Egg Shell Plaster

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This study aims to use organic waste and materials from natural sources to produce eco-friendly patching products as an alternative to the existing plaster in the market. Presently, limestone hills slowly disappear because there is a demand for limestone to make white cement. ‘Egg Shell Plaster’ can become a solution to this problem. Dry egg shells were ground into powder. It was mixed with cassava flour and distilled water in different proportions. Two different methods of preparation (with and without heating) were conducted and the product was tested. The component ratio by mass of 1:8:3 (cassava flour : egg shell powder : water) with the mixture heated over a flame, produced the best results. From the impact test, it could withstand 400 Nkg-1. The moisture retention was only 5.5 % after 10 minutes which prevents the growth of algae and moulds. This product has a beautiful finishing on ceramic tiles and mosaic; suitable to patch small holes on the wall, crevices along door frames, the edges of the sink or bathtub. The advantage in retail packaging is suitable for domestic use (one-time small repairs). ‘Egg Shell Plaster’ is handy and economical. The proposed marketing price for gel-form is MYR1.20 (25ml reusable syringe) while the dry form is MYR0.60 (20g packet); both providing about 300% profit. It is eco-friendly and not harmful to consumers compared to silicone sealants and white cement. This innovative product is a potential lucrative industry providing jobs for people all over the world; more importantly a caring effort towards sustainability.

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