

# Recycled copper as the conductive filler in polyester composites

**ABSTRACT:** In this study, the effect of recycled copper on the electrical, mechanical and thermal stability properties of the polyester composites was investigated. Electrical conductivity results revealed that increasing in conductivity with increasing in filler loading. Percolation concentration was found at filler content of 20 vol. %. Increasing the amount of filler content led to a decreased in flexural strength and a corresponding increased in flexural modulus of elasticity. It was observed that the hardness of composites nonlinearly increased with increasing amount of filler. Thermogravimetric analysis (TGA) study showed an increment in thermal stability after the addition of recycled copper filler in polyester resin composites.