
SMC modeling and simulation: past, present and future

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Résumé

Even if SMC process appears nowadays as a key process in a view of increasing composite forming pace, its modeling and simulation remains in the domain of R&D. In this work, a review of the actual available tools is proposed. In particular, a focus will be made on the modeling of fibers dilution and segregation, their filtration in the ribs and the prediction of the final fibers orientation in a mold where the hypotheses of classical models do not apply. A discussion on the treatment of the matter interaction with the mold wall and on the stability of the front depending on the fibers concentration repartition is also proposed. Finally, the possibility of developing a parametric solution having the preform shape and position in the mold as parameters is discussed and illustrated.

Mots-Clés: SMC process, composites, fibers orientation, segregation

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