

## عنوان مقاله:

Thermal Creep Analysis of Functionally Graded Thick-Walled Cylinder Subjected to Torsion and Internal and External Pressure

## محل انتشار:

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## نویسندگان:

S Sharma - *Department of Mathematics, Jaypee Institute of Information Technology, Noida, India*

S Yadav - *Department of Mathematics, Jaypee Institute of Information Technology, Noida, India*

R Sharma - *Department of Mathematics, School of Basic Sciences and Research Sharde University, Greater Noida, India*

## خلاصه مقاله:

Safety analysis has been done for the torsion of a functionally graded thick-walled circular cylinder under internal and external pressure subjected to thermal loading. In order to determine stresses the concept of Seth's transition theory based on generalized principal strain measure has been used. This theory simplifies the set of mechanical equations by mentioning the order of the measure of deformation. This theory helps to achieve better agreement between the theoretical and experimental results. Results have been analyzed with or without thermal effects for functionally graded and homogeneous cylinder with linear and nonlinear strain measure. From the analysis, it has been concluded that in creep torsion cylinder made up of less functionally graded material (FGM) under pressure is better choice for designing point of view as compared to homogeneous cylinder. This is due to shear stresses which are maximum for .cylinder made up of functionally graded material as compared to homogeneous material

## کلمات کلیدی:

Thermal, Creep, Torsion, Strain measure, Functionally graded material

## لینک ثابت مقاله در پایگاه سیویلیکا:

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