

# Beech Aircraft Corporation



Wichita, Kansas

SPEC. NO. P.S. 251 A

## SPECIFICATION

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### SOUND DEADENER MATERIALS AND APPLICATION

(Inactive for Future Design, September 30, 1953)

#### 1. SCOPE

1.1 Purpose.- This specification establishes the requirements for the materials and application of sound deadener on Beech airplanes.

#### 2. APPLICABLE SPECIFICATIONS

2.1 None

#### 3. REQUIREMENTS

3.1 Materials.- The materials used shall:

- (a) Not exceed a surface density of .12 lb/ft<sup>2</sup> (dry) for panels up to .025 thick.
- (b) Increase the natural damping rate of the panel ten to one at 65° F. or at least a Geiger Number 16 deadener rate.
- (c) Cling tenaciously on the surface to which it is applied and resist being loosened by vibration, moisture, gasoline, oil, etc.
- (d) Be readily applicable by means of:
  - (1) A pressure gun for semi-liquid form.
  - (2) A permanently deformable cement for sheet form.
- (e) Become permanent and fire resistant within 24 hours after application.

3.1.1 Vendor Information.- The following proprietary materials conform to the above requirements:

Semi-liquid: EI-244 sound deadener

Minnesota Mining and Manufacturing Company  
Detroit, Michigan

8-11

DATE ISSUED	DATE REVISED	WRITTEN	APPROVED	CHIEF ENGINEER	CHIEF ENGINEER
7-25-46	10-6-52	H. H. Smith 10-10-52	H. H. Smith	H. H. Smith 10-10-52	[Signature]

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Sheet: Vibeston Vibration Damping Laminite

U.S. Rubber Company  
Development Department  
Passaic, New Jersey

Consist: EC-711 or EC-16A

Minnesota Mining and Manufacturing Company  
Detroit, Michigan

#### 3.2 Application:

3.2.1 General.- One application of sound deadener shall consist of a surface coating of either semi-liquid or sheet material in the thicknesses specified in the following subparagraphs. Approximately one gallon of semi-liquid material is required for 80 square feet of coverage.

3.2.1.1 Large Panels (Over 130 Square Inches).- One application of sound deadener on large panels shall be about 1/16-inch thick in the center of the panel feathered to about zero at the edges.

3.2.1.2 Medium Panels (50 to 130 Square Inches).- One application of sound deadener on medium panels shall be about 1/32-inch thick in the center of the panel feathered to about zero at the edges.

3.2.1.3 Small Panels (Smaller than 50 Square Inches).- No sound deadener is applied to small panels.

3.2.1.4 Curved Panels.- One application of sound deadener on large panels with a definite curvature shall be about 1/32-inch thick in the center of the panel feathered to about zero at the edges. No sound deadener is applied to medium and small panels with a definite curvature.

#### 3.2.2 Model 18:

3.2.2.1 Standard Commercial and ECAP Soundproofing.- Apply one application on the pilot compartment side walls, belly, and the area on the forward side of Bulkhead No. 5 below the pilots' floorboards. Apply one application on the cabin side walls, ceiling, and belly.

DATE ISSUED	DATE REVISION	WRITTEN	APPROVED	CHIEF DESIGNER	CHIEF ENGINEER
7-25-46	10-6-52	Hellman 10-16-52	H. K. Bennett	Hellman 10-16-52	Adolf

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3.2.2.2. Special Soundproofing.— Apply two applications on the pilot compartment side walls and one application on the belly and the area on the forward side of Bulkhead No. 5 below the pilots' floorboards. Apply two applications on the cabin side walls, ceiling, and belly.

3.2.2.3. Super Soundproofing.— Apply two applications on the pilot compartment side walls and one application on the belly, nose, aft face of Bulkhead No. 3 ceiling, and the area on the forward side of Bulkhead No. 5 below the pilots' floorboards. Apply two applications on the cabin ceiling, side walls, and belly. Apply one application on the baggage compartment side walls, ceiling, and bulkheads. Apply two applications to the cabin doors.

3.2.2.4. Army and USAF Soundproofing.— Except for Navy SEB-1 aircraft, apply one application on the pilot compartment side walls, belly, and the area on the forward side of Bulkhead No. 5 below the pilots' floorboards, and the forward side of Bulkhead No. 3. Apply one application on the cabin side walls, ceiling, and belly. Apply one application on the aft face of Bulkhead No. 9.

3.2.2.5. SEB-1 Aircraft.— Apply one application on the pilot compartment side walls and belly.

### 3.2.3 Model 35:

3.2.3.1. Standard Soundproofing.— Apply one application in the cabin area on the ceiling; left side, right side and belly of the fuselage skin; lower portion of the door; aft side of the firewall; underside of the skirt; and on the forward side of the bulkhead web at Fuselage Station 151.000 above Water Line 110.623 and on the aft side below Water Line 110.625. Do not apply sound deadener to the inner side of the baggage door.

### 3.2.4 Model 50:

3.2.4.1. Standard Soundproofing.— Apply one application to the inside surface of the skin between Station 73 and Station 211, except for the portion of the top aft of the windshield and above the line of the top of the windows. Include the inside of the baggage compartment door and the lower portion of the entrance door.

APPROVED:

*James M. Hite*  
Air Force Quality Control Representative

DATE ISSUED	DATE REVISION	WRITER	APPROVED	CHIEF ENGINEER	CHIEF DESIGNER
7-25-46	20	<i>Hellman</i> 19-10-51	<i>H. J. Forest</i>	<i>Hellman</i> 10-10-51	<i>[Signature]</i>

