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Acousta-Stuf Polyfill 1 lb. Bag

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Acousta-Stuf Nylon Fiber by Mahogany Sound Instruction Sheet

Acousta-Stuf is a nylon polyamide fiber specifically designed and manufactured for sound absorption and damping in speaker enclosures, bass attenuation traps, and spot absorption panels. Each individual fiber has a tri-lobal shape and small diameter (only 48 microns) to create maximum surface area with minimum mass. In addition, each fiber is manufactured to have 8-16 crimps per inch. This unique construction allows Acousta-Stuf to couple with moving air (sound waves) more effectively, giving it better damping properties than standard polyester fiberfill, Dacron batting, or pillow stuffing. Acousta-Stuf is made in the USA, by a leading textile manufacturer. Its consistent construction and reliable performance has made Acousta-Stuf a staple in the high end audio industry.

Sound Absorption Characteristics:

The sound absorption characteristics of Acousta-Stuf is dependent on the packing density. Loosely packed Acousta-Stuf is recommended for low frequency speaker enclosures for light damping and to minimize ringing without significantly affecting the resonant system. For midrange and higher frequency enclosures where the rear radiation of the driver needs to be eliminated as much as possible Acousta-Stuf should be densely packed for maximum sound absorption. A dense pack is also recommended for bass traps and absorption panels.

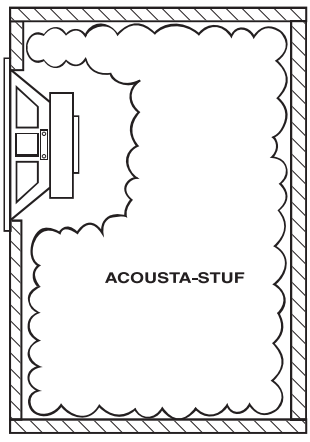
How To Use Acousta-Stuf:

Acousta-Stuf has a natural tendency to expand and hold its shape. Acousta-Stuf is densely packed for shipping purposes, so before use it will need to be fluffed, or loosely teased, to an even fluffy consistency. Use 3M 77 Spray Adhesive (or any high quality fast drying spray adhesive) to attach wads of Acousta-Stuf to the enclosure walls and it will stay right where you put it. In most cases some experimentation will be necessary to achieve the optimum stuffing amount and density.

Note: With any enclosure, make sure that Acousta-Stuf will not interfere with the operation of the driver or impede any vents necessary to provide proper cooling for the driver.

Sealed Low Frequency Enclosures:

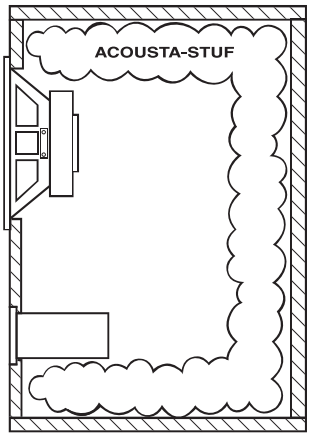
For sealed systems the entire enclosure can be completely filled loosely with Acousta-Stuf for standard damping and sound absorption. 1/2 pound per cubic foot is suggested. Also, in some cases the enclosure can be packed more densely give the same effect as lowering the Q of the system, similar to making the enclosure larger (but lowering the overall efficiency at the same time).



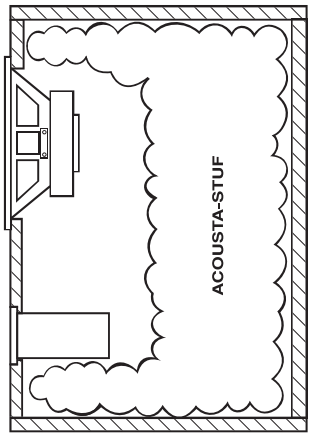
Sealed Enclosure Stuffing

Vented Low Frequency Enclosures:

For vented enclosure Acousta-Stuf is generally used to line the inside walls of the enclosure. Vented enclosures can be filled, but care must be taken to ensure that there is an open path between the driver and the vent. 1/4 to 1/2 pound per cubic foot is recommended. Dense packing vented enclosures is not recommended, this will only take up space and effectively make the enclosure smaller.



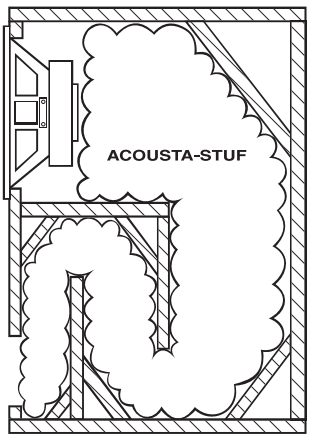
Vented Enclosure Lined



Vented Enclosure Filled

Transmission Line Enclosures:

Transmission line enclosures should be stuffed almost completely, from behind the driver to the opening of the line. The final density of the stuffing can vary from one design to the next. In some cases, a varied density will give the best results, for example loosely packed behind the driver to densely packed near the of the line. 1 pound per cubic foot is recommended for transmission line designs to give you plenty of material to experiment with.



Transmission Line Stuffing

Occupational Control Procedures

Eye Protection: Acousta-Stuf does not cause significant eye irritation or toxicity to require any special eye protection. But, you should avoid eye contact as a good industrial practice.

Skin Protection: Acousta-Stuf fiber does not present significant skin concern.

Respiratory Protection: Avoid breathing dust.

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Acousta-Stuf Nylon Fiber by Mahogany Sound Material Safety Data Sheet

Chemical Name: Adipic acidhexamethylenediamine fiber

Freight Classification: Fiber, Synthetic

Fire Protection Information

Flash Ignition Temp: 581° - 592°F
Method: ASTM-D 1929-77
Auto Ignition Temp: 905°F
Method: ASTM-D 1929-77
Extinguishing Media:
Water or any other Class A extinguishing agent.
Special Firefighting Procedures:
Firefighters and others who may be exposed to vapors or products of combustion should wear self-contained breathing apparatus and full protective clothing.
Hazardous Decomposition Products:
At temperatures above 660°F (or 349°C), decomposition products may include carbon monoxide, carbon dioxide, hydrogen cyanide, nitrogen oxides, and undefined hydrocarbons.

Health Effects Summary

To avoid misunderstanding, the data given in this section should be interpreted only by individuals trained in the evaluation of this type of information.
Human Experience: Dermal contact is the primary route of occupational exposure to nylon fiber. This material has not been reported to cause any significant adverse health effects. Due to its chemical and physical properties, nylon fiber does not appear to possess any toxological properties which would require any special handling other than good industrial hygiene and safety practices employed with any material of this type.
Toxicity Data: No toxicity studies have been conducted on this fiber since no toxological information was found in a reasonably extensive search of scientific literature.
Additional Info: Thermal decomposition products of nylon have been reported to be irritating to the mucous membranes and respiratory tract.

Physical Data

Appearance: Clear or White
Odor: Essentially odorless
Melting Point: 490° - 510°F
Specific Gravity:1.14
Solubility: Slightly soluble in boiling water. If fiber is dyed, water temperature should be about 110° - 120°F
Waste Disposal: Nylon Fiber may be disposed of in an approved incinerator or landfill in compliance with all applicable local, state, and federal regulations. Consult your attorney or regulatory officials for information on such disposal.

Additional Comments

Nylon is man-made fiber and it is not biodegradable, but it can be recycled.

Disclaimer:

Mahogany Sound makes no representation as to the completeness or accuracy thereof. This information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Mahogany Sound be responsible for damages of any nature resulting from the use or reliance upon thisinformation.

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Acousta-Stuf Specifications by Mahogany Sound

1. What It Is: Nylon Polyamide Sound Damping Fiber
2. Its Form: Loose Bulk Fiber Sold By The Pound
3. Its Appearance: White Fiber (Can Be Dyed)
4. Stuffing Density: 1/2 pound per cubic foot for most applications.
5. Fiber Diameter: 48 Microns
6. Fiber Shape: Tri-Lobal
7. Young's Modulus: 250 PSI
8. Specific Gravity: 1.14
9. Crimps Per Inch: 8 - 16
10. Fiber Denure: 18
11. Moisture Absorption: 4%
12. Melting Temperature: 490° - 510°F
13. Ignition Temperature: 581° - 592°F
14. Auto Ignition Temperature: 905°F
15. Extinguish With: Water or Other Class A Agent
16. Skin Irritation: None
17. Odor: None
18. Toxicity: None
19. Health Hazards: None

Sound Absorption Characteristics:

Acousta-Stuf is used as a sound absorption material in speaker systems, spot absorption panels, and bass attenuation traps. It offers better absorption characteristics across a wider frequency range than wool, because it has much more surface area. Acousta-Stuf gives your speakers deeper bass, cleaner midrange, and more dynamic extension.