Evaluation of the Physico-Mechanical Properties of ABS Polymer for Automotive Applications

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This article presents an evaluation of the physico-mehcanical properties of ABS ()Acrylonitrile Butadiene Styrene) polymer, specifically the Terluran HH 112 BK grade, used in the production of instrument panel covers in the automotive industry. The study was motivated by observed dimensional inaccuracies of the part during final assembly, which prompted a detailed investigation into potential material-related causes. A series of laboratory experiments were conducted to assess the material s properties and compare them with values provided in the manufacturer s datasheet. The results revealed deviations in mechanical prformancee, particulary in stiffness and dimension stability, which were further influenced by conditions during transport to the final assembly plant. The study identifies key factors contributing to product deformation and provides recommendations for improving the reliability of polymer components under real-world automotive conditions.

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