

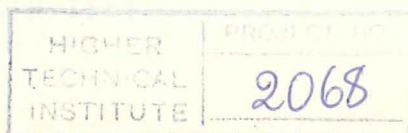
T H E O R E T I C A L   A N D   E X P E R I M E N T A L  
S T U D Y   I N T O   T H E   M E C H A N I C A L  
P R O P E R T I E S   O F   C O M P O S I T E S

B Y

N E O P H Y T O U   N E O P H Y T O S   N I K O U

P R O J E C T   R E P O R T   S U B M I T T E D   T O  
T H E   D E P A R T M E N T   O F   M E C H A N I C A L  
E N G I N E E R I N G   O F   T H E   H I G H E R  
T E C H N I C A L   I N S T I T U T E   N I C O S I A  
C Y P R U S   I N   P A R T I A L   F U L F I L L M E N T  
O F   T H E   R E Q U I R E M E N T S   F O R   T H E  
D I P L O M A   O F   T E C H N I C I A N   E N G I N E E R  
I N   M E C H A N I C A L   E N G I N E E R I N G

J U N E   1 9 9 2



A C K N O W L E D G E M E N T S

I WOULD LIKE TO EXPRESS MY SINCERE THANKS TO MY PROJECT SUPERVISOR MR. COSTA NEOCLEOUS, DR. ANDREA ALEXANDROU, MR. PAUL STAVRINIDES AND MR. PETROS PAPAPETROU FOR THEIR VALUABLE ASSISTANCE DURING THE EXECUTION OF THE PROJECT.

T H I S P R O J E C T I S D E D I C A T E D T O  
M Y P A R E N T S A N D B R O T H E R

## S U M M A R Y

This project as the title implies is one which investigates both theoretically and experimentally the mechanical properties of composites. The composites chosen for study are fiber reinforced plastics (FRP), due to their importance in engineering and their availability in Cyprus market. The objectives of the project are, to study and present theoretical and empirical formulations for estimating the mechanical properties of fiber reinforced plastics, to prepare and test suitable specimens and finally to compare theoretical and experimental results. Preparation and testing of the specimens was carried according to British standards. As it was expected, it was proved that by increasing reinforcement content mechanical properties of composites are increased. However by increasing reinforcement content some other properties such as weather and chemical resistance decrease so when fabricating composites great care should be taken to have optimum performance for the particular application. Finally it was appreciated that actual mechanical properties of F.R.P. can only be established with confidence by testing.

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