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Finite Element Simulation of the Curing Process of Epoxy Resins

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The curing processes of epoxy resins have a large influence on the properties of the final part, especially in hybrid parts. Therefore its effects have to be studied carefully. Two main effects of the curing are the change in the mechanical properties and the description of the shrinkage. In this work the two effects have been investigated thoroughly in experimental studies. For simulation these effects have to be implemented into finite element simulation tools. For this reason an adequate material model and procedure of parameter extraction has been derived and verified.