

International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)

International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal

Volume 4, Issue 4, April 2024

Noise Pollution Control by using Agro Waste Material

Prof. Radha Ajay Powar¹, Sakshi Sarjerao Khade², Sahil Ashok Patil³, Priyanka Raju Gaikwad⁴ Department of Civil Engineering^{1,2,3,4}

D. Y. Patil Technical Campus, Talsande, Kolhapur, Maharashtra, India

Abstract: Increasing use of electrical and mechanical appliances at home and industries has created a concern for noise pollution created by them. Urbanization and heavy growth of construction work in every neighborhood further emphasize the need of new technologies for noise reduction. Noise created by different machines can be controlled either by suppressing the noise generating factors or by using the noise proofing agro materials which help to reduce the acoustic wave's energy by blocking or absorption. Maize, rice straw, and coconut fiber these agro products help to reduce the noise pollution control using agro waste involves leveraging agricultural residues to create effective sound-absorbing solutions. This abstraction encompasses the development of materials like acoustic panels, barriers, or insulation from agro waste, providing sustainable and eco-friendly methods to mitigate noise pollution in diverse settings.

Keywords: Agro waste materials, maize, rice straw, rice husk, gypsum, natural latex

BIBLIOGRAPHY

[1]. IS: 2542 (Part 3 Sec 1 to 8) METHODS OF TEST FOR GYPSUM PLASTER, CONCRETE AND PRODUCTS, 1981.

[2]. IS : 1734 (Parts 1 to 20) METHODS OF TEST FOR PLYWOOD, 1983

[3]. Mohanan v, sharma o, chhapgar a. Sound absorption by conical absorber and glass wool layer combination 1987.

[4]. Khedari j, charoenvai s, hirunlabh j, teekasap s. New lowcost insulation particleboards from mixture of durian peel and coconut coir, 1998.

[5]. Yang hs, kim dj, kim hj. Rice straw-wood particle composite for sound absorbing wooden construction materials. Bio resource technology, 2003.

[6]. Zulkifli r, nor mjm, ismail ar, nuawi mz, tahir mfm. Acoustical properties of multi-layer coir fibres sound absorption panel. Eur j sci res, 2008.

[7]. Zulkifli r, nor mjm, ismail ar, nuawi mz, tahir mfm. Effect of perforated size and air gap thickness on acoustic properties of coir fibre sound absorption panels. Eur j sci res 2009.

[8]. Ersoy s, kucuk h. Investigation of industrial tea-leaf-fibre waste material for its sound absorption properties, 2009.

[9]. Mohd Yuhazri, Y., Kamarul, A.M., Haeryip Sihambing, Jeefferie, A.R., Haidir, M.M., Toibah, A.R., Rahimah, A.H., and Tajul, A.A.The potential of agriculture waste material for noise insulator application toward green design and material, 2010.

[10]. Zwikker, C. and Kosten, C.W. Elsevier. A study on the acoustical absorption behavior of coir fiber using miki model, 2011.

[11]. Prof. M.R. Pranesh, Mr. Nagendra K.S. Ms. Sowjanya H.S. Mr. Sunil Kumar K. Ms. Tejaswini Development of noise absorbing composite materials using agro waste products, 2016.

[12]. Zwikker, C. and Kosten, C.W. Elsevier Characterization of Acoustical Properties of Felt and Carpet Made of Natural and Environmentally Friendly Materials, 2017.

[13]. K. Nagasahadeva Reddy; B. Chidambar Reddy, M. Bhavya, J. Sailaja, J. Jaisai Sound Reduction Technology by using Agro waste, 2020.

DOI: 10.48175/IJARSCT-17420

