

IL5

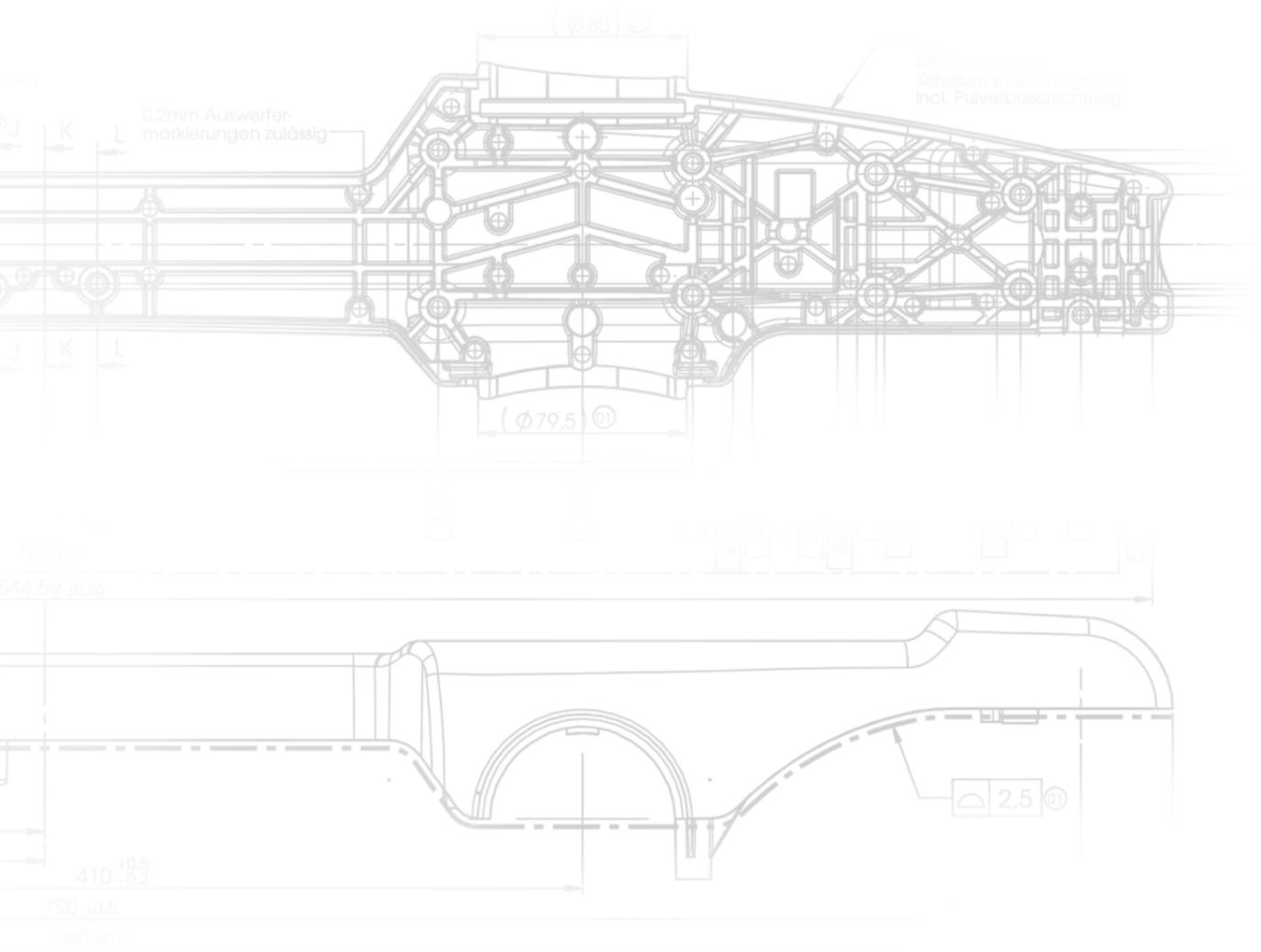
Fertigungstechnik

A member of the EMKA Group



Manufacturing
made-to-measure

ILS manufacturing processes



Aluminium die casting
Pages 6 - 7



Zinc die casting
Pages 8 - 9



Machining
Pages 10 - 11



Aluminium forging
Pages 12 - 13



Friction welding
Pages 14 - 15

Custom-built manufacturing from A to Z

In 2006, ILS Speth GmbH was created out of a merger of long-established individual enterprises. Under the umbrella of the EMKA Group, the specialist areas of ILS Speth GmbH constitute powerful supply and service integration with global market orientation. ILS executes projects according to customer drawings with a variety of manufacturing processes, starting with aluminium die casting to aluminium forging and friction welding up to zinc die-casting and machining. The in-house tool and mould production and state-of-

the-art design, development and testing processes guarantee our customers a maximum of service quality and reliability. The range of services also comprises subsequent tasks, such as surface refinement or assembling components.

Whatever project is to be realised: ILS provides the appropriate manufacturing process for every requirement.



ILS Headquarter, Wuppertal, Germany



Middletown PA, USA*



Bourré, France*



Arnedo, Spain*



Goražde, Bosnia-Herzegovina*

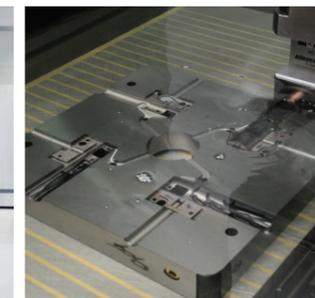


Tianjin, China*

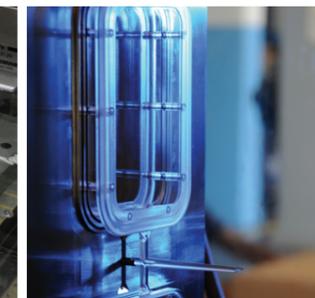
Manufacturing processes in co-operation with the EMKA Group



Development



Tool and mould production



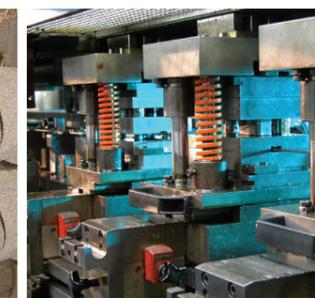
Plastic injection moulding



Extrusion and unitisation of profiles



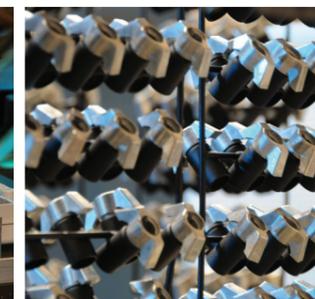
Stainless steel investment casting



Punching, bending and metal working



PUR sealing foam technology



Surface technology

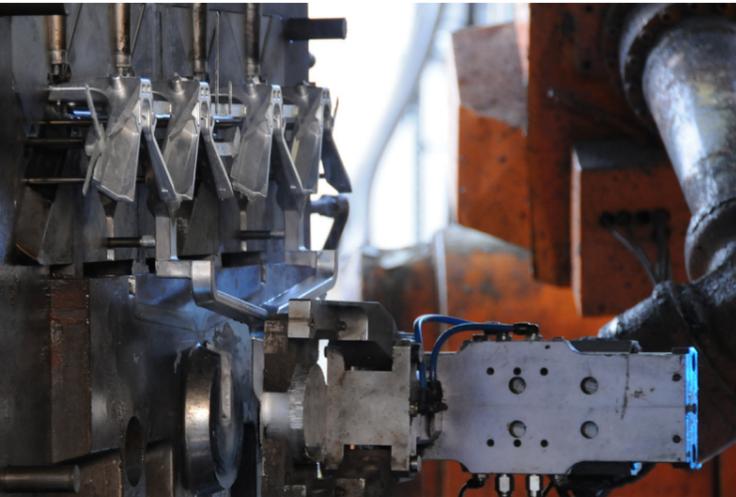
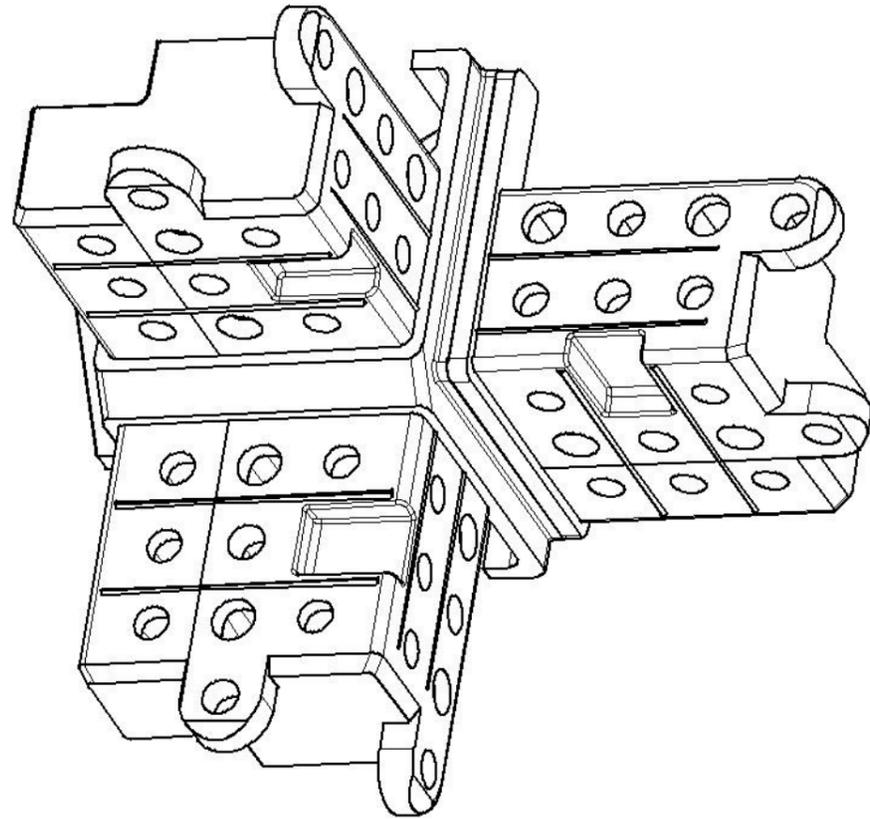


Assembly

ILS – a member of the EMKA Group

The EMKA Group is world market leader for locks and latches, hinges and gasketing used in switch and control cabinets for electronics and electrotechnology. The company is also among the leading manufacturers of locking technology in the fields HVAC technology and transport. The complete range of products comprises 15,000 items, developed, manufactured, refined and assembled at nine production sites in Germany, France, England, Spain, Bosnia, US and China. The company is represented in 46 countries employing more than 1,400 employees. EMKA offers a comprehensive pro-

duct portfolio of locking technology with a concept from a single source. The modular program structure makes a unique variety of types and versions possible. The high quality and product standards are guaranteed by the excellent manufacturing competence and the ISO 9001 certified process control. As a member of the EMKA Group, ILS possesses state-of-the-art machinery and comprehensive know-how in the manufacturing technologies of stainless steel casting, plastic injection moulding, extrusion of profiles as well as punching, bending and metal working.

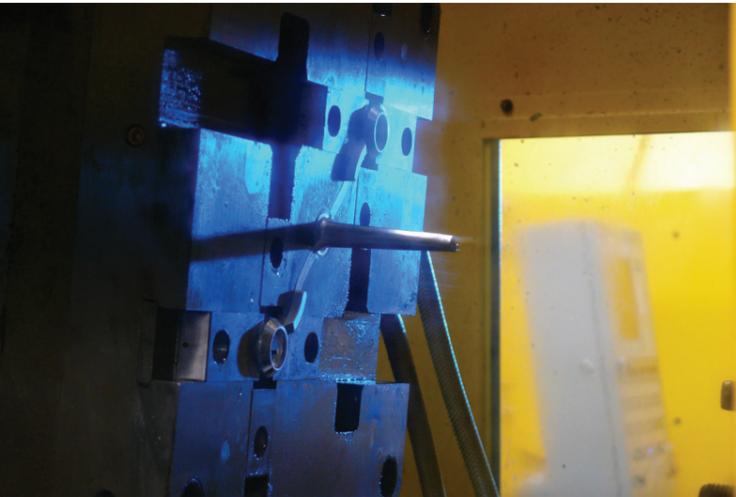
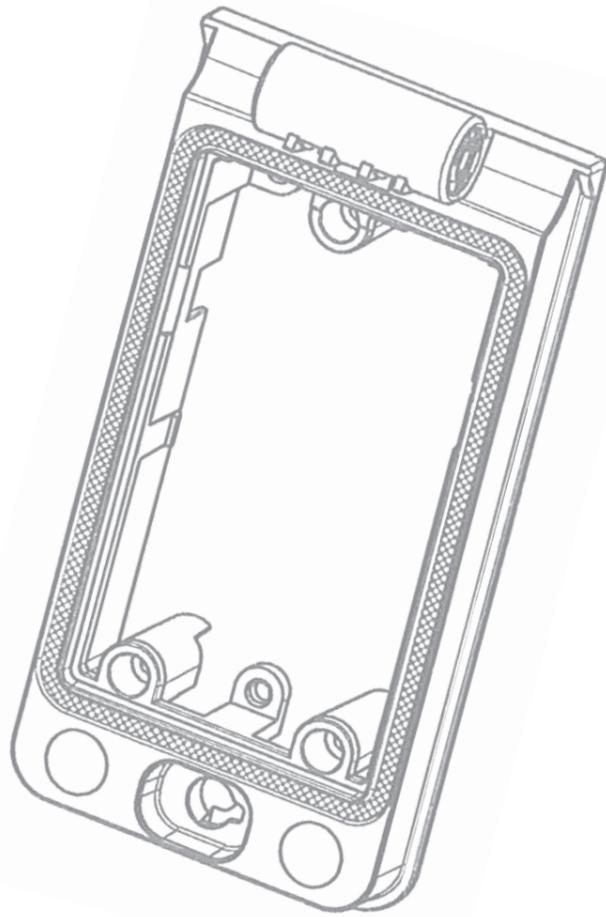


Aluminium die casting

Comprehensive experience of many years in the requirements of a multitude of different sectors and machinery consisting of nine die-casting machines enable ILS to make manifold geometries in the common aluminium alloys from 5 g up to 8 kg per part. The subsequent machining is effected internally on 10 machining centres of different sizes.

Example for an application: Angle bracket

Technical data:
Clamp force: 200 - 1,250 t
Maximum tool mounting surface: 1,630 x 1,050 mm
Part weight: 5 - 8,000 g

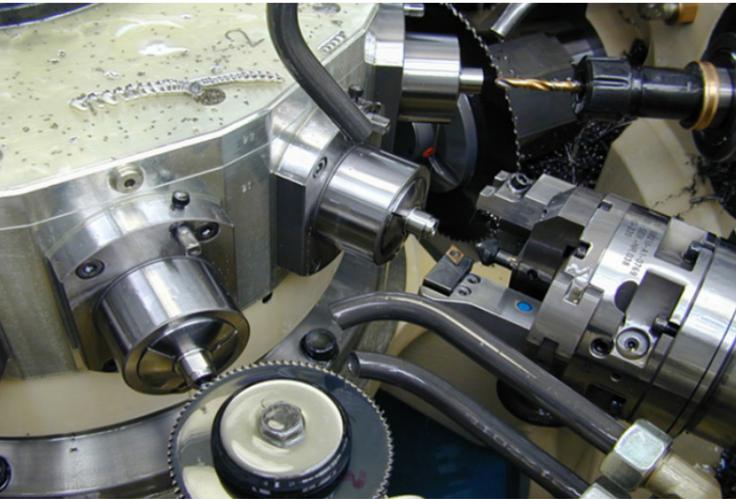
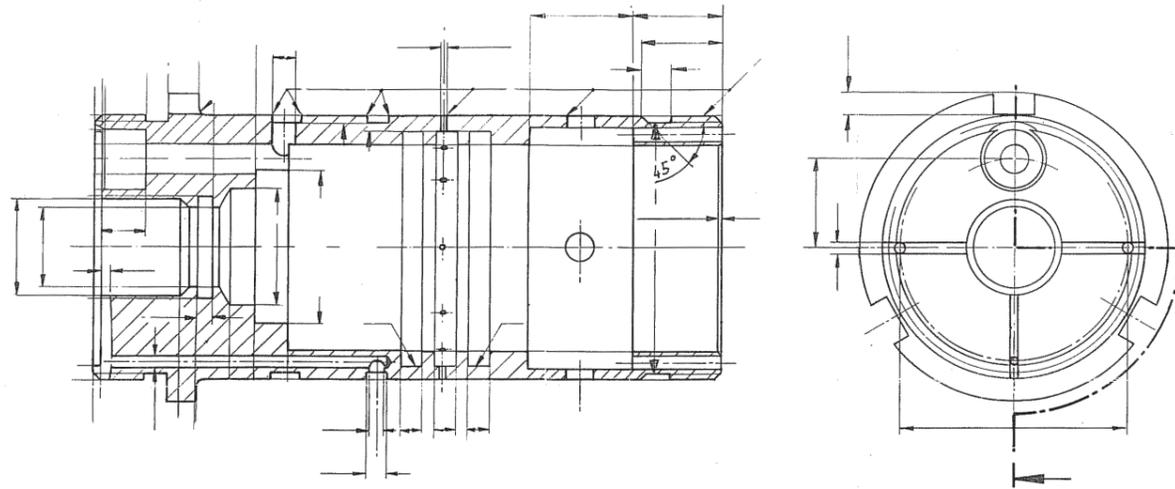


Zinc die casting

The CNC controlled hot-chamber die casting machines with clamp forces of 315 tons used at ILS guarantee a reliable production of consistently high quality. For possible threading 3 automated special-purpose machines are used.

Example for an application: Stacking frame

Technical data:
Clamp force: 20 - 315 t
Maximum tool mounting surface: 900 x 550 mm
Part weights: 3 - 3,000 g



Machining

At ILS a wide range of different CNC controlled turning lathes, multi-spindle automatic lathes as well as revolving machines with several work stations process individual parts made of various materials to produce the most complicated components up to entire units.

Example for an application: Crankcase

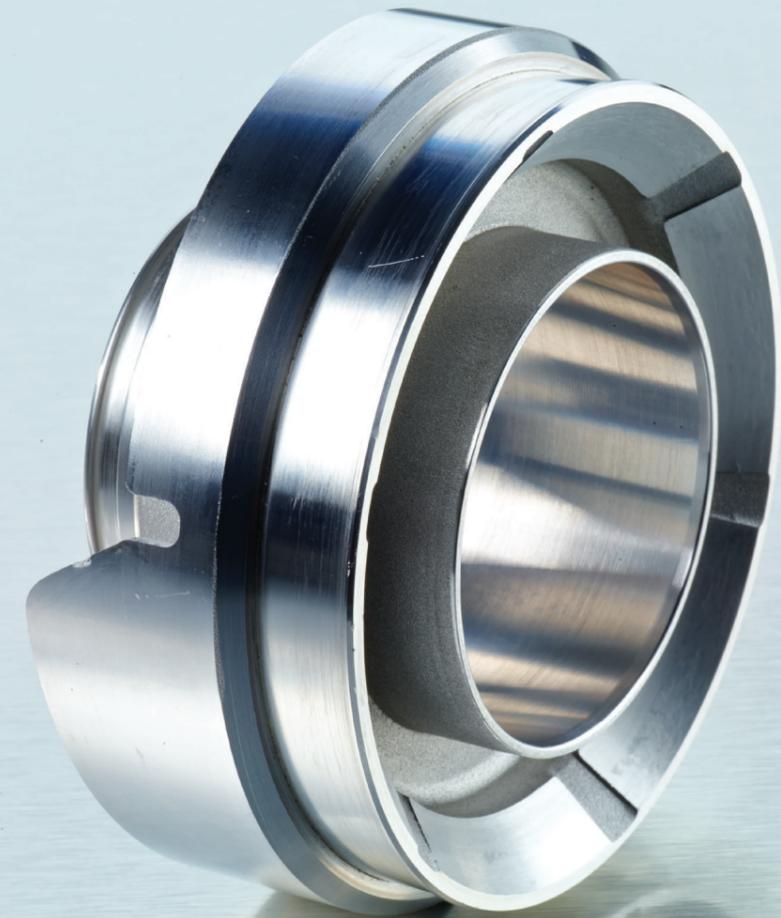
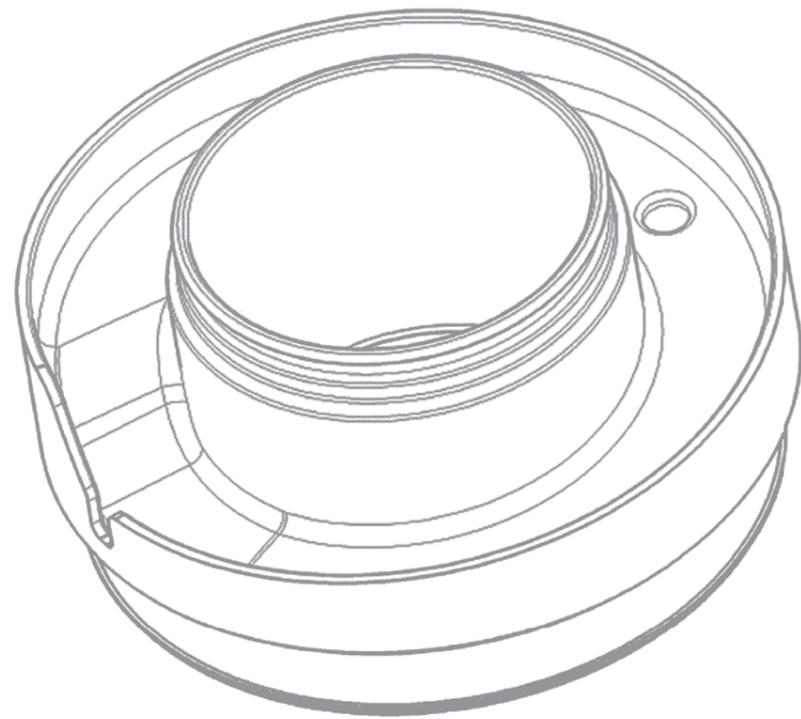
Technical data:

Simultaneous processing with up to 16 tools

Series manufacturing: 100 - 100,000 pieces

Length of turned part: 5 - 300 mm from the rod material

Materials: plastic / zinc / aluminium / steel / stainless steel / non-ferrous metals



Aluminium forging

High-quality products for special loads – at low weight. This is the best way to describe the portfolio for the field of aluminium manufacturing. Aluminium forgings of a piece weight of up to 2.5 kg can be produced. For mechanical machining extensive machinery, besides turning lathes and machining centres, is available. The multitude of further manufacturing processes, such as PUR sealing foam technology and surface treatment, enables ILS to realise the most complex requirements. Also the assembly of entire components is possible.

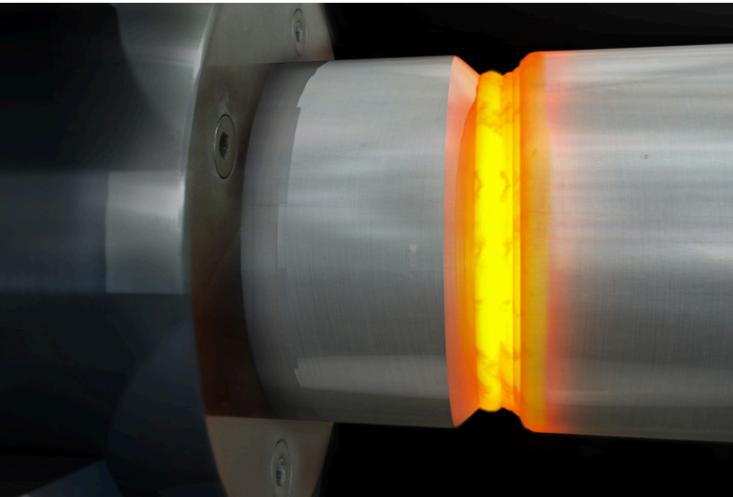
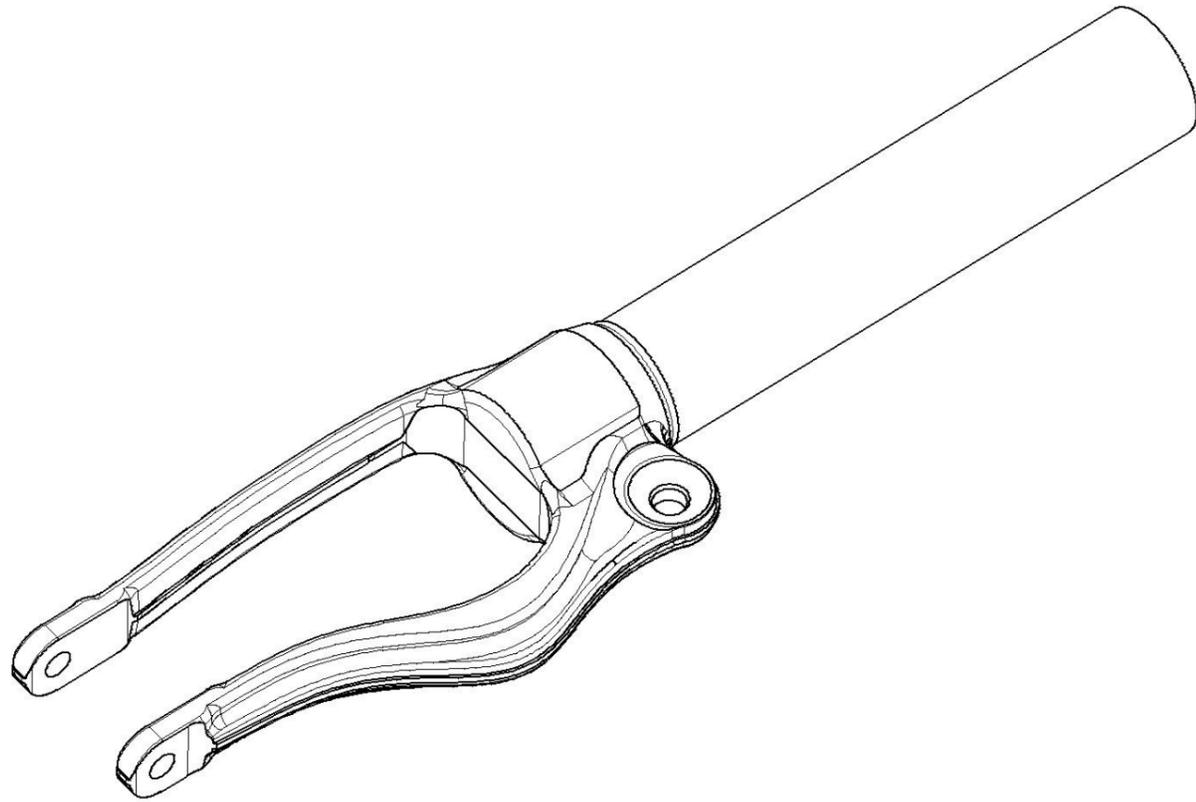
Example for an application: Spring seat

Technical data:

Part weight: up to 2.5 kg

Pressing force: 800 t

Forge alloys: AlMgSi0,5 / AlMgSi1 / more on request



Friction welding

The spin welding process employed at ILS is designed for rotationally symmetrical welding cross-sections with centric position of centre of gravity of the rotating part. The combination of extruded tubes, forged aluminium parts and friction welding results in non-porous high-strength joints. The welding bead typically produced in this process can be removed in a subsequent turning processing step. Further production steps are effected on machining centres with automated devices.

Example for an application: Spring strut
 Technical data:
 Diameter: up to 90 mm
 Welding load: up to 20 t
 Total length of the parts: up to 1,600 mm
 Suitable for: aluminium / copper / steel / various alloys

www.ils-fertigungstechnik.de