

ELECTRICAL LAMINATIONS

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FEATURES OF PERFORMANCE

- specialized in laser fine processing of demanding electrical laminations in the thin sheet range from 0.1 - 0.5 mm
- performance and frequency-dependent path control guarantees sharp corners, clean contours and high positioning accuracy with economical machining progress and high component complexity.
- optimized laser cutting technology and adapted process gas support helps to minimize insulation layer damage and to produce virtually burr-free and distortion-free single cell molds
- requirement-dependent use of different laser sources (CO₂ or fiber lasers), power classes and processing technologies
 - › Laser flame cutting
 - › Laser fusion cutting (oxide-free)
 - › Laser sublimation processing (remote laser cutting)
- economical production of prototypes with a quantity of 1 piece up to automated production of 1 million pieces/year
- production of rotor and/or stator packages by means of:
 - › Bonding technology (baking varnish coatings)
 - › Laser precision welding (see separate data sheet)

TYPICAL APPLICATIONS

We manufacture customer-specific stator / rotor blades as well as complete core stacks for

- DC motors as microdrives for pumps and dosing devices
- micromotors for industrial automation and robotics
- microdrives for aerospace and terrestrial mobile applications
- motors for transport systems, conveyor belts and palletizing systems
- fan and blower motors
- DC micromotors for medical operation, laboratory and analysis technology as well as prosthetics
- spindle drives for industrial tools such as milling and drilling machines
- servomotors for weighing systems
- among other things

POSSIBILITIES OF PROCESSING

- contour-dependent manufacturing tolerances +/- 0.02 mm (standard)
- absolute accuracy 15 µm
- typical web width - material thickness ratio 1:4 (1:10 possible in individual cases)
- typical component dimensions 3.0 x 3.0 mm² to 500 x 500 mm²
- max. machining area 1000 x 1000 mm²
- highest know-how regarding miniaturization and micromotors

ELECTRICAL SHEET EX STOCK

In order to be able to deliver as quickly as possible, we maintain an extensive warehouse with a wide range of sheet metal qualities and coatings. All sheets are manufactured according to DIN EN 10106/10107 (non-grain oriented and grain oriented).

The sheet thicknesses have the following tolerances according to this standard:

- +/- 8 % of the nominal thickness at 0,35 mm and 0,5 mm
- +/- 6 % of the nominal thickness at 0,65 mm and 1,0 mm

Of course, we also process sheets and coils (customer material) supplied by the customer and can also manage this for several orders from stock.

SERVICE

- extensive measuring and testing equipment available
 - › 3D multi-sensor coordinate-measuring machine (BV, laser, probe)
 - › guaranteed measuring accuracy: 2.5 µm + 1.25 µm / 100 mm (measuring accuracy 2 - 4 µm)
 - › optical profilometer for roughness and waviness measurement according to EN ISO 4287/ 4288 and flatness measurement according to DIN 50441
 - › digital light microscopy for topography display and measurement
- in-house tool and fixture construction for cutting die production and packaging tasks