Measurement of Expansion Coefficient of Fiber Bragg Grating

FBG sensors can be successfully employed in structural monitoring for seismic applications and damaging diagnostics. Proper sensor packaging allows embedding in concrete for durable installation.

This work aims at the determination of the coefficient of thermal expansion (CTE) of parts manufactured through the Fused Deposition Modeling process, employing fiber Bragg grating (FBG) ...

The aim of the present work is to estimate the thermal expansion coefficient of two polymers based on epoxy and methacrylate (PMMA) used as coating of FBGs, in the temperature ...

As stated previously, fiber Bragg gratings are sensitive to temperature and strain. Therefore, it is possible to measure the CTE of a material using a Bragg grating bonded on it.

This paper presents a method for the CTE measurement of composite specimens using Fiber Bragg Grating (FBG) sensors. FBG sensors consist of periodic refractive index variation made on the core ...

A simple method to measure the thermal expansion coefficient using a surface-mounted Bragg-grating sensor is presented. This method uses a single, uniform-pitch Bragg-grating fibre that is only partially ...

We propose a method based on the dual-configuration fiber Bragg grating (FBG) sensor to measure the coefficients of thermal expansion (CTE) and hygroscopic swelling (CHS) of polymeric...

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