Conference Proceedings Volume 2544, Issue 1 AIP Conference Proceedings

Development of sustainable lightweight heat insulation panel from elastomeric and polymeric waste

Abstract

The project present about development lightweight sustainable heat insulation panel from waste material. Scrap tyres and plastic waste was used for this purpose. The fabrication process started with scrap tyres is being cut and blends into smaller pieces. Then, the pieces of the material of rubber from scrap tyres are mixed together with the plastic waste material polyethylene at different composition. The mixture of the materials is pressed together using hydraulic press machine and heat are applied to melt the material in order to create the panel by using the mould. There are few tests that are conducted to the panel to find out its weight, volume and density. In order to determine the most suitable sample among the sample, a test is carried out to each sample. This test involved the black box or wooden box and the container by using the thermocouple and probes to measure the temperature. From the both test using black box and the container, the most suitable sample that excellent in insulating the heat is the sample with the bigger composition of rubber which are sample with 95% of rubber and 5% of polyethylene polymer.