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ABSTRACT

COMPOSITE MATERIAL SPRING MODULES WITH INTEGRALLY FORMED ATTACHMENT FITTINGS

Composite material spring modules and methods of manufacture are described having a fiber reinforced composite material spring body with attachment fittings integrally formed about the spring body. The attachment fittings are molded of a flexible material which dynamically responds to changes in the shape of the spring body upon deflection. Integral formation of the fittings with the spring body provides a unified single piece module which is readily attachable to any structure where spring support is desired. The composite material spring modules exhibit the properties of stiffness and return to uncompressed state from total depth deflection without set. The composite material spring modules with integrally formed fittings are described a mattress foundation, by attachment to high and low profile frames and to an overlying grid. Methods of manufacture of the composite material spring modules with integrally formed attachment fittings are described. Methods of assembly of flexible weight bearing structures such as mattress foundations using the composite material spring modules with integrally formed attachment fittings are also described. Also described is a composite material mattress foundation grid borderwire support spring, and a mattress foundation grid crosswire having longitudinal offset notches.

Figures 1A - 1C

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