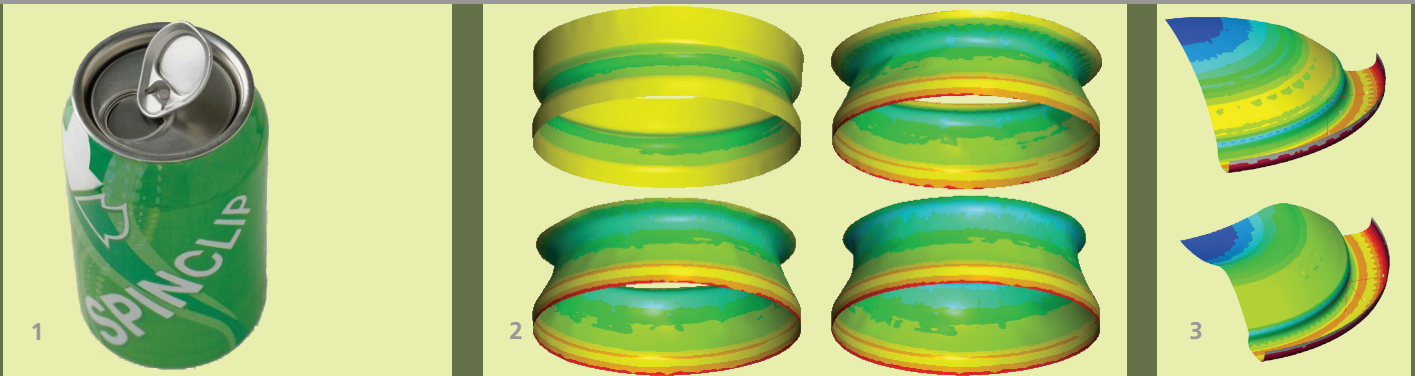




# Fraunhofer IWU

FRAUNHOFER INSTITUTE FOR MACHINE TOOLS AND FORMING TECHNOLOGY IWU



- 1 *Prototype of a recloseable beverage can – developed in cooperation with Fraunhofer IWU (photo: IMV GmbH)*
- 2 *Forming stages of a necking process*
- 3 *Simulation of a pressure loaded can bottom*

## EXPERTISE IN FORMING OF THIN SHEET MATERIALS

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### Characterization

Knowledge about the materials is essential for the future developments of products. The Fraunhofer IWU offers various facilities for material characterization:

- Laboratories for characterization of mechanical and chemical behavior
- Laboratory for corrosion and life cycle tests
- Laboratory and tools for basic investigations on technologies
- Laboratory for metallographic investigations

### Process simulation

The increasing diversity of metal packaging designs requires a faster process development. The Fraunhofer IWU is using the Finite-Element-method for feasibility studies and process optimizations.

In combination with statistical methods a reliable solution with less effort will be achieved. The Fraunhofer IWU holds the software packages PAM-STAMP, ABAQUS, LS-Dyna, DEFORM and ANSYS for FEM analyses.

### Development and testing

For tribological testing of forming processes a strip-draw-machine is available. Thus, the tool wear behavior as well as different tool and material combinations in dependency on the contact pressure, the drawing velocity and the temperature can be detected. Fraunhofer IWU offers the possibility to use presses and tools for prototyping and small series productions. For the analysis of production processes in the field a high-speed camera and a high-speed thermo camera support the investigations.



Rasselstein  
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Ball Packaging Europe