Research

Dr. Nur Farhayu produces lightweight concrete panels from coal waste

Thu, 09/17/2020 - 12:08

15 September 2020 - A researcher of the Faculty of Civil Engineering Technology (FTKA), Universiti Malaysia Pahang (UMP), Dr. Nur Farhayu Ariffin, 33, has used 100% waste from coal power plants to produce lightweight concrete panels.

According to her, this waste consists of coal bottom ash and fly ash.

“Coal bottom ash is used to replace the use of stone and sand while fly ash is used to replace 20 percent cement.

“This product is used as one of the materials in the building construction structure.

“With this product, the structure of buildings, especially walls, can be lighter, and it reduces the labour cost.

“This study was started in 2018 and is expected to be completed in 2022,” she said.

She said this initiative was made possible with fellow researchers from Universiti Teknologi Malaysia (UTM), UMP, Universiti Tun Hussien Onn Malaysia (UTHM) and Perunding Teknik Padu Sdn. Bhd. under the CRG grant (RDU182403).

“The study led by Dr. Nor Hasanah Abdul Shukor Lim from UTM aims to be commercialised and marketed internationally.

“The other researchers involved are Associate Professor Khairunisa Muthusamy, Ir. Dr. Fadzil Mat Yahaya, Dr. Sharifah Maszura Syed Mohsin, Ir. Dr. Saffuan Wan Ahmad, Abdullah Saad Ali Montaser and Muhammad Nor Syahrul Zaimi.

“Our plan in the future is to find a company that can produce this product in large quantities.

“The estimated cost is RM125/m2 and we hope that this product will be accepted by the contractors and used soon,” she said.

This research won a gold medal and the UMP Holdings Invention Special Award in the Creation, Innovation, Technology & Research Exposition (CITREx) 2020 on 12-13 February 2020.

By: Safriza Baharuddin and Nur Hartini Mohd Hatta, The Office of SUARA UMP

Translation by: Dr. Rozaimi Abu Samah, Engineering College/Faculty of Chemical and Process Engineering Technology

- 151 views

View PDF