Deformation of Aluminium Thin Plate

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The article is deals by an introduction to the theory of impact load for thin plates. This is the plates that are characterized by a structure which is bounded by upper and lower surface plane. These surfaces are spaced by a distance *h*, which is substantially smaller in comparison which other dimensions of the plate (*a* × *b*). The impact causes a deformation of the plate which is vibrated. The deformation is only within the limits of Hook's law. Therefore there is not permanent deformation of the plate. In the plate is induced shear stress, bending stress and shear forces. The second part of the article is focused on the numerical solution of thin isotropic aluminium plate which is made from AL 99.9. This plate has a dimension of 100 × 100 × 2 mm. It was solved the deformation of the plate after the impact load which were produced in the centre of the plate by FEM in software ADINA. By results was a graph of the deformation, velocity and acceleration of response wave in the material.

Keywords: Isotropic material, Stress, Deformation, Vibration

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