

Comparative Investigation on Physical and Mechanical Properties of Water hyacinth and Cattail fiber Reinforced epoxy Hybrid Composites

Tuesday, 22 May 2018 15:45 (15 minutes)

In this research, the study to investigate and compare the physical and mechanical properties of water hyacinth and cattail fiber reinforced epoxy hybrid composites.

The composites were fabricated by hand lay-up process. The effect of investigation was analyzed via density, moisture absorption, microstructure, tensile strength, flexural strength and impact strength tests for total fiber contents, 15 wt% and different water hyacinth-cattail fiber ratios (10:0, 8:2, 6:4, 4:6, 2:8 and 0:10).

The results showed that the addition of water hyacinth and cattail fiber in epoxy, improves density, tensile strength, flexural strength and impact strength, but decrease moisture absorption. The analysis of the microstructure found that surface fracture behavior and void between the fiber and matrix of the composites using scanning electron microscope.

Primary author: Mr KONGKAEW, Pongsathorn (Program of Physics, Faculty of Science and Technology, Rajabhat Maha Sarakham University.)

Co-authors: Ms NAMSAK , Sawanya (Department of Science, Nongphokwittayalai School, Nong Phok, Roi-Et 45210 Thailand); Mrs PHARANAT, Wanida (Program of Physics, Faculty of Education, Rajabhat Maha Sarakham University, Muang Maha Sarakham, Maha Sarakham 44000 Thailand)

Presenter: Mr KONGKAEW, Pongsathorn (Program of Physics, Faculty of Science and Technology, Rajabhat Maha Sarakham University.)

Session Classification: A013: Materials Physics (Poster)

Track Classification: Material Physics and Functional Materials