

# ICCST8

## 8<sup>TH</sup> INTERNATIONAL CONFERENCE ON COMPOSITE SCIENCE AND TECHNOLOGY

NOVOTEL HOTEL  
KUALA LUMPUR, MALAYSIA  
MARCH 22 - 24, 2011

### TOPICS

- Mechanics of composites
- Infrastructural of composites
- Non-destructive evaluation & characterisation of composites
- Fracture and fatigue of composites
- Numerical & mathematical modelling of composites
- Ceramic composites
- Metal-matrix composites
- Composite manufacturing
- Polymer composites
- Smart materials & structures
- Nano-composites
- Structural health monitoring in composites
- Biocomposites

### IMPORTANT DATES

Deadline for Abstracts.....October 15, 2010  
Deadline for Full Paper....November 15, 2010  
Early-bird registration.....November 30, 2010

#### ORGANIZED BY



DEPARTMENT OF MECHANICAL AND MANUFACTURING ENGINEERING,  
UNIVERSITI PUTRA MALAYSIA (UPM)

#### CO-ORGANIZED BY

DEPARTMENT OF AEROSPACE ENGINEERING, UNIVERSITI PUTRA MALAYSIA  
(UPM)

and  
ENGINEERING COMPOSITES RESEARCH GROUP, FACULTY OF ENGINEERING,  
UNIVERSITI PUTRA MALAYSIA (UPM)

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All accepted papers will  
be published in a journal **Key Engineering  
Materials** published by Trans Tech  
Publications. Inc. indexed by ISI in the  
"Web of Science" via the CPCI and other  
major indexes such as Ei, SCOPUS, CAS,  
etc. (www.scientific.net). **Selected papers**  
will be published in a special issue of  
**Applied Composite Materials (Springer)**  
and **Mechanics of Advanced Materials  
and Structures (Taylor and Francis)**.

### REGISTRATION FEES

By November 30, 2010 :.....USD 400  
After November 30, 2010 :.....USD 450  
Student registration :.....USD 200  
Local participant  
By November 30, 2010 :.....RM 900  
After November 30, 2010 :.....RM 1100  
Student by November 30 2010 :.....RM 500  
Student after November 30, 2010 :.....RM 600

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## **Polymer Based Filler Materials as Infill for GFRP Pile Connector**

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- Journal** [Key Engineering Materials](#) (Volumes 471 - 472)  
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### **Abstract**

Recently glass fibre reinforced polymer (GFRP) tubular piles have been developed for civil engineering applications instead of conventional concrete piles. Considering their suitable applications, the new polymer based filling materials are being developed at the University of Southern Queensland as a part of work done for timber pile rehabilitation. This ongoing project aims to replace portion of the deteriorated timber pile by using GFRP piles. Due to good compressive strength, pumpability and workability, the new polymer base materials are to be filled in between GFRP pile and existing timber pile base. An ongoing research program has been initiated to improve fundamental understanding of these materials and to provide the knowledge required for their broad utilization. In this development, sample trial mixes were considered based on several weight percentages of polymer resin, fly ash and sand. Material parameters such as compressive strength, stiffness, shrinkage and gel time were achieved from the experimental investigation. It has been found that most polymer based trial mixed fillers have high compressive strength and considerable plastic region with more than 10% strain. These results imply that the polymer based filling materials are suitable for both compression and tensile loading situations. However, the behaviour of fillers with GFRP pile connector under different loading conditions is yet to be fully understood.

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