



L|A|S|E|R|EQUIPMENT®

Application Center for Laser Plastics Welding Efficient solutions for your needs

- Extensive consulting
- State-of-the-art technology
- Custom concepts
- Quality services

The extensive and qualified range of services

- Assistance for appropriate part joint design and materials selection for the laser welding process
- Process development
- Evaluation of methods for process monitoring
- Production of laser welded prototypes
- Production work of small and medium-sized batches
- Testing laboratory for verifying joint lines of plastic parts

The Application Center of LPKF's Plastics Welding Division offers you the option of using the advantages of laser plastics welding without additional investment costs. Our factory space extends over more than 500 m², offers a range of laser welding systems for nearly all possible applications. This gives you the opportunity to produce first prototypes with the innovative technique of laser welding, using systems suited for serial production.

Additionally, inside the Application Center you find a well equipped laboratory with numerous analysis systems to check the weld seam quality.

All welding systems are equipped with devices for online process monitoring. That makes it easy to choose an adequate monitoring method for your application.

The Application Center also offers complete vendor service for small or medium-sized production lots, including assembly and test.

Ask us. We offer simple and economic solutions for your challenges.



*Sensor for automated manual gear,
Tyco Electronics AMP GmbH*



*Lipgloss Applicator,
GEKA BRUSH GMBH*



Material and design decisions

With our long term experience in the field of laser plastics welding, we can offer constant support during product development. This includes:

- support in the conceptual design phase
- material and color choice support
- welding test on customer specific material combinations



Process evaluation and prototyping

The Application Center of LPKF's Plastic Welding Division offers a cost-efficient and fast production of laser welded prototypes using in-house laser welding systems. Several different laser systems with flexible clamping technology are available. In cooperation with our customers first product studies can be implemented into real components in a very short period of time. A cost-efficient realization is assured by using our innovative clamping tools.

The scope of supply reaches from the evaluation of welding processes, the choice and test of a suitable online process monitoring method to the finished production model. Beginning with the first prototypes, economical mass production solutions can be worked out for your product, even with the toughest process requirements.



Pilot production

Should there be insufficient time to mass production to commission your own system, production bottlenecks can be overcome by using our in-house production facilities. This includes:

- takeover of pilot productions
- manufacturing on close-to-production systems using the series clamping technology
- continuous quality assurance

Picture: Example, axial sleeve, customer OSSBERGER GmbH + Co.



Job-shop production

The Application Center of LPKF's Plastic Welding Division offers production work to help ramp your production up. This includes:

- quantities depending on the size of component and welding time needed up to 500,000/a
- assembly and testing before and after the welding procedure
- process sequences and quality assurance according to VDA guidelines
- operation of modern process monitoring and data archiving technology
- realization of special production requirements, e.g. ESD-Protection, increased cleanness, etc.



Test Laboratory for weld seam evaluation

Our test laboratory offers the following possibilities to test and assure our high quality results:

- grinding and polishing devices for plastics
- microscopic analysis with digital archiving
- system for leak tests (up to 6 bar)
- leak tests in water baths
- examination of burst pressure (up to 50 bar burst pressure)
- transmission measuring
- drying of parts in drying oven
- testing of press-out strength up to 1.5 kN

Application examples

The following customer examples show how our Application Center can work for you as well.

GEKA BRUSH GMBH: Lipgloss Applicator

Requirements

- joining of hard and soft material
- optimal weld seam strength for planned usage
- different coloring
- high optical weld seam quality
- short process times

Tasks of the Application Center

- support with the geometrical design of the welding zone
- making contact with specialized plastics suppliers
- evaluation and optimization of process parameters
- analysis of weld seam quality and material compatibility
- production of laser welded prototypes
- evaluation of concepts for welding machines



Tyco Electronics AMP GmbH: Automatic transmission sensor assembly

Requirements

- reliably sealed weld seam even at extreme temperature requirements
- high process stability at quantities over 1 million/a
- careful handling due to the sensitive electronics

Tasks of the Application Center

- support with the geometrical design of the welding zone and material choice advice
- evaluation and optimization of process parameters
- analysis of weld seam quality
- production of laser welded prototypes
- evaluation of concepts for welding machines
- transfer of the products to mass production



LPKF Laser & Electronics AG
Plastics Welding Division
Gundstrasse 15
D-91056 Erlangen
Germany

Phone +49 (0) 91 31-6 16 57-10
Fax +49 (0) 91 31-6 16 57-77

info@laserequipment.de
www.laserequipment.com

LPKF-Distributor