Abstract

In this paper, we propose to study the simple case of the laminated composite plates, the criteria of rupture are applied to the various layers taken individually. Indeed, the resistance of a laminated structure is primarily based on the individual resistance of each layer.

When the requests increase, we observe successive ruptures of the layers and this of the first rupture of the first layer until the rupture of the last layer which coincides with the final rupture of the structure. We noted that the constraints are calculated by the Sinus model of the plates, developed by the finite element method. The results which we obtained by our calculations with the results of reference do not show significant differences which have the advantage of the facility of handling compared to the numerical method of the finite elements.

References

20. A. Ríos and A. Martín-Meizoso, Micromechanical Model of Interface Between Fibre and Matrix of Metal Matrix Composite Reinforced with Continuous Fibre, Advanced materials.

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Keywords
Laminated composite plates, rupture of laminated structures, criteria of rupture