

# EFFECTS OF MOISTURE AND TEMPERATURE ON THE MECHANICAL PROPERTIES OF GRAPHITE FIBER / EPOXY COMPOSITES.

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The study has been carried out to examine the aging mechanism of graphite fiber/epoxy composites due to moisture and temperature. According to the mechanical testing results of composites and their compositional elements, the mechanical properties of the fiber were not affected and those of matrix were decreased by the moisture and temperature effects. On the other hand the bonding strength of the interface was increased. It was also found out that the effect of the moisture was reversible. The above results had very good agreement with those of D.M.A test and SEM observation.

From the above results, we could conclude that the mechanical properties of composite materials were not affected by the moisture and temperature upto 48hours because the decreases of the mechanical properties due to moisture and temperature were compensated by the increase of the interfacial bond strength.