

THEORETICAL ASPECTS ON THE MICROMECHANICS COMPOSITE MATERIALS

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Abstract: *The efficiency of a composite material is distinguished by the top level of the technical characteristics and its properties.*

For their study, it appeals to a number of considerations, such as: minimum dimensions of the primary elements of reinforcement section, made up of fibres or threads; the high volumetric fraction ($V_f > 0.5$); knowledge of the geometry of reinforcement phases.

These considerations lead to the concept of composite plate..

Keywords: *composite, reinforcement, fibre, straw*

1. Introduction

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These considerations lead to the concept of composite plate.

A composite tab is a thin layer of composite material consisting of a single reinforcement and the matrix corresponding to.

In practice, a composite material is composed of several straws that are studied on the basis of a representative elementary volume (VER).

Characteristics of composite VER are respectively: the distance between the wires, layer thickness (distance between the strands

layer)-if there are several layers of arbitrary size.

In this context, VER is the smallest part of the tensions and composite deformations are evenly distributed from the macroscopic point of view.

To study the properties of the composite should be provided:-VER site obtained by cross cutting of composite to be constant on full length L (fig. 1).

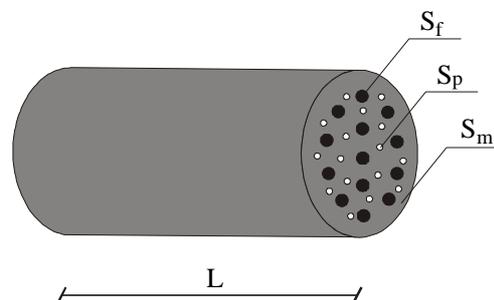


Figure 1. Elementary volume VER

S_m -matrix surface

S_f -thread surface

S_p -surface of a pore

L -length of VER