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轮胎复合材料剪切模量的确定方法

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THE DETERMINATION METHOD OF SHEAR MODULUS FOR TIRE COMPOSITES

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摘要 描述并分析了确定轮胎用橡胶-钢丝帘线复合材料画内剪切模量的实验方法。建议用O°/90°铺设的层合板沿其45°方向进行偏轴拉伸,可准确地、方便地获得橡胶-帘线复合材料的剪切模量,采用可转动夹头的试验机以消除面外扭转。

关键词： 橡胶-帘线 剪切模量 偏轴拉伸

Abstract： This paper describes and analyzes experimental methods of obtaining in-plane shear modulus for rubber-steel cord composites. In view of the special characteristics of the composites, many approaches to determining experimentally shear modulus of a general composite are not suitable. The author strongly recommends that 45° off-axial tension of a double layered 0°/90° layup is to be conducted so as to facilitate tests and assure accuracy of the measurements. Besides, it is worth noting that the clamped ends induce twist for the double layer structure because the specimen's thickness is generally larger than that of other composites. To get rid of the bad effect, a test machine with ratable grip system is to be employed.

Keywords： rubber-cord shear modulus- off-axial tension

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