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## Influence of processing parameters on the impact behaviour of glass/polyamide-6 composite

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### 10 Abstract

This study aims to investigate the low-velocity impact response and post-impact flexural behaviour of glass/polyamide-6 (G/PA-6) composite. G/PA-6 composites with a layup configuration of  $[0_2, 90_2]_s$  were prepared via press-forming technique. Composite samples were developed using four different processing conditions, by modifying compression pressure and heating temperature. Local variations of fiber volume and porosity fraction were noticed for samples developed in each processing conditions. On the investigated samples, damages were induced by using 35 joule of drop weight impact to investigate the impact resistance of samples with respect to different processing conditions. The damage behavior and residual flexural strength was characterized using a micro-CT and three-point bending tests respectively. Furthermore, the influence of porosity fraction on the residual flexural strength were investigated. This paper will provide necessary fundamental knowledge for future selection of processing parameters in order to have enhanced impact performance.

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