

PREPARE REGENERATE LEATHER FROM WET BLUE SHAVING WASTE

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by

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ABSTRACT

High amount of solid waste containing chromium generates in wet blue leather processing and wet blue shaving waste accounts for a significant amount. This study was carried out at Ceylon Leather Products PLC to develop a method for reutilization of wet blue shaving waste and determine the best resin/ resin combination. Five composite samples of wet blue shaving wastes (80g each) were selected to mix with four types of commercially available resins to prepare five treatment one (polyvinyl acetate), treatment two (1 Compact resin: 1 Acrylic resin), treatment three (1 Compact resin : 1 acrylic resin: 1 Polyurethane resin), treatment four (Compact resin, acrylic resin 1:1 ratio and polyvinyl acetate resin with 1:1 ratio) and treatment five (Compact resin, acrylic resin 1:1 and polyvinyl acetate resin with 2:1 ratio). Treated samples were packed into blocks (12 cm²), air dried (2 days) and pressed (110°C, 98kPa) using embossing machine. Tensile strength, cracking property, pigment absorption and water absorption were measured and data were analyzed using one way ANOVA at 95% significant level to determine the best resin/combination. According to the results, wet rub value, tensile strength and cracking property have shown significant difference whereas dry rub and water absorption have not shown any significant. Further lowest water absorption (0.300±0 mg), highest tensile property (10.667±0.33 mm), wet rub value (3.667±0.33 N), and Dry rub value (3.667±0.33 N) were recorded for treatment five and highest cracking property was observed in treatment one (18.53±1.40kg) followed by treatment five (11.10±1.40kg). Results revealed that treatment five demonstrates the best properties and suitable to prepare regenerated leather from wet blue shaving waste which has majority of sound properties for utilizing in leather based products manufacturing.

Key words: Leather, Resin, Reutilization, Wet blue shaving waste