

PHOTOELASTIC MODELLING OF DESTRUCTION PROCESSES CONSIDERING THE CREEP

Olali, N¹, Orukari, M², Zazymko, N³ & Malezhyk, M⁴

*^{1,2}Research Scholar, Department of Mathematics/Computer Science, Niger Delta University, Wilberforce Island,
Bayelsa , Nigeria*

^{3,4}Research Scholar, National Pedagogical University, Kyiv, Ukraine

ABSTRACT

The generalized theory of damage accumulation was used in the damage tensor, based on the true strain, which is defined by a polarization optical method has been constructed. It allows us to find time before the destruction for various deformation processes on the kernels of a damage tensor found from experiences on natural samples. However, there are no effective methods of a quantitative evaluation of damage of viscoelastic materials under the influence of loading, especially in the field of their plastic deformations, by means of experimental nondestructive methods.

KEYWORDS: *Damage Tensor, Deformation, Creep, Viscoelastic, Polarization Optical Method*

Article History

Received: 03 Jan 2019 / Revised: 30 Jan 2019 / Accepted: 22 Feb 2019
