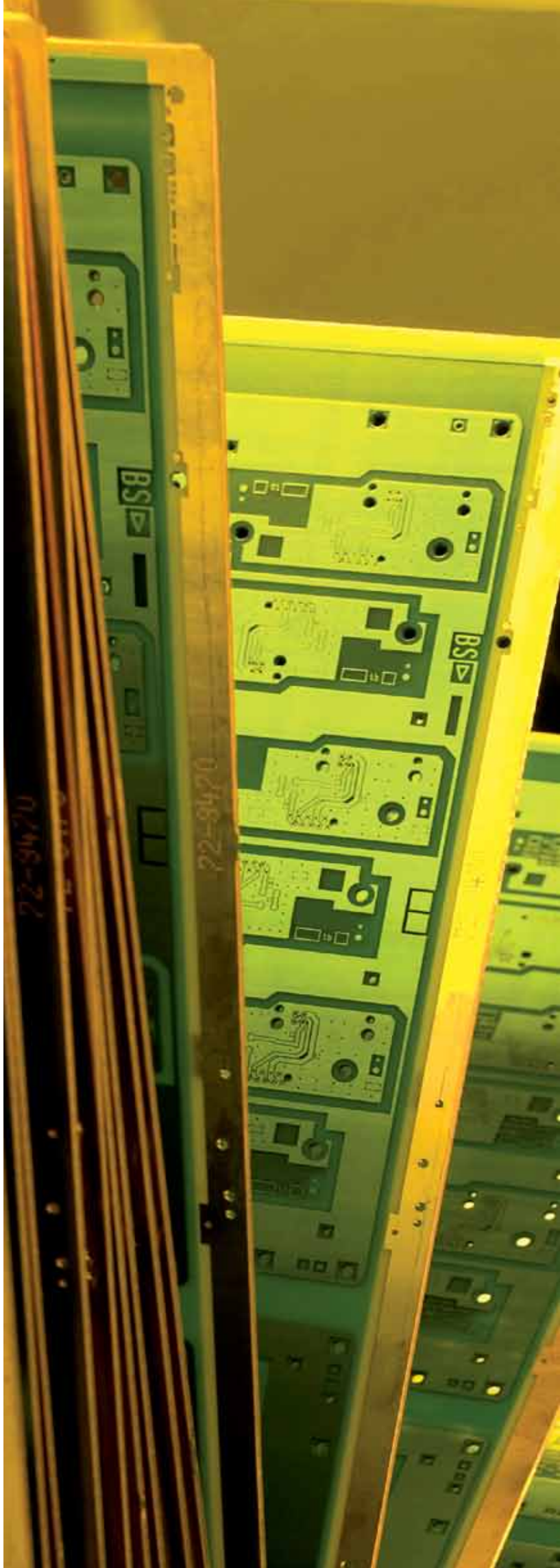
PRINTED CIRCUIT BOARDS

FOR RELIABLE CONNECTIONS

Certified pursuant

ISO / TS 16949
DIN EN ISO 9001
DIN EN 14001

technoboards
KRONACH




„It is the trivial that
accounts for perfection,
yet perfection is anything
but trivial.“
(Sir Frederick Henry Royce, pioneer of automotive construction)

QUALITY STANDARDS AND ENVIRONMENTAL ORIENTATION

technoboards KRONACH GmbH is your specialist for the production of double-sided, plated-through circuit boards and multilayers of up to 12 layers in varying copper gauges as well as for numerous specialised applications (e.g. Semiflex, IMS etc.) all in premium quality.

At our site in Kronach, we attain a production capacity of currently 110,000 m² per year with our highly motivated and first-rate qualified expert team. Nearly half a century of experience and our high degree of automation enable us to manufacture both, express samples as well as bulk series at competitive prices.

By guaranteeing delivery reliability of nearly 100 % and complaint quotas below 50 ppm, we have become a reliable and valued partner for the automotive industry, the consumer and industrial electronics enterprises as well as for telecommunications companies. Lean decision-making processes and flat hierarchies allow for quick, flexible reactions and close contact with customers and suppliers.

The core ingredients of our operational company philosophy are the development of innovative products and their environmentally responsible production, constant quality control and quality improvement as well as an optimisation of our advisory skills for the benefit of our customers. Highest quality and environmental certifications document this policy and are invariably renewed and refined through continuous checks. Through their RoHS conformity, our products comply with the EU guidelines for the lead-free production of electronics and are to a large extent UL Recognised Components. Quality, that truly pays off for you!

technoboards KRONACH GmbH stands for experience, professionalism and tradition which guarantees our customers highest levels of quality and flexibility for the implementation of their special requirements and ideas!

ISO / TS 16949	DIN EN ISO 9001	DIN EN ISO 14001
Quality management	Quality management	Environmental management

UL-File No. E 63767

UMWELTPAKT BAYERN

Nestling on the borders of the "Frankenwald" nature reserve, the Lucas-Cranach-City Kronach is located in Upper Franconia and thrills its visitors with historical charm and romantic flair.

The Rosenberg Fortress thrones high above the historic centre and forms an impressive backdrop for the narrow alleys of Kronach with its well preserved, venerable sand stone and Tudor style houses.

The county town has a population of around 17.400 inhabitants and possesses a remarkable industrial density. The number of highly modernised, trendsetting companies is unusually high in the area. The dominant sectors are general and communications electronics, mechanical and medical engineering as well as the metal and plastics industries.

MODERN PRODUCTION LINE

In our industrial production halls in Kronach, our state-of-the-art, fully automated machinery that is constantly being modernised and expanded is fully at your disposal.

In the development process of our innovative products, we always put a strong focus on the environmentally sound production that we have committed ourselves to by conforming to DIN ISO 14001.

There are no special sample production lines, your samples and prototypes are invariably produced on our serial lines and thus comply with the same high quality standards that we have committed ourselves to by adhering to DIN ISO 9001:2000 and ISO TS 16949:2002 conformity. Our products are to a large extent UL Recognised Components.

CAD

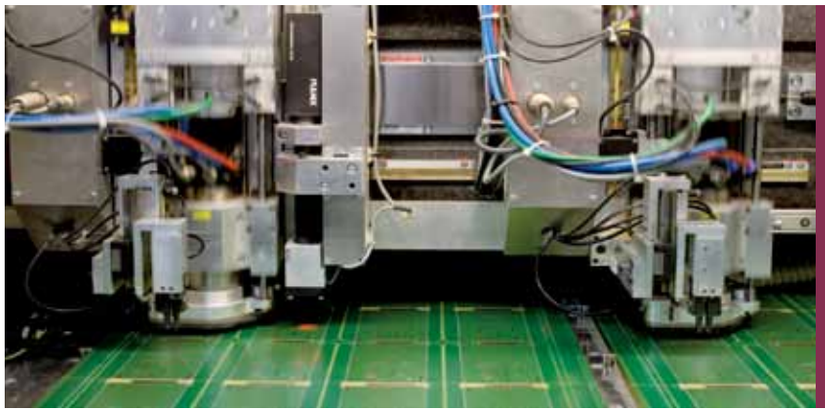
DRILLING

PLATING-THROUGH

CONDUCTIVE PATTERN (GALVANISATION)

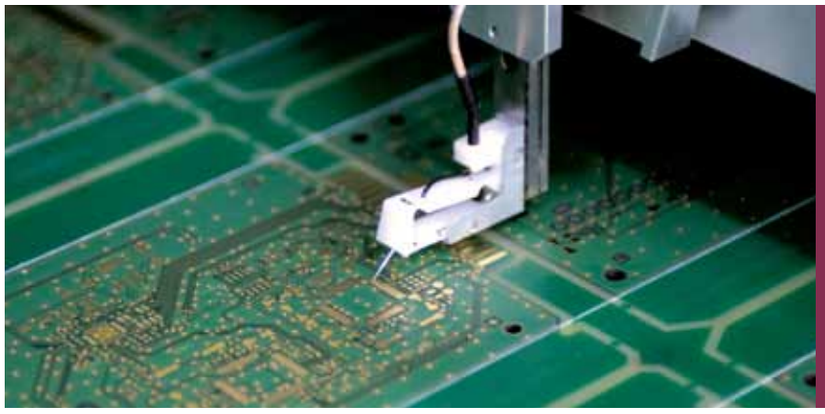
ETCHING PROCESS

SOLDER MASK EXPOSURE



CONTOUR MILLING

SCORING



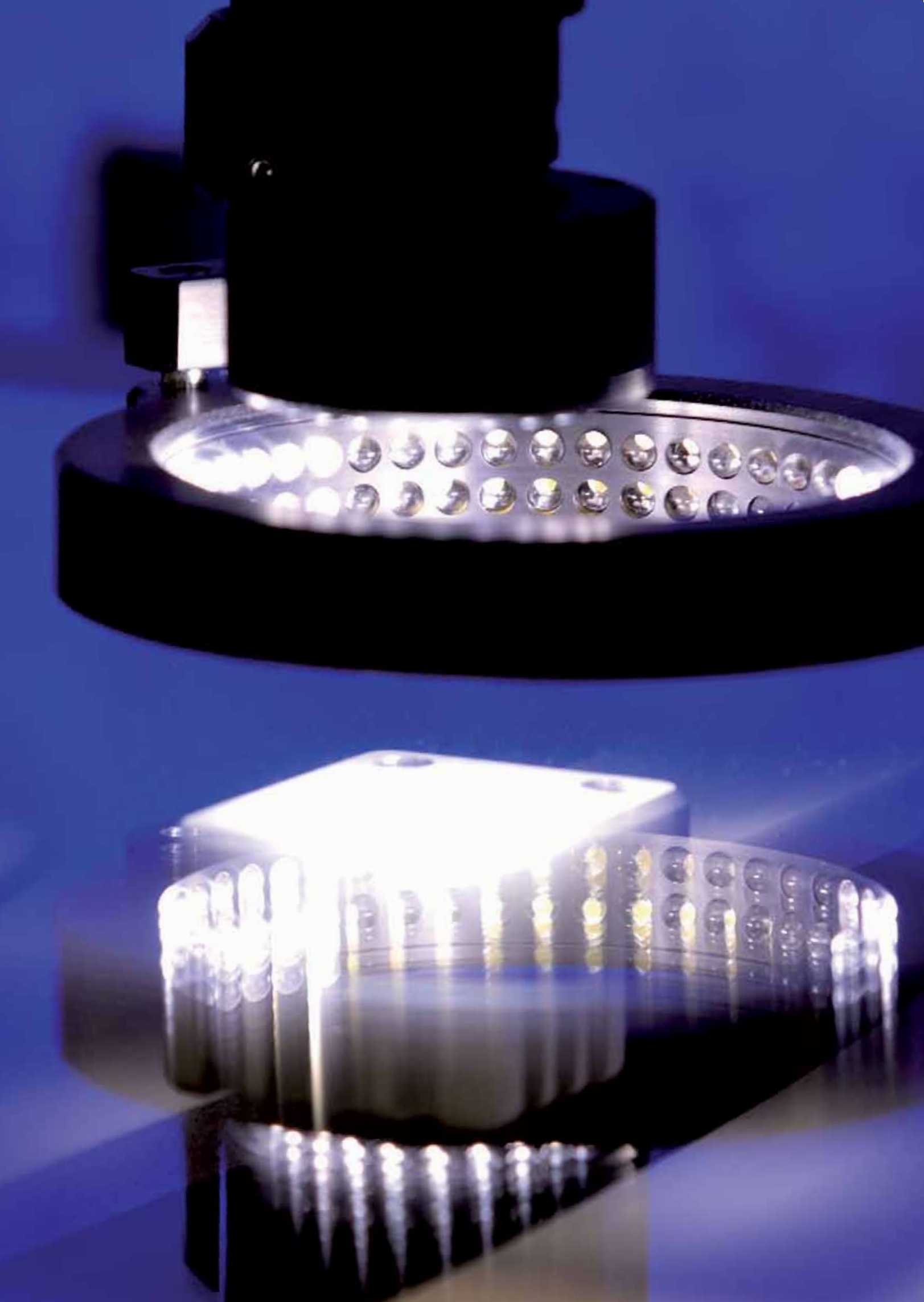
FLYING PROBE TESTER

AUTOMATED MEASURING MACHINE

POWERFUL TEAM POWERFUL PERFORMANCE

Besides the technical side, we at techno-boards KRONACH attach great importance to creating an ideal working environment for our employees, as we are convinced that perfect products can only be created in an optimal working atmosphere. Training, skill enhancement as well as promotion of young talent are of utmost importance to us.

We are in a position to create even the most complex specialist solutions for you thanks to cutting-edge technology and our highly motivated and qualified team – customer satisfaction is our absolute priority!



INNOVATIVE PCB TECHNOLOGY

COPPER THICKNESS / PCB THICKNESS / MAXIMUM PCB SIZE

We offer the following frame conditions for your production:

Surface Copper:	35 µm to 210 µm
Inner layers:	up to 140 µm copper
Outer layers:	up to 210 µm copper
Possible PCB thickness from:	0.80 mm to 2.40 mm (other thicknesses on demand)
Largest double-sided PCB:	590 x 514 mm
Largest multilayer PCB:	570 x 490 mm
Warp and twist: < 0.80 mm PCB thickness: 0.80 mm to 1.50 mm PCB thickness: 1.50 mm to 3.20 mm PCB thickness: Prerequisite: The conductive pattern is identical on both sides.	 ≤ = 1.5% ≤ = 1.0% ≤ = 0.5%

STRUCTURES OF THE PCBS

Depending on the copper thickness, the following structures are possible for the conductive pattern:

18 µm base copper:	inner layers ≥ 100 µm outer layers > 80 µm
35 µm base copper:	inner layers ≥ 120 µm outer layers > 150 µm
70 µm base copper:	inner layers ≥ 200 µm outer layers > 200 µm
140 µm base copper:	inner layers ≥ 350 µm outer layers > 350 µm
Min. hole diameter (finished):	≤ 0.10 mm
Aspect Ratio:	1 : 8
Drilling spacing (mounting holes):	< +/- 80 µm
Spacing of conductive pattern to mounting holes:	< +/- 80 µm

INNOVATIVE PCB TECHNOLOGY

SOLDER RESISTS AND OTHER PRINTS

For the various fields of applications, we generally use halogen-free solder resists. Our classic standard coating is the green XV501 HF produced from the company "Coates" which is cast on the PCB. For other coatings and colours we use a silk-screen printing method.

Tolerances for luminous exposure:	≤ 50 µm
Bridges between the SMD-pads depending on the final surface:	≥ 80 µm
In addition, we offer:	- silk screen printing - peel-off lacquer - carbon prints with coating thickness ≥ 15 µm
Plugging of PCBs with filling print without elevations:	up to 0.60 mm
Colour pallet:	green (standard) white, yellow, red, blue, black (matt and glossy)

COLOUR PALLET

MACHINING / CONTOURS

Depending on the production specification, you have the choice between the following machining methods:

Milling of all radii: Through the implementation of various milling tools, radii from 0.40 mm upwards are possible. Radii of 0.40 mm to 0.60 mm are extremely tool- and work-intensive and thus rather costly compared to radii > 0.80 mm. Optimum tool for the contouring is a milling cutter of 2.00 mm that produces a radius of 1.00 mm.

Scoring: As standard for scoring, 25°-blades are used.

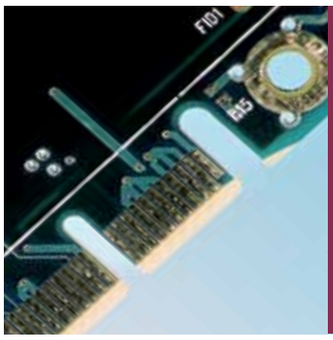
Punching

Countersink drillings with a depth tolerance of 50 µm: Countersink drillings can be produced with 60°, 90° und 120° and variable diameters. These tools are not standardised and have to be custom-made to fit the respective specifications.

Chamfering of plug-in contacts for individual units or in blanks: In our company we use a standard of 25°.

Deep milling: The tolerance is 50 µm and is possible in various designs. Please contact us if required.

CHAMFERING OF PLUG-IN CONTACTS IN BLANKS



MAGNIFIED PLUG-IN CONTACTS

TESTING

Continuous quality control and improvement measures as well as process optimisation are a matter of course for us. Our PCBs are produced and tested in compliance with IPC-TM 650 – amongst others with AOI (Automatic Optical Inspection) and electrical checks. In case of samples, a first sample test report is usually made out and enclosed with the delivery. The PPAP-level of this procedure can be chosen by the customer.

SPECIAL APPLICATIONS

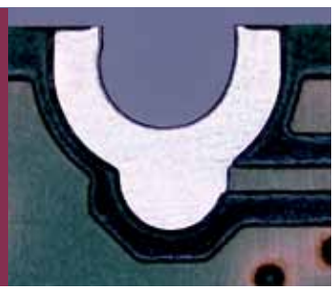
BENDABLE PCB

SEMIFLEX FOR ONE-OFF BENDING WITH LIMITED BENDING RADIUS

For details of the design and construction rules, please refer to the enclosed technical information sheets. This is our preferred solution in order to avoid additional cabling and if the PCB only needs to be bent just once during installation.

DEEP MILLING INDIVIDUAL AREAS OF THE PCB

This option is possible for both, versions with or without copper plating. Especially in the field of EMC technology, this type of deep milling is practical, for example to sink and shield a chip (coppered) or in order to embed components / connectors, whose height would be disruptive (without copper).



HALF COPPER-PLATED DRILLS

HALF COPPER-PLATED DRILLS

Half copper-plated drills are possible without any problems for all surface finishes. This technology is for example applied in order to solder the PCB directly onto a metal frame.

POSSIBILITY OF EMC-SHIELDING

EMC-shielding can be integrated through the copper coating of the outer edge of the PCB, alternatively also through deep milling, which works as a screen for sunken components after being copper- or gold-plated.

IMS (INSULATED METALLIC SUBSTRATE)

Deployed materials: aluminium / insulation / copper, in order to reach different thermal conductivity values. For details of the design and construction rules, please refer to the enclosed technical information sheets. This technology is preferred when extreme temperatures are generated and the heat has to be dissipated from the components (for example LED technology).

„One always needs to aim
for the impossible to reach
the possible.“

(Hermann Hesse, german poet and novelist)

MANAGEMENT

Sabine Segschneider and
Franz Wiesmann

WE ARE ALWAYS HERE FOR YOU

Meeting your customer expectations is our top priority! Flexibility and customer orientation are a matter of course for us. Together with you and our suppliers, we are continually working to optimise the quality of our products and services, to improve the delivery performance and to enhance the standards of environmental sustainability of products and services.

Please feel free to contact us!

YOUR CONTACTS

SALES

Jutta Kreutzberg
Telephone +49 (0) 2272/906938
Facsimile +49 (0) 2272/906939
jutta.kreutzberg@technoboards-kc.de

Wolfgang Rosin
Telephone +49 (0) 30/66461-121
Facsimile +49 (0) 30/66461-711
wolfgang.rosin@technoboards-kc.de

Elisabeth Zeuß
Telephone +49 (0) 9261/99-291
Facsimile +49 (0) 9261/99-774
elisabeth.zeuss@technoboards-kc.de

DATA PREPARATION / AV

cad@technoboards-kc.de
Facsimile +49 (0) 9261/99-774
Telephone +49 (0) 9261/99-

Thomas Strößenreuther -540
thomas.stroessenreuther@
technoboards-kc.de

Jens Igler -488
jens.igler@technoboards-kc.de

Stefan Hampel -488
stefan.hampel@technoboards-kc.de

PRODUCTION LOGISTICS

Facsimile +49 (0) 9261/99-774
Telephone +49 (0) 9261/99-

Roland Moser -459
roland.moser@technoboards-kc.de

Christian Böhnlein -531
christian.boehnlein@technoboards-kc.de

ACCOUNT EXECUTIVE / QUALITY ASSURANCE

Facsimile +49 (0) 9261/99-937
Telephone +49 (0) 9261/99-

Marco Weber -263
marco.weber@technoboards-kc.de

technoboards KRONACH GmbH

Industriestrasse 11
D-96317 Kronach

Phone +49 (0) 9261/99-291
Facsimile +49 (0) 9261/99-774

info@technoboards-kc.de
www.technoboards-kc.com