Eldar A. MOVSUMOV

THE CARRYING CAPACITY OF CIRCULAR PLATES MADE OF COMPOSITE UNDER CENTRAL APPLIED LATERAL LOADS

Abstract

In this paper the problem of determination of ultimate lateral load for simply supported circular plate, made of definite class of fibrous composite material, is considered.

It's assumed, that lateral load consists of uniformly distributed and distributed by principle in parabolic (downwards and upwards convexity) and operates along some central circle. The material of the composite is subjected to the well-known in literature piecewise linear yield condition, and the flow rule. As in the paper [1] it is shown, that there exists different solutions of dependence on the ratio of limit moments in radial and circumferential directions. Statical admissible field of bending moments and corresponding kinematic possible field of the rate of deflections are determined for each case. Thus, the obtained solution is correct for ultimate load.