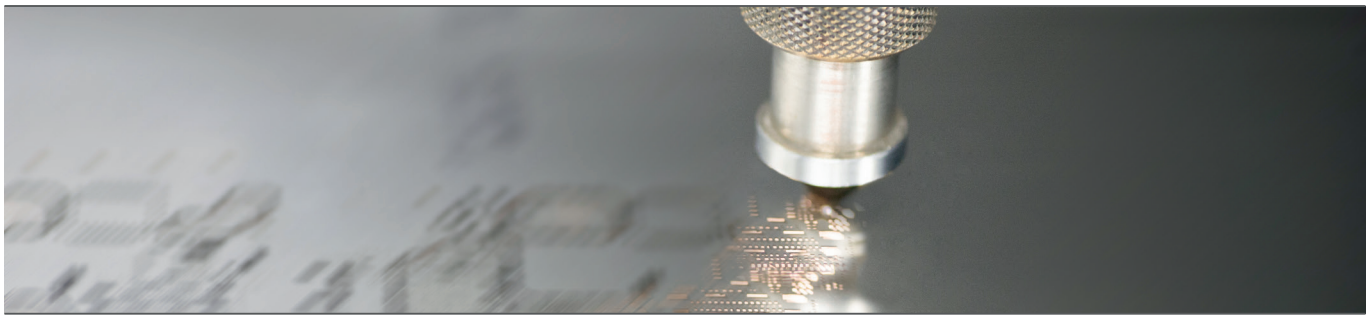
SMD stencils / Solder paste stencils



Adept knowledge
Through our customized data preparation solutions and the optimization of your CAD data in collaboration with our specialists, we guarantee maximum efficiency and quality for your project.

Direct contact
Your immediate access to us: Personal contact – fast, easy, and reliable.

All from one provider
We combine a wide variety of technologies and processes to achieve the best results: cutting, welding, marking, ablating, coating, etc.

Express delivery
6-hour express service ex works: Orders received by 1 pm shipped on the same working day.

Laser-cut stainless steel stencils – precision, innovation and personal advice

Precise laser-cut stainless steel stencils from LaserJob guarantee maximum dimensional accuracy and excellent solder paste release behaviour for optimum printing results with a cutting gap of only 20 µm. Benefit from the creativity and experience of our experts: we optimise your CAD data individually and offer you a personal contact person for fast, uncomplicated and reliable processing.

We are your experts for

Precise cuts

- Cutting gap of 20 µm for maximum dimensional accuracy and optimal solder paste release behaviour
- Dimensionally stable stencils: Aperture position accuracy ± 10 µm on 200 × 200 mm
- Slightly conical openings for process optimization

Very tight tolerances

- Sheet thickness tolerance of +/- 2%,
- Repeatability of >6 Sigma
- Controlled surface roughness of < 0.15µm

Highly variable

We offer many different options and combinations tailored to your specific needs

- NanoWork® stencil
- PatchWork® stencil (step stencil)
- 3D PatchWork® stencil
- Combination PatchWork® stencil with NanoWork® coating

LaserJob

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Manufacturing process and quality

- Use of 20 high-performance lasers under controlled climatic conditions
- Reduced heat input, smooth cut edges, low edge roughness
- Post-processing: CNC-controlled brushing, cutting burr removal: < 2 µm material removal

Technical data

- Material: Stainless steel 1.4301 (V2A), hardness min. 370 Hv, tensile strength > 1100 N/mm²
- Material thicknesses: 20–400 µm (special thicknesses also available on request)
- Maximum processing area: 800 × 600 mm (larger on request)

Apertur design

- Precise geometry, exact dimensions: Position ± 10 µm, size ± 3 µm
- Individual optimization of CAD data, control of aspect ratio and area ratio
- Layout consulting, pad manipulation (enlargement, reduction, shape change)
- Recommendations: Area ratio > 0.66; aspect ratio > 1.5 for optimal solder paste release

Tensioning systems and frames

- Frames: Aluminium, cast aluminium, stainless steel; individually with threaded bushings
- Screen mesh: Stainless steel, 80-mesh, wire Ø 0.1 mm, high tension > 40 N/cm, screen filler optional
- Frame reusable, tested and cleaned upon return
- Compatible tensioning systems: Tensioning system LJ 745, QuattroFlex / Stencilman, VectorGuard, Alpha-Tetra/Micromount, ZelFlex, custom

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Design and manufacturing guidelines

- The amount of solder paste depends on the aperture size and stencil thickness.
- Recommendations and specifications according to IPC-7525A for SMD stencils.
- Inspection: Number of holes, aperture and material thickness, CoC protocol.

Advantages of laser cutting

- Exact aperture geometry, high precision and repeatability
- Dimensional accuracy, smooth walls, minimal edge roughness

Types and variants

- SMD, adhesive, reballing, sintering stencils, special shapes
- Nano coating: NanoWork® stencil
- Step stencils for different solder paste heights: PatchWork® stencil, 3D PatchWork® stencil
- Repair stencils
- Multiple use creation / aperture design
- Our complete range: **www.laserjob.de**

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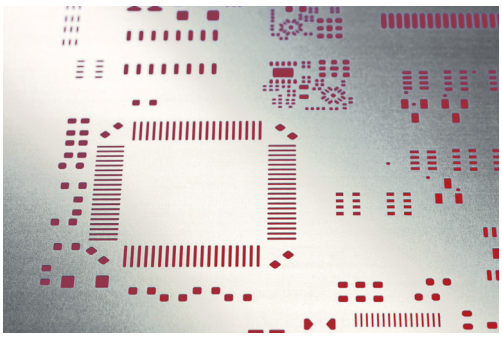
Quality & manufacturing conditions

- Air-conditioned manufacturing environment for process stability
- In-house developed special machines
- Machine park with 20 systems & redundant capacities
- In-house design & CAD data preparation
- Fast turnaround times
- Minimal reworking thanks to maximum cutting quality



Our services overview

Stencil delivery times

- **Standard delivery times for SMD stencils/ PatchWork® stencils:**
  3 working days ex works (from receipt of order by 5 pm)
- **Standard delivery times for NanoWork® stencils:**
  4 working days ex works (from receipt of order by 5 pm)
- **48-hour express service ex works:**
  Delivery on the next business day (by arrangement, orders received by 5 pm)
- **24-hour express service ex works:**
  Next business day delivery (by arrangement, orders received by 5 pm)
- **6-hour express service ex works::**
  Same-day delivery (by arrangement, orders received by 1 pm)

Comprehensive consulting

At LaserJob, we place great importance on personal support and individual consulting—from the initial idea to series production. Our many years of experience and comprehensive expertise make us your strong partner in all matters relating to your electronics manufacturing.

Transparent quality assurance and documentation

- Quality management ISO 9001:2015 certified
- Individual measurements and tests may be performed
- Complete documentation (material certificates, initial sample test reports, CoC, serial number management, etc.)

Our customer service:

- Customer frame storage, test reports according to customer specifications
- Long-term data archiving
- Data for solder paste inspection systems
- DataMatrix code
- Customer-specific labeling
- Serial number management
- Multi-shift operation
- Redundant machinery
- Data security
- Maximum flexibility

Extensive material warehouse

LaserJob maintains an extensive warehouse stock of stainless steel and other metal sheets and foils for you, combining the highest quality standards with fast delivery times. We are happy to provide material test certificates upon request. In addition, we can procure stainless steel with special properties – such as increased tensile strength or a fine grain structure – for you at short notice.

Shipping and packaging

Shipping – Fast and tailored to your needs

Daily shipping: We ship your orders daily with DHL Express.

Custom shipping options: Upon request, we may also use UPS, FedEx, DPD, or other shipping providers of your choice.

Diverse transportation options: We also offer direct deliveries and courier services with experienced partner companies. This allows us to respond flexibly to your requirements and delivery dates.

Packaging – Safe and sustainable

Securely packaged: To prevent damage, all products are carefully packaged in a manner appropriate to the material – we are also happy to follow your individual specifications.

Special solutions for stencils: We offer special storage bags for our stencils in the tensioning system, which ensure optimum protection and convenient handling.

Customer-specific return packaging: Would you like to use your own packaging solutions? No problem! We are happy to support you in the development and integration of customer-specific return packaging into our shipping process.

Order

To ensure that your order is processed quickly, please send it to us with your data by email to **mail@laserjob.de**.

We process your data in the following formats: Gerber, ODB++, DWG, DXF, Eagle and IGES/step.

Contact

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