

## **Development and Sound Absorption and Insulation Performance Evaluation of Nonwoven Fabric Material including Paper Honeycomb Structure for Insulator Covering Shelf Trim**

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**Abstract :** Insulator Covering Shelf Trim is one of the automotive interior parts located in the rear seat of a car, and it is a component that is the most strongly demanded for impact resistance, strength, and heat resistance. Such an Insulator Covering Shelf Trim is composed of a polyethylene terephthalate (PET) nonwoven fabric which is a surface material appearing externally and a substrate layer which exerts shape and mechanical strength. In this paper, we develop a lightweight Insulator Covering Shelf Trim using the nonwoven fabric material with a high strength honeycomb structure and evaluate sound absorption and insulation performance by using acoustic impedance tubes.

**Keywords :** sound absorption and insulation, insulator covering shelf trim, nonwoven fabric, honeycomb

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