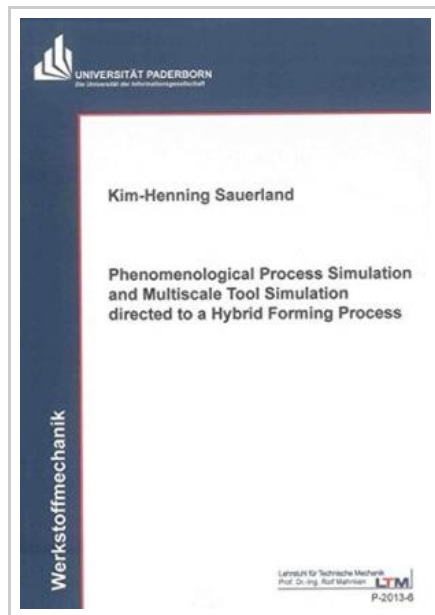




Phenomenological Process Simulation and Multiscale Tool Simulation directed to a Hybrid Forming Process

By Kim-Henning Sauerland

Shaker Verlag Jun 2013, 2013. Taschenbuch. Book Condition: Neu. 209x149x22 mm. Neuware - The present work covers the phenomenological process simulation and the multiscale tool simulation directed to a hybrid forming process. Thereby, the focus is specifically directed onto the forming tool, which is subjected to cyclic thermo-mechanical loading conditions during tool life. In the first part of this thesis an experimental and simulative methodology is introduced and applied for the determination of reference values for tool lifetime. Thereby, essential steps are the choice and application of an appropriate material model for the forming tool, the identification of material parameters using stress/strain experiments and least-squares functionals, the numerical simulation of the hybrid forming process, the experimental validation of the simulation and the performance of fatigue tests with thermomechanical boundary conditions obtained from the numerical simulation. The developed methodology is capable to quantify the thermo-mechanical loading of the forming tool during the hybrid forming process. Further, it delivers reference values for tool lifetime based on the numerical results. Regarding the multiscale tool simulation in the second part of this thesis coated forming tools are considered. Here, essential steps are the development of a theory for a two scale model considering multi-layered...



READ ONLINE

Reviews

Absolutely essential study pdf. Its writter in basic words and phrases rather than hard to understand. I am just happy to tell you that this is basically the finest pdf i actually have study during my personal lifestyle and can be he very best publication for actually.

-- **Shyanne Senger**

Comprehensive information! Its this sort of great go through. It really is rally interesting through studying time. I am just quickly can get a satisfaction of looking at a created pdf.

-- **Alexandra Weissnat**