Hydroforming hybrid – Front-end carrier and adapter

GENERAL FUNCTION

ElringKlinger’s front-end section produced as a hydroforming hybrid design can serve as a support for the intercooler, headlight modules, windscreen wiper water reservoir, horn, distance radar module or air intake. It also supports the bonnet.

Suitable for e-mobility applications

TECHNOLOGY

Hydroforming hybrid (HFH) is a combination of thermoplastic injection moulding with a upstream hydroforming process of metallic hollow structures/pipe profiles. ElringKlinger substitutes steel/aluminium welded or aluminium/magnesium-die-cast constructions through hybrid arts, which combine aluminium or steel tubes with thermoplastic materials.

• EXCELLENT WEIGHT-PERFORMANCE RATIO
  Compared to existing technologies like welded metallic structures, HFH parts give excellent crash performance and structural part stiffness combined with low weight.

• LOAD PATH BASED DESIGN
  Metal structures, e.g. magnesium, aluminium- or steel sheet-components can be attached in addition, to stiffen areas with highest load requirements.

• FUNCTIONAL INTEGRATION
  The plastic injection process allows very easy further functional integration such as local fixation points, guiding features, support features, mounts, etc.

BENEFITS

PRODUCT BENEFITS

• High weight reduction potential
• Load path oriented design
• Further functional integration easily possible
  • Various material combinations possible
  • High dimensional accuracy
MANUFACTURING PROCESS

- Short cycle times / high automatisation
- No rework on structures necessary
- High process stability and repeatability
- Long production history with HFH /
  global standards on production processes

ELRINGKLINGER – YOUR PARTNER FOR HFH COMPONENTS

Product Development (Design, Engineering and Simulation) – Process Development – Tool Shop –
Tool Sampling/Prototyping – Testing – Change-Management – Series Production – Part Measurement

YOUR CONTACT

Philipp Ruez
Phone  +49 7123 724-88350
E-mail  philipp.ruez@elringklinger.com