Ultrafast Lasers Jump to Macro Applications Martin Griebel, Walter Lutze, Jürgen Weißer, Jan Langebach JENOPTIK Automatisierungstechnik GmbH, Konrad-Zuse-Strasse 6, D-07745 Jena

Ultrafast Lasers have been proven for several micro applications, e.g. stent cutting, for many years. Within its development of applications Jenoptik has started to use ultrafast lasers in macro applications in the automotive industry. Jenoptik enhanced his well established sensor controlled laser weakening process for airbag covers to a new level. The patented process enables new materials using this kind of technology. One of the most sensitive cover materials is genuine leather. As a natural product it is extremely inhomogeneous and sensitive for any type of thermal load. The combination of femtosecond pulse ablation and closed loop control by multiple sensor array opens the door to a new quality level of defined weakening.