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Review

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**Experimental and Computational Composite Textile Reinforcement****Forming: A Review**

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**Abstract**

Preforming is an important step in the manufacturing of textile-reinforced composites with resin infusion processes. It is important to control the fiber orientation to avoid fiber misalignments and wrinkles, which would reduce the mechanical properties of the composite part. The objective of the present paper is to give an overview of the literature dedicated to the textile reinforcement forming process. Therefore, experimental tests for the determination of the basic fabric properties, the experimental characterization of the forming and the numerical approaches for the modeling of the textile forming are reviewed. A great part of the literature has been devoted to the characterization of the shear behavior since it is the most important property for textile reinforcement forming processes. The bending behavior was initially neglected in mechanical models but was found to be important for the simulation of wrinkles.

**Keywords**

(A) Fabrics/textiles, (B) Mechanical properties, (C) Numerical analysis, (E) Forming

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