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**IMIDAZOLIUM SALTS FOR IMPROVED INTERFACIAL ADHESION  
BETWEEN KEVLAR AND EPOXY RESINS**

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**Abstract:** Polyaramid fibers show poor interfacial adhesion when reinforcing epoxy resins due to their low surface energy, and the properties (e.g. toughness) and durability of these composites with regard to moisture and UV-degradation are dependent on interfacial adhesion. In this work, a novel surface functionalization method based on imidazolium salts was applied to Kevlar fibers. The fibers were initially pre-treated with acetone to remove surface sizing/residues, then, two imidazolium salts were used for fiber treatment, (MIm)<sub>2</sub>C<sub>5</sub>-2Br and BMIm-BARF. SEM images showed that these imidazolium salts adhered to the fibers. The adsorption of imidazolium salts on the Kevlar fibers increased roughness and consequently, the contact area with the epoxy resin. Pullout tests were performed to measure interfacial adhesion between Kevlar and a DGEBA-epoxy resin.

**Keywords:** Polyaramid, imidazolium salts, epoxy resins.