Innovations in Textile Composite Designing and Their Applications

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Abstract

Textile composites are the materials in which the composition and internal structure is changed under controlled conditions so as to match their performance to the most demanding structural or non-structural roles. Textile reinforcement structure can be made of fibers, yarns or fabrics (woven, braided, knitted or non wovens) and are generally flexible. The application of traditional textile technology to organize high performance fibers for composite material applications has provided a route to combining highly tailored materials with enhanced process ability. Many commercially produced composites use a polymer matrix material often called a resin solution. There are many different polymeric materials available depending upon the starting raw
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ingredients. There are several broad categories, each with numerous variations. The most common are known as polyester, vinyl ester, epoxy, phenolic, polyimide, polyamide, polypropylene, PEEK etc. This paper highlights the innovations in Textile Structural composite designing and their areas of application.

References

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Index Terms

Computer Science  Applied Science

Keywords

Braided  Non Woven  Matrix  Polymer  Woven  Knitted