Abstract

This work is consecrated to the investigation of mechanical behavior of a composite plate containing some periodic distributions and no symmetrical with regard to the average plan. The choice of this model is characterized by two important parameters: thickness of the plate and the size of the period. It is supposed that the thickness is smaller compared to the period
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dimension. The obtained results indicate that the homogenisation technique is able to predict the behaviour of periodic composites. The equivalent elasticity coefficients and micro-constraints were analytically calculated, then by finite elements in the basic cell level. We have shown that the complexity of numerical modelling can be solved by choosing a plan model, which gives the same results as a three-dimensional model.

Reference

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