



ACOUSTIC SOUND PROOFING USING ACTIVATED CHARCOAL

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ABSTRACT

This report will mainly focus on procedure to making sound absorbent material using activated charcoal and certain other components and using it.

This would be helpful in noise reduction in various different environments. Has very wide spread applications various different fields. Can be used in auditoriums, meeting halls, hospitals, etc.

Keywords: *activated charcoal, noise reduction, porous nature.*

I.INTRODUCTION

We wanted to do something for the common people. This research started with the question of how can we reduce the sound around us cheaply. After searching the web, we found activated charcoal to have a lot of different properties.

Charcoal is a porous substance. Charcoal is the lightweight black carbon and ash residue produced by removing water and other volatile constituents from animal and vegetation substances. Charcoal is usually produced by slow pyrolysis, i.e. the heating of wood or other substances in the absence of oxygen.

The main aim of the experiments was to see the absorption of sound by using Activated Charcoal.

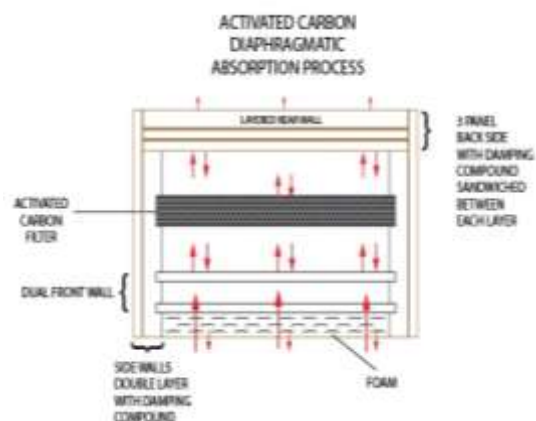
II.PROCEDURE

1. Take activated charcoal granules or activated charcoal powder. If granules convert it into powder. A blender can be used for this purpose.
2. Take a cotton sheet, flatten well to make the bed.
3. Mix the Fevicol with water in about 1:4 ratio to make a thin paste. (Here binding agent).
4. Sprinkle the Fevicol paste on the cotton bed uniformly.
5. Sprinkle the charcoal powder on the cotton bed uniformly to cover the whole surface.
6. Let it dry
7. The product obtained can be directly used.



III.OBSERVATION

- 1.Only Cotton Base- 42.7dB
- 2.Cotton Base with Activated Carbon layer and Activated Carbon Granules.



IV.PRESENT APPLICATIONS

Most sound absorbing technologies in the market place use three major classes of materials to absorb sound energy with. Acoustic foams have been around for years and most work for absorbing middle and high frequencies. They are light weight and fairly inexpensive. Building insulation is another popular form of sound absorbing material which is also light weight and inexpensive. Fiberglass and rock wool are two common types of this material. Fabrics have also been used to absorb sound energy and a well designed and built drapery system can do wonders for a large glass door or window. These materials are taken by different companies and made into units that can be hung on walls or placed in rooms where absorption is needed and required.

Using the activated charcoal coated cotton bed would be the cheapest option of all the above-mentioned methods. This is so as all the materials used in the making of this product are cheaply and easily available almost everywhere.



V.CONCLUSION

1. The reduction in the sound level was of about 18%.
2. Comparing the observations we determine that Activated Carbon is a good sound absorbent.