

Aircraft Damping Composites (ADC)

High Performance Aircraft Soundproofing Materials

- **Meet the most stringent FAR flame standards—the 60-second burn test**
- **Broad product line to meet specific performance and weight requirements**
- **Temperature-tuned to specific requirements of pressurized and non-pressurized aircraft**
- **Both skin and trim damping materials available to optimize double-wall sound transmission loss**
- **Reduce structurally radiated noise**
- **Designed and manufactured by people who are committed to damping technology**

The materials in E-A-R's broad line of aircraft skin damping composites provide lightweight, high damping performance on fuselage skin, bulkheads and thin composite panels for all types of aircraft used in general and commercial aviation. The composites in this line now meet the most stringent FAR 25.853 flammability requirements—the 60-second flame-spread test.

E-A-R's aircraft skin damping composites combine proprietary, high performance damping sheets and foams with an aluminum constraining layer and pressure-sensitive adhesive. Several different formulations are available, each tuned to specific temperature and damping performance requirements. The materials effectively control airborne noise and structureborne vibration in a wide range of aircraft environments. They are engineered to provide the highest possible performance with minimum added weight.

E-A-R supplies damping and acoustical materials to numerous manufacturers of general and commercial aviation aircraft, including Cessna, Gulfstream, Learjet, Canadair, Airbus, Bell Helicopter and McDonnell Douglas.

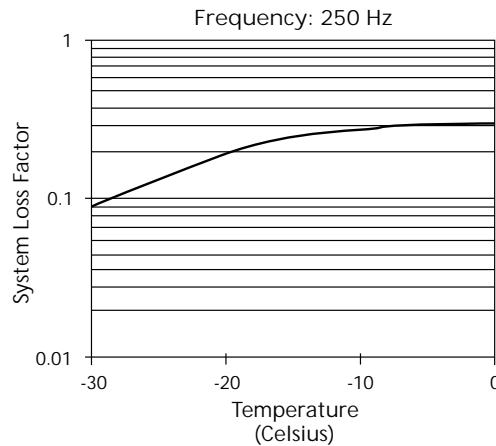
Physical Properties

Flammability: Meets FAR 25.853(a) Appendix F, Part I, paragraph (a) (1) (i) (60-Second Burn Test)

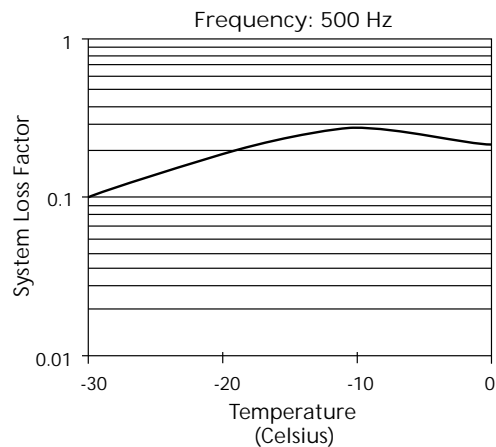
Adhesive Strength: Peel Strength*—(ADC-124) 3.6 lb/in
(ADC-006) 17 lb/in
Shear Strength*—(ADC-124) 5.4 lb/in²
(ADC-006) 69 lb/in²

* ASTM D903 & ASTM D3163, aged at 70C and 100% relative humidity for 2 weeks

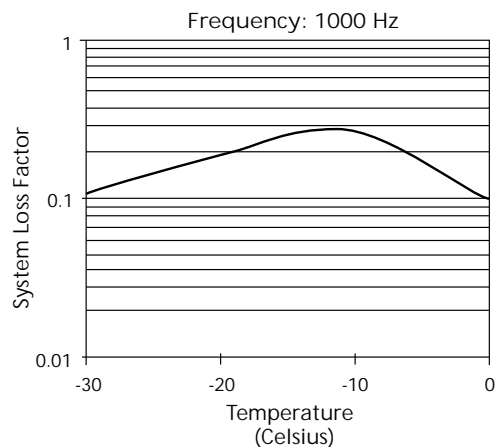
Dynamic Damping Properties ADC-124 applied to 40-mil aluminum



System Loss Factor vs Temperature
ADC-124 Aircraft Damping Composites
Applied to 40-mil Aluminum



System Loss Factor vs Temperature
ADC-124 Aircraft Damping Composites
Applied to 40-mil Aluminum



System Loss Factor vs Temperature
ADC-124 Aircraft Damping Composites
Applied to 40-mil Aluminum

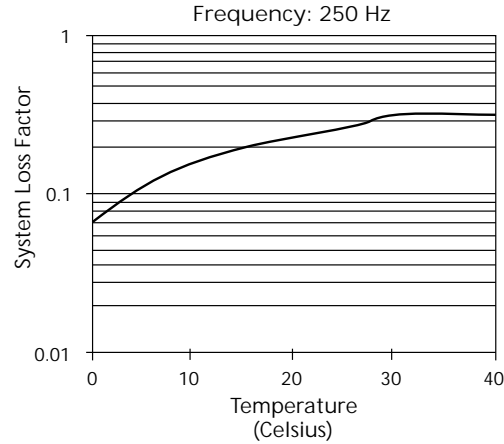
Physical Properties

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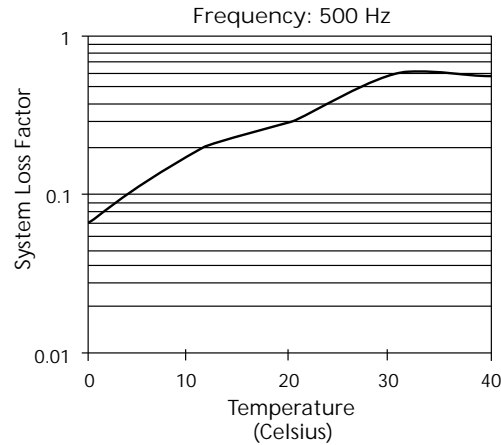
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(ADC-006) 17 lb/in
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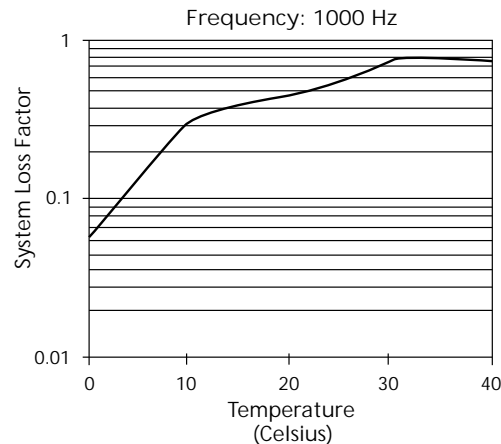
Dynamic Damping Properties ADC-006 applied to 40-mil aluminum



System Loss Factor vs Temperature
ADC-006 Aircraft Damping Composites
Applied to 40-mil Aluminum



System Loss Factor vs Temperature
ADC-006 Aircraft Damping Composites
Applied to 40-mil Aluminum

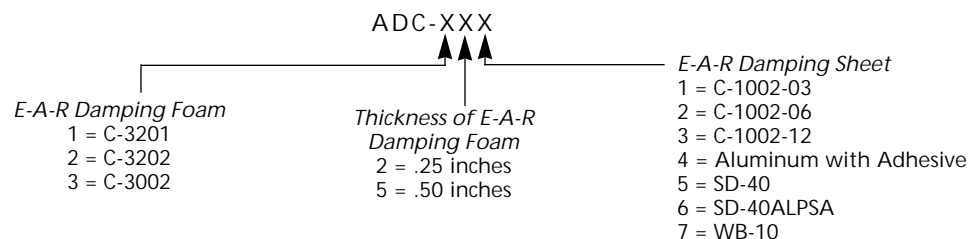


System Loss Factor vs Temperature
ADC-006 Aircraft Damping Composites
Applied to 40-mil Aluminum

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 of a particular purpose.

<i>ADC Composites</i>	<i>Composite Description</i>	<i>Weight (lb/ft²)</i>	<i>Dimensions (inches)</i>
ADC-005	Trim and bulkhead damping sheet composed of a 0.040-inch-thick damping sheet backed with a pressure-sensitive adhesive.	0.37	54 x 48
ADC-006	Trim and bulkhead high performance damping composite composed a 0.040-inch-thick damping sheet faced with a 0.005-inch-thick aluminum foil and backed with a pressure-sensitive adhesive.	0.44	27 x 48
ADC-124	Low-temperature skin damping composite composed of a 0.250-inch-thick damping foam faced with a 0.005-inch-thick aluminum foil and backed with pressure-sensitive adhesive.	0.22	27 x 48 20 sheets per box
ADC-224	Mid-temperature skin damping composite composed of a 0.250-inch-thick damping foam faced with a 0.005-inch-thick aluminum foil and backed with pressure-sensitive adhesive.	0.22	27 x 48 20 sheets per box
ADC-324	Cabin-temperature damping composite composed of a 0.250-inch-thick damping foam faced with a 0.005-inch-thick aluminum foil and backed with pressure-sensitive adhesive.	0.25	27 x 48 20 sheets per box
ADC-125	High performance, low-temperature skin damping composite composed of a 0.250-inch-thick damping foam faced with a 0.040-inch-thick damping sheet and backed with a pressure-sensitive adhesive.	0.51	54 x 48
ADC-126	High performance, low-temperature skin damping composite composed of a 0.250-inch-thick damping foam faced with a 0.040-inch-thick damping sheet faced with a 0.005-inch-thick aluminum foil and backed with a pressure-sensitive adhesive.	0.59	27 x 48
ADC-226	High performance, mid-temperature skin damping composite composed of a 0.250-inch-thick damping foam faced with a 0.040-inch-thick damping sheet faced with a 0.005-inch-thick aluminum foil and backed with a pressure-sensitive adhesive.	0.59	27 x 48
ADC-152	High performance, low-temperature skin damping composite composed of a 0.500-inch-thick damping foam faced with a 0.060-inch-thick damping sheet and faced with a 0.005-inch-thick aluminum foil and backed with a pressure-sensitive adhesive.	0.67	54 x 48
ADC-352	High performance, cabin-temperature skin damping composite composed of a 0.500-inch-thick damping foam faced with a 0.060-inch-thick damping sheet backed with a pressure-sensitive adhesive.	0.67	54 x 48
ADC-156	High performance, low-temperature skin damping composite composed of a 0.500-inch-thick damping foam faced with a 0.040-inch-thick damping sheet and faced with a 0.005-inch-thick aluminum foil and backed with a pressure-sensitive adhesive.	0.72	27 x 48

Part Nomenclature:



The first digit of the part number defines the type of E-A-R damping foam used in the composite. The second digit defines the thickness of damping foam used, and the third digit defines the type of E-A-R damping sheet.