

Basic investigations on the hot stamping steel 22MnB5

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Keywords: heat treatment, sheet metal, hot stamping

Abstract. Basic research concerning the material properties of the hot stamping steel 22MnB5 has been carried out. A survey is given about the as-delivered conditions with hardness tests, micrographs and flow curves. The process window of the austenitization time, before hot stamping can take place, is defined by austenitization tests. Also a new experimental set-up to detect the cooling rate in dependency on the contact pressure is presented. In addition to that the cooling experiments were simulated with ABAQUS and the heat transfer coefficient for each contact pressure is determined by inverse modeling.