

Enabling Polymer Additive Tooling for Small Batch Deep-Drawing Applications



Motivation and Relevance

- Manufacturing of metal deep-drawing tools is costly and time consuming
- For use-cases like prototyping the properties of metal tools are highly oversized and this causes material waste
- Polymer Additive Tooling is able to reduce tool costs and increase speed in tool supply

Approach

- Testing of polymer deep-drawing tools (PLA) manufactured with Fused Filament Fabrication
- Development of a material saving tool design for improving the ecological footprint of forming tools

Results

- Fundamental validation of the feasibility of polymer deep-drawing-tools for soft steel

<i>Functional optimisation</i>	★ ★ ★ ★ ★
<i>Lower production costs</i>	★ ★ ★ ★ ★
<i>Material reduction</i>	★ ★ ★ ★ ★

Research Area

- Prototyping
- Simulation
- Production
- Sustainability

Picture



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