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EFFECTS OF SIZING AGENTS AND CROSSLINKING AGENTS ON TRANSPARENCY
AND STRENGTH OF GLASS FIBER REINFORCED POLYESTER

Miss Sasithorn Khajornwongpaisarn

A Thesis Submitted in Partial Fulfillment of the Requirements
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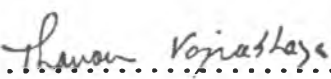
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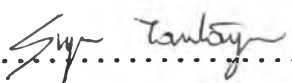
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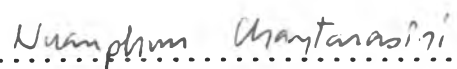
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In this research, sizing agents that composed of three types of film-forming agents : polyester emulsion from fumaric acid and maleic anhydride and the effect of added PVAc emulsion were studied. The effect of types and quantity of film-forming agents on characteristics of glass fibers, transparency and strength of glass fibers reinforced polyester were investigated combine with the effect of two types of crosslinking agent, styrene and methyl methacrylate (MMA), that mixed with polyester in the fabrication. By using styrene as crosslinking agent and both of the polyester emulsion as film-forming agents, the laminates have 86% light transmission. At 0.5% fumaric acid and 3.5% maleic anhydride polyester emulsion, the laminates have highest strength. By using MMA as crosslinking agent and both of the polyester emulsion as film-forming agents, the laminates have 87% light transmission. At 5.0% of both of the polyester emulsion, the laminates have highest strength, When 5.0% PVAc emulsion was added with both of the polyester emulsion, the light transmission and strength of the laminates were reduced. Therefore, the most suitable film-forming agent for the laminates in this research was 5.0% polyester emulsion from maleic anhydride by using methyl methacrylate as crosslinking agent.

ภาควิชา..... สาขาวิชา.....
สาขาวิชา.....
ปีการศึกษา.....

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