

FACT SHEET

Metal forming hybrid – Front-end carrier and adapter

SUITABLE FOR E-MOBILITY APPLICATIONS



Maximum functionality – minimum weight
Front-end carrier made by ElringKlinger

ElringKlinger's structural front-end carrier 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.

Technology

Metal forming hybrid front-ends are made of thermoplastic injection molding with local metal re-enforcement out of steel, aluminum or casting structures. Hydroforming hybrid technology as part of our metal forming hybrids in particular combine an upstream hydroforming process of metallic hollow structures/ pipe profiles with injection molding. ElringKlinger substitutes steel/aluminum welded or aluminum/magnesium-die-cast constructions through hybrid solutions, which combine aluminum or steel tubes with thermoplastic materials.

+ EXCELLENT WEIGHT-PERFORMANCE RATIO

Compared to existing technologies like welded metallic structures, metal forming hybrid parts give excellent crash performance and structural part stiffness on a lightweight level.

+ LOAD PATH BASED DESIGN

Metal structures, e.g. magnesium-, aluminum- 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 automation
- + No rework on structures necessary
- + High process stability and repeatability
- + Long production history with HFH and metal re-enforced hybrids / global standards on production processes



ELRINGKLINGER – YOUR PARTNER FOR METAL FORMING HYBRID COMPONENTS

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

YOUR CONTACT

ElringKlinger AG
Phone +49 7123 724-0
E-mail info@elringklinger.com

ElringKlinger AG | Max-Eyth-Straße 2 | 72581 Dettingen/Erms | Germany
www.elringklinger.com

The information provided in this document is the result of technological analyses and may be subject to changes depending on the design of the system. We reserve the right to make technical changes and improvements. The information is not binding and does not represent warranted characteristics. We do not recognize any claims for compensation based on this information. We accept no liability for printing errors.



08/23