A Shock Absorbing Pad Made from Stem of Thai Weed

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Nowadays, goods are packaged and delivered by different types of transportation. Synthetic materials like polystyrene, which is high cost and not environmental friendly, was used to reduce damage from buming force. We observed that the inner-tissue of Siam weed had similar structure to foam, giving us the idea of using it as shock absorbing material in place of foam The aims of this project were to study the properties of the inner tissue of Siam inner weed, the possibility to use it to produce shock absorbing material. We found that there were different sizes of the inner tissue of Siam weed. We mixed them with latex glue, forming shock absorbing sheets and tested their shock absorbing ability. The sheets made from small size grain of the inner-tissue of Siam weed could resist the bumping force best. Then we used different kinds of mixer such as latex glue, powder glue and Para rubber glue at the same proportion. Latex glue could resist the bumping force most and the ratio of inner-tissue of Siam weed to latex glue at 10:4 produced highest resistance to the applied bumping force, comparable to the synthetic foam. Our material was produced in rectangular shape showed comparable resistance to the synthetic worm shaped foam when tested by the standard of ASTM D-5276 with repeated dropping at more than 10 times. Thus, the material made from the inner-tissue of Siam weed mixed with latex glue can be used as cost saving and environmental friendly shock absorbing material.

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