

## 정수압을 받는 carbon/epoxy 복합재의 변형률 속도 효과

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### **Effect of strain rate on the mechanical behavior of carbon/epoxy composites subjected to high pressure**

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#### **ABSTRACT**

It is well-known that the mechanical behavior of fiber-reinforced composites under hydrostatic pressure environment is different from that of atmospheric pressure environment. It is also known that the mechanical behavior of fiber-reinforced composites is affected by strain rate. In this work, we investigated the effect of strain rate on the compressional elastic modulus and fracture stress of fiber-reinforced composites under hydrostatic pressure environment. The material used in the compressional test was unidirectional carbon/epoxy composites and the hydrostatic pressures applied was 250 MPa. Compressional tests were performed applying various strain rates of 0.05 %/sec, 0.25 %/sec, 0.45 %/sec, and 0.75 %/sec. The results showed that the elastic modulus increased with increasing strain rate while the fracture stress was little affected by the strain rate.