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Structural Performance and Photothermal Recovery of Carbon Fibre Reinforced Shape Memory Polymer

H. M. C. M. Herath ^{a,b}, J. A. Epaarachchi ^{a,b}, M. M. Islam ^{a,b}, W. Al-Azzawi ^{a,b},
J. Leng ^{a,b,c}, F.Zhang ^c

^a School of Mechanical and Electrical Engineering, Faculty of Health Engineering and Sciences, University of Southern Queensland, Toowoomba, Australia

^b Centre for Future Materials, University of Southern Queensland, Toowoomba, Australia

^c Centre of Composite Materials and Structures, Harbin institute of Technology, Harbin, China

Corresponding Author: J. A. Epaarachchi, School of Mechanical and Electrical Engineering, Faculty of Health Engineering and Sciences, University of Southern Queensland, West Street, Toowoomba, QLD 4350, Australia, Email: Jayantha.Epaarachchi@usq.edu.au

Abstract

The shape-memory polymers (SMPs) have an interesting capability of keeping a temporary shape and then recovering the original shape when subject to a particular external stimulus. However, due to SMP's relatively low mechanical properties, the use of SMP in wider range of engineering applications is limited. As such SMP's needs to be reinforced before use in engineering applications. This paper presents the mechanical properties, thermomechanical characteristics, photothermal behaviour and light activation of 0/90 woven carbon fibre reinforced shape memory epoxy composite (SMPC) made out of prepreg material. Prepreg is

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