

Effect Of Banana Midrib Sap Fiber As A Substitute For Glasswool On Temperature And Noise Levels On 2014 Beat Fi Motorcycles

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ABSTRACT

The purpose of this study was to find out how to manufacture 2-wheeled vehicle glasswool exhaust from banana midrib sap fibers, to determine the temperature and noise level of the exhaust using standard glasswool and banana midrib sap fibers on Beat FI 2014 motorcycles. The research method used was an experimental method. The results of the study that the best max noise level (dB) was found in the banana midrib sap fiber, which was 71.2 dB at 1200 rpm. The percentage reduction in noise level was achieved in the glasswool treatment of banana midrib sap fiber at 2000 rpm, which was 7.80%. This value is below the threshold set in PERMEN LH no. 07 of 2009. So it can be concluded that the fiber of the banana midrib sap has a stronger damping power than the standard manufacturer's glasswool. The best max temperature (°C) is found in the banana midrib sap fiber, which is 42.3°C at the initial temperature of the silencer (t_1) and 30.7°C at the last temperature of the silencer (t_2) at 1200 rpm. The lowest average increase in exhaust temperature is -7,4°C/minute at 1200 rpm in the banana midrib sap fiber. The biggest percentage of temperature reduction when the exhaust is treated with glasswool banana midrib sap fiber at 1200 rpm is 67,11%. So it can be concluded that banana midrib sap fiber absorbs more heat, and makes the heat that comes out of the muffler lower than standard glasswool, however standard glasswool is more durable or long lasting compared to banana midrib sap fiber. This is because the banana midrib sap fiber is flammable and causes an unpleasant odor.

Key words: Noise, Temperature, Banana Midrib Sap fiber, Standard Glasswool