



P-3-750

**EXPERIMENTAL AND ANALYTICAL STUDY ON HIGH VELOCITY IMPACT OF NANOCOMPOSITE
BASED ON GLASS FIBER/ POLYESTER/ NANOCCLAY**

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The present study is based on the experimental and analytical investigations of nanocomposites based on glass fiber/polyester/nanoclay laminate behavior under high velocity impact. These laminates were produced in different layer, 4, 8 and 12. High velocity impact tests were carried out on a single stage gas gun in different velocity range using harden steel hemispherical tip projectile with diameter of 8.7mm and weight of 11.54g. Ballistic limit velocities and residual velocity of the projectile for each layered combination were obtained experimentally, as well as from different analytical model predictions, and these were compared together in different thickness. Analytical predictions consist of models that were derived by Wen [1], Walker [2], Lopez-Puente [3], Morye [4] and a model base energy consistency law. All Predictions of these models in low number of layers was near to experimental result, but increasing in thickness by increasing in number of layers was lead increasing in difference between experimental result and prediction analytical models.