

CHARACTERIZATION OF THE PHYSICAL AGING BEHAVIOR  
OF 30% GLASS FIBER REINFORCED PEEK COMPOSITES  
VIA CREEP TESTING

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**Summary :** Free characterization of the physical aging behavior of 30 glass fiber reinforced peek composites via creep testing pdf download - fiber-reinforced thermoplastic composites are finding increased use in aerospace applications these materials can operate at high temperatures relative to the polymer matrix glass transition temperature in such environments the time-dependent behavior and properties needs to be well understood for appropriate design and use struik has reported that viscoelastic properties of glassy polymeric materials are affected by physical aging during physical aging many of the physical and mechanical properties of the material change with time in order to design for long-term usage it is therefore important to understand the physical aging response of the materials in this study isothermal physical aging tests are performed under dead-load creep testing on randomly oriented 30 glass fiber reinforced peek poly ether ether ketone composites each isothermal physical aging test consists of a series of creep load and relaxation unload tests at a constant temperature the strain response is then assessed to characterize the tensile creep compliance d t of the material changes in this property also provide insight into the effects of physical aging via the shift rate the observed findings were in good agreement with the work done previously in this field

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