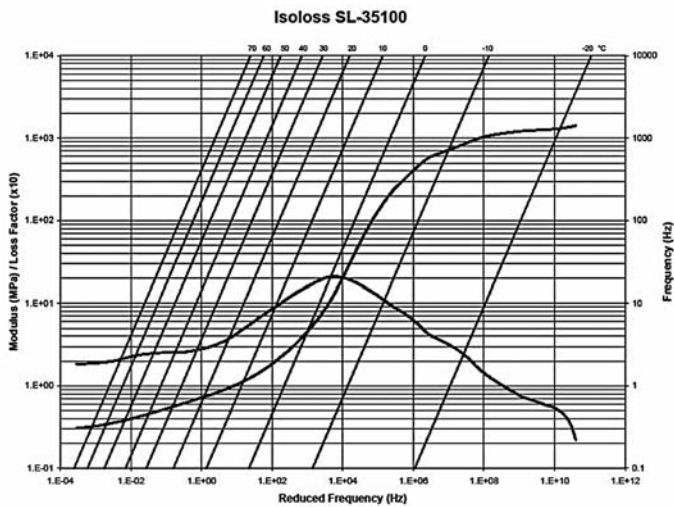
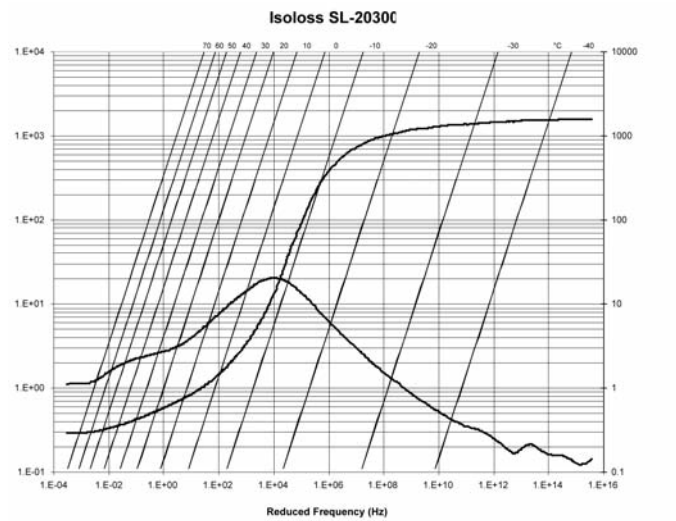
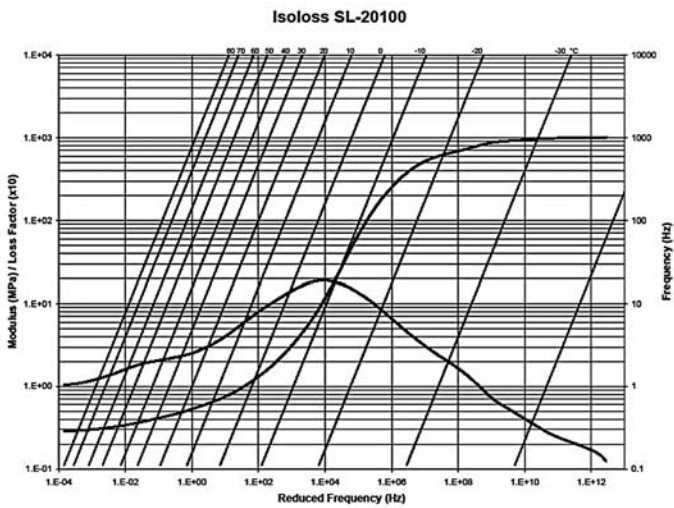
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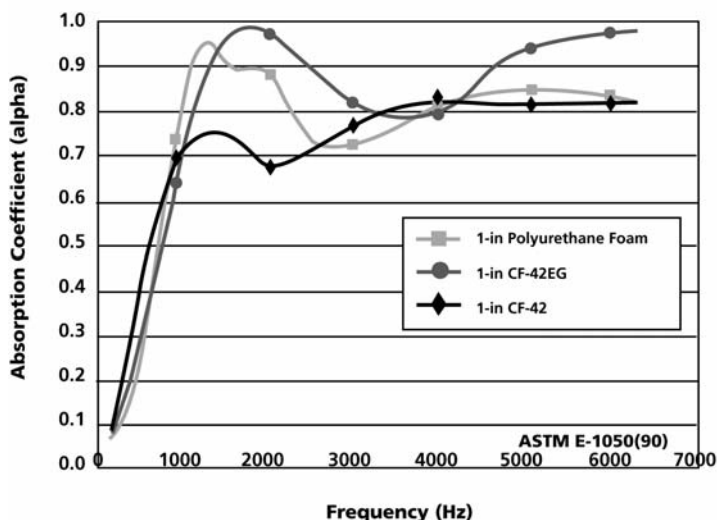


# CONFOR<sup>®</sup> EG Foams

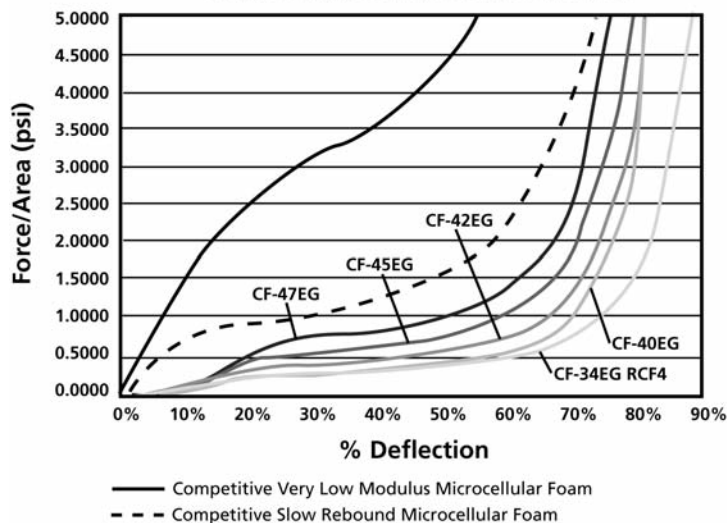
Typical Properties				
Property	CF-40EG	CF-42EG	CF-45EG	CF-47EG
<b>Visual Color</b>	Yellow	Pink	Blue	Green
<b>Density Nominal (pcf)</b> ASTM D3574	6	6	6	6
<b>Flammability</b> UL 94 @ 2.0mm	Meets HF-1	Meets HF-1	Meets HF-1	Meets FH-1
<b>Ball Rebound (%)</b> ASTM D3574	<1.0	<1.0	<1.0	<1.0
<b>Thermal Conductivity - K Value</b> ASTM C177 (BTU in/hr ft <sup>2</sup> F)	0.28	0.28	0.28	0.28
<b>Compression Set (%) ASTM D3574</b> 22 hr @ 158F, compressed 50%	<2.0	<2.0	<1.0	<1.0
<b>Indentation Force Deflection</b> ASTM D3574, Test B1 25% Deflection - 72F @ 50% relative humid	15	26	34	43
<b>Tensile Strength (psi)</b> ASTM D3574, 20in/min @ 72F	11	18	20	27
<b>Tear Strength (lb/in)</b> ASTM D3574, 20in/min @ 72F	2.1	3.4	3.9	6
<b>Elongation (%)</b> ASTM D3574, 20in/min @ 72F	135	135	140	105
<b>Contains Volatile Silicones</b>	No	No	No	No
<b>Contains Polybrominated Biphenyl Oxides</b>	No	No	No	No
<b>Contains Metal Oxides</b>	No	No	No	No
<b>RoHS Compliant</b>	Yes	Yes	Yes	Yes

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Normal Incident Acoustical Absorption



Static Compression Force Deflection



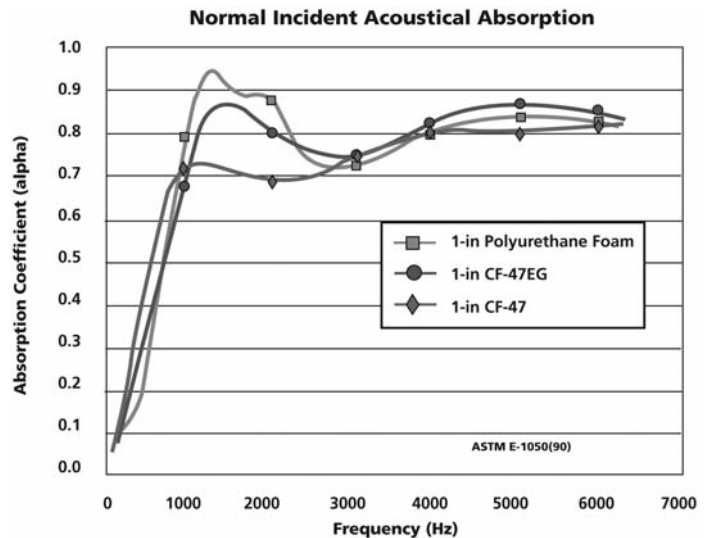
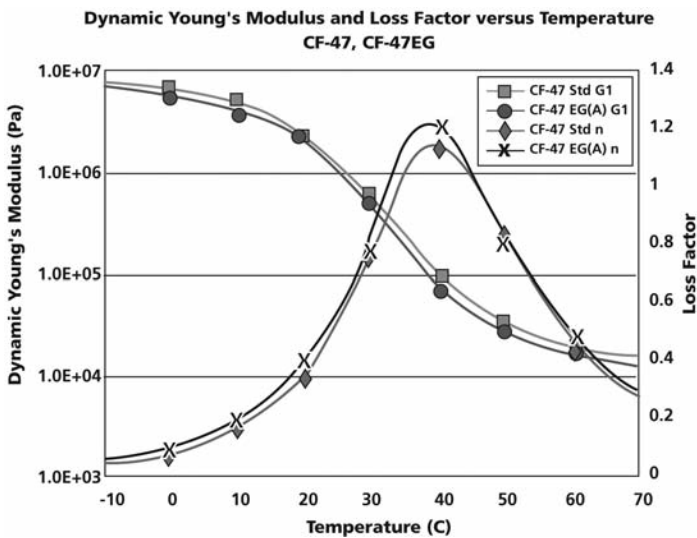
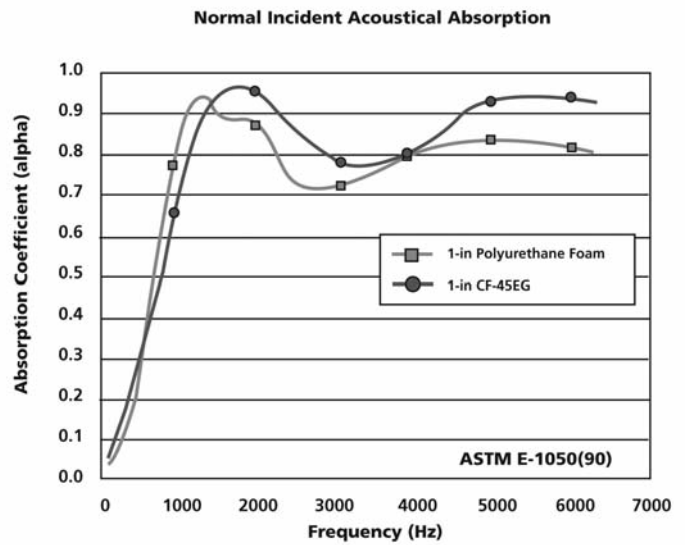
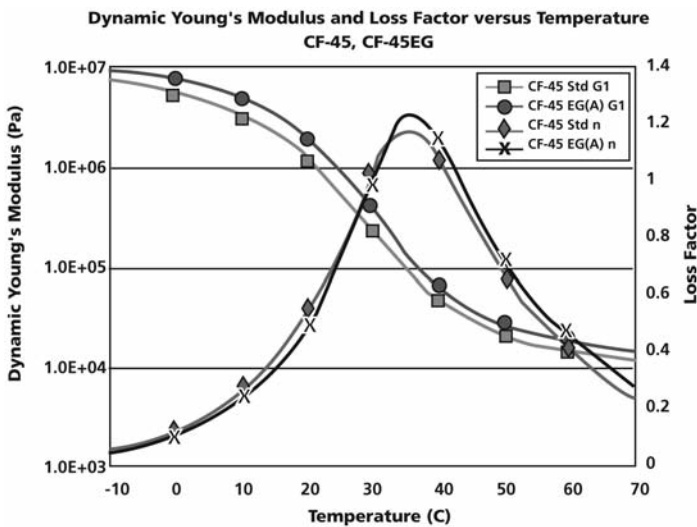
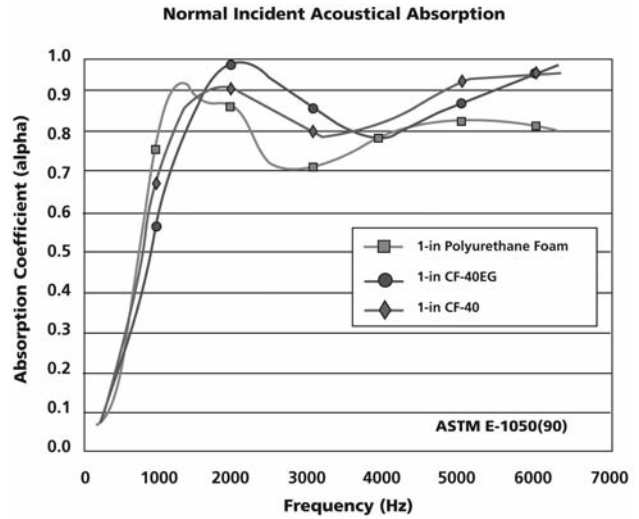
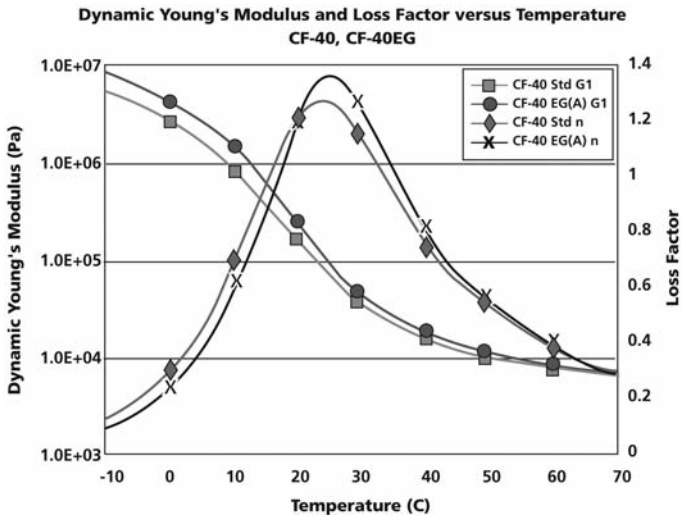
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