

# CHARACTERIZATION OF CREEP BEHAVIOUR OF VISCOELASTIC MATERIALS BY ULTRASOUND PULSE-ECHO TECHNIQUE

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For any viscoelastic material, creep is a phenomenon which tends to change microstructure and the mechanical properties of material. Therefore, it is important to quantify and predict the creep and creep rate of a component. In this investigation, several samples of LDPE were used to measure the creep and both ultrasonic attenuation and velocity measurements using a 5 MHz transducer were employed for characterizing the samples. Our findings indicate that velocity and attenuation measurements can be used to characterize and quantify creep and creep rate of viscoelastic materials.

**Keywords:** Viscoelastic materials, Creep, Ultrasound, Pulse Echo Technique