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DYNAMIC MECHANICAL BEHAVIOR OF GLASS FIBER-REINFORCED COMPOSITES

UDK: 620.168: 620.172.22

Composites have wide applications today due to good static and dynamic properties and superb strength to weight ratio. Composites are also very resistant to fatigue crack growth. This paper present the results of static and fatigue tests. During static strength tests, fatigue limit and strains were determined. Material used in the test was glass woven reinforced plastic (GWRP) with 0^0 /90^0 and $\pm 45^0$ orientation. Fatigue crack growth was also measured on this composite. All obtained results were used for assessment of fatigue lite of GWRP.

Key words: Composites; glass woven-epoxy; fatigue; fracture mechanics; fatigue crack growth;

DINAMIČKE KARAKTERISTIKE KOMPOZITA OJAČANIH STAKLENIM VLAKNIMA

Kompoziti danas imaju veoma široku primenu zahvaljujući svojim dobrim statičkim i dinamičkim osobinama i težini. Takođe su veoma otporni na zamor i lom usled zamora.
U radu su dati rezultati statičkih testova i testova na zamor. Preko statičkog testa izduženja, određena je granica razvlačenja i granica zamora. Materijal korišćen u eksperimentu je plastika (GWRP) ojačana staklenim vlaknima utkanim u pravcima $0^0/90^0$ i $\pm 45^0$.
Svi dobijeni rezultati su korišćeni za procenu veka materijala GWRP izloženog zamoru.

Ključne reči: kompoziti, staklom ojačani epoksiti, zamor, mehanika loma, lom pri zamoru.