Development of novel polymer composite beam using ultrasonic welding process for acetabular cup prosthesis

Abstract

The objective of this study was to prepare a basic contributed model in beam to examine this novel composition supposed to apply for acetabular cup. Injection molding process used to manufacture of the component whereas ultrasonic welding was utilized to joint two components. Molding and welding value parameters were carried out by trial and error process. Strength bonding of two components was evaluated by single cantilever beam (SCB) test. The Interfacial fracture energy attained by single cantilever beam (SCB) test was exceeded over 1800 after 70 mm crack propagation.