Lenyuk, M. P.; **Suchevan, V. G.**

The quasi-static thermoelasticity problem for an infinite, three-layer, cylindrically anisotropic plate with a circular hole. (Russian) Zbl 0725.73009

Mat. Issled. 117, 37-53 (1990).

The plane strain problem is analyzed; the three layers are formed by three concentric rings with various thermal and elasticity coefficients. At first the axially symmetric unsteady thermal problem is solved under general initial and boundary conditions. Complicated formulas are derived in a straight manner. In the second part the elasticity problem is solved, starting from the just established thermal problem solution. The nonhomogeneous Euler-type ordinary differential equations lead to the integration of cumbersome formulas and the need of the algebraic fitting of free coefficients along the ring contacts. No numerical results are presented.

Reviewer: A.Hanuska (Bratislava)

MSC:

74A15 Thermodynamics in solid mechanics
74K20 Plates
74E05 Inhomogeneity in solid mechanics

Keywords:

plane strain problem; axially symmetric unsteady thermal problem; general initial and boundary conditions; nonhomogeneous Euler-type ordinary differential equations

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