

Stress Analysis of Laminated Cylinders Subject to the Thermomechanical Loads

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Abstract : In this study, thermo elastic stress analysis is performed on a cylinder made of laminated isotropic materials under thermomechanical loads. Laminated cylinders have many applications such as aerospace, automotive and nuclear plant in the industry. These cylinders generally performed under thermomechanical loads. Stress and displacement distribution of the laminated cylinders are determined using by analytical method both thermal and mechanical loads. Based on the results, materials combination plays an important role on the stresses distribution along the radius. Variation of the stresses and displacements along the radius are presented as graphs. Calculations program are prepared using MATLAB® by authors.

Keywords : isotropic materials, laminated cylinders, thermoelastic stress, thermomechanical load

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