**CONDUCTING rGO BASED EPOXY CARBON FIBRE NANOCOMPOSITE FOR EMI SHEILDING**

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**ABSTRACT**

rGO based nanocomposites were prepared by simple hand lay-up process followed by vacuum bagging technique. A series of nanocomposites were prepared by varying the concentration of rGO (1%,3% and 5%). The prepared composites were characterized by SEM. The electrical properties in terms of conductivity, permittivity, permeability are obtained using precision impedance analyzer. The total shielding effectiveness is deduced and compared with respect to a reference baseline composite. The electrical conductivity of nanocomposites was found to be drastically increased as compared to that of the reference baseline composite at room temperature with improved EMI shielding properties. The EMI shielding effectiveness (SE) of nanocomposites was found to be increased with increase in rGO content and it was found to be absorption dominated, indicating rGO nanocomposites can be used as lightweight EMI shielding materials.

*Keywords: Reduced graphene oxide; precision impedance analyzer; Total shielding effectiveness*