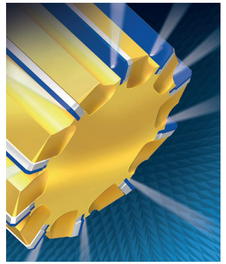
LACH DIAMANT®-
worldwide one of the
leaders in manufacturing
and developing
diamond and CBN tools

Example: »Cool Injection« - Direct Cooling (Patented) - The process from emulsion to the final ice crystal (CO2)



signals new strategies for efficient cutting with PCD – not only of non-ferrous metals but also of cast materials, special alloys and even titanium.

Worldwide, LACH DIAMANT stands for progress, precision and quality, quite simply with LACH DIAMANT knowledge. In addition to the continuous development of standard tools, our team is passionate about developing customised solutions for any application. The company proudly looks back on numerous highly innovative and successful patents that have revolutionised the entire industry more than once.

tradition.passion.innovation.
100 years of LACH DIAMANT

The history of LACH DIAMANT 1922 until today:

In 1922 Jakob Lach founded the company
In Hanau, a town that was well known for precious jewellery in the past, up to 600 diamond cutters produced exquisite brilliants. Industrial diamonds were added in 1932 and they completely replaced the “jewellery diamonds” in the mid 1950’s.
With modern technologies – especially the development of synthetic diamonds - LACH DIAMANT became worldwide one of the top manufacturers of diamond and CBN tools.

Innovations that have gone around the world
For good reasons, LACH DIAMANT today is considered to be the pathfinder of indispensable pioneering work. The company history reads like a who is who in the world of diamond and CBN tools:
1963 Start of the manufacturing of diamond grinding wheels in metal and resin bonds
1969 LACH DIAMANT was the first manufacturer worldwide to present CBN-BORAZON® grinding wheels for grinding HSS tools and high-alloy hardened steels
1973 At the Hanover Spring Trade Show, LACH DIAMANT demonstrates for the first time its superior turning of aluminium and copper (commutators) with polycrystalline diamonds (PCD)
1974 Hanover Trade Show: Presentation of the first PCD diamond milling tool for the cutting of aluminium, wood and plastic materials
1975 Hanover Trade Show: First presentation of polycrystalline boron nitride tools (PCBn) for the turning of high-alloy hardened steels
1977 Productronica Munich: Cutting, scoring, sawing, edge processing of printed circuit board materials (PCB) is presented to the public for the first time
1979 LIGNA Hanover: Worldwide the first presentation of diamond tools (PCD) for the processing of all wood and plastic materials
1980 FAMETA Essen: Presentation of the worldwide first PCD monoblock milling cutter for aluminium machining
1981 EMO Hanover: Presentation of the patented mill dressing roll with polycrystalline diamonds (PCD) for profiling conventional ceramic bond grinding wheels
1982 Foundation of LACH DIAMOND INC., Grand Rapids/MI, USA
1987 LIGNA Hanover: Presentation of the new universal sharpening machine EDG for the spark erosion processing of PCD – which had mainly been developed for own use since 1978
1999 A patented »chipbreaker« for “short-chip turning” of aluminium is presented
2004 The monoblock diamond milling cutter receives the Hessian Innovation Award
2006 LACH DIAMANT receives the Airtec Award for special developments for the processing of fibre composites
2010 Patent for the »Cool Injection« direct cooling system
2017 EMO Hanover: Presentation of the chipbreaker »IC-plus« and PCD spiral drills for the processing of composite and green carbide »PS-plus«
2018 Innovation in deep grinding: The »contour-profiled« grinding wheels reduce production costs by a multiple
2020 Innovation of PCD drills for composites: A drill with ø64mm processes 400 blades - 80 holes each with a drilling depth of 130mm. This one LACH DIAMANT drill manufactured a wind farm with 33 wind turbines
2022 100 years of LACH DIAMANT: The company looks back on 100 years of corporate and industrial history in its celebration hour. New developments are already waiting in the pipeline, which will again inspire the market in the future.

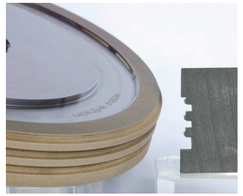
LACH DIAMANT®

Your reliable partner for highly developed solutions: standard and customised

tradition.passion.innovation.

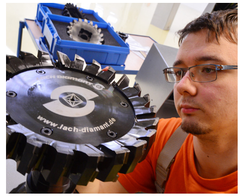
Head office and plant in Hanau near Frankfurt, Germany

Plant in Lichtenau near Chemnitz, Germany
Production of PCD and CBN (PCBn) tools.



LACH DIAMANT Innovations

»Contour-profiled« metal bond diamond and CBN profile grinding wheels – concave and convex – open a new dimension. Even during deep grinding of carbide, hardened steels and ceramics almost any profile can be generated with an accuracy of up to 0,005mm.



LACH DIAMANT Service

Resharpening and regrinding service for all PCD and CBN (PCBn) tools, MCD and CVD, and all natural diamonds. Reprofiling of diamond and CBN grinding wheels, recoating of electroplated diamond tools.

LACH DIAMOND INC. Grand Rapids/MI, USA

Production and service facility of PCD and CBN (PCBn) tools.

Jakob Lach GmbH & Co. KG
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ph +49 6181 103-0 · office@lach-diamant.de
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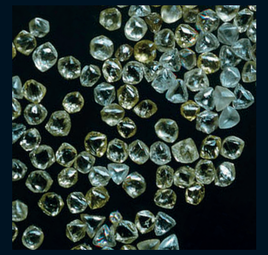
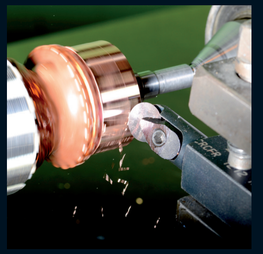


since
1922

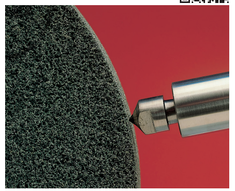
LACH Diamant



LACH DIAMANT®
PRODUCT RANGE

LACH DIAMANT®
Technology – Always
one step ahead …
when dressing,
grinding, lapping,
polishing, cutting,
turning, drilling, milling
abrasive
and hard materials,
and even when
processing the hardest
of all -
diamond.

Dressing with diamond
stationary and rotary diamond and CVD dressing tools



Dressing and profiling of grinding wheels

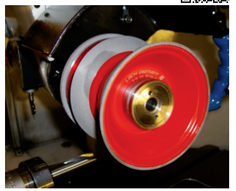
Stationary diamond dressing tools:
- Single point dresser
- Profile diamond tools
- Multi point hand dresser
- Dressing plate »Dia-Fliese-perfect«
- Cover glass and cutting diamonds
- Diamond engraving tools

Rotary diamond and CBN dressing tools:
- Precision diamond dressing rolls
- Form rolls

Natural diamond from own imports

Inhouse diamond cutting facility for the resetting and regrinding of all brands since 1922

Diamond and CBN grinding wheels
for all applications



The »contour profiled« innovation opens up a new dimension in deep feed grinding

- any profile is possible
- only one operation is required
- profile accuracy up to 0.005mm

Grinding programme:
Diamond and CBN grinding wheels for every production step of the highest quality with standard and newly developed bonds:
- long tool life
- combined with high removal rates and edge stability
- highest efficiency due to safe and high precision grinding wheels

Regrinding service for diamond and CBN grinding wheels

PCD and CBN cutting inserts
dreborid®

Controlled chip breaking of long-chipping aluminium alloys with active chipbreaker (pat.)

LACH diamond and CBN-tipped cutting inserts allow highest cutting and feed speed rates with surface qualities known from grinding technology (0.1µm).
All cost and time intensive steps are thus significantly shortened or even completely saved. For the machining of non-ferrous metals, hardened steels, composite materials, ceramic and carbide green bodies.

Highlights from the cutting programme:
- »IC-plus« programme with chip breaker or chip groove
- »CBN-DUO-power« cutting inserts for steel processing
- Cutting inserts for electric motor production and printing industry
- Wear protection with PCD
- Engraving and milling cutter

Regrinding service in Hanau, Lichtenau near Chemnitz and in Grand Rapids/MI, USA

Diamond and PCD milling tools
dreborid®

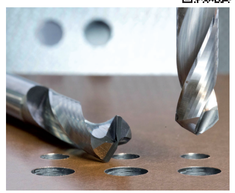
From end mills to monoblock and cartridge milling cutters - superior thanks to LACH DIAMANT technology

LACH DIAMANT has the know-how for processing of aluminium, composite materials such as GRP, CFRP and all wood materials, among others, economically from decades of experience.
Milling tools exclusively with PCD tips promise maximum efficiency, i.e. higher process reliability due to decreased wear during running time

Example: »Cool Injection« and chip deflector (life patents)

Regrinding service in Hanau, Lichtenau near Chemnitz and in Grand Rapids/MI, USA

Diamond and PCD drills
spiral, step and hollow drills dreborid®



Drilling of composite materials (GRP, CFRP), graphite and aluminium, ceramic and carbide green bodies

PCD drills drastically reduce machining times and increase the productivity by a factor of 10 compared to regular carbide tools. In the area of highly abrasive materials, such as CFRP, GRP or aluminium alloys, PCD drills have the highest wear resistance and highest tool life - indispensable for serial production. Also in the wood processing industry, PCD drills are the guarantor of precision and maximum cost-effectiveness.

Regrinding service in Hanau, Lichtenau near Chemnitz and in Grand Rapids/MI, USA

Diamond and CBN grinding, cutting and deburring tools
in electroplated bond

grinding - profiling - deburring - cutting with electroplated diamond tools

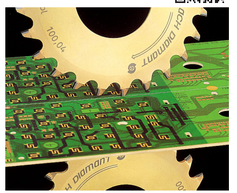
Versatile applications: From tool and mould making to serial production as a cutting wheel in the machining of composite materials such as GRP and CFRP.

Special advantage: Almost all shapes can be manufactured with electroplated bond.

For lapping and polishing:
diamond sprays and diamond pastes from 1/4 to 90µm grit sizes

Service: replacement of worn diamond or CBN coatings

PCD, diamond and carbide tools in the electronic industry



High precision cutting, milling, scoring and sawing

LACH DIAMANT tools are an indispensable part of the worldwide PCB machining - advanced depanelling cutters, scoring saws, saw blades and PCD-tipped cutters ensure economical machining of all materials: standard PCB, FR4 and multilayer.

Used for a wide range of applications in the electronic industry: in the manufacture of printed circuit boards, individual electronic assemblies and electrical insulating materials.

Resharpening service for diamond and carbide tools in Hanau, Lichtenau near Chemnitz and in Grand Rapids/MI, USA

Grinding and sharpening machines for the machining of PCD tools

CNC-controlled sharpening - tooth by tooth automatically - according to the original LACH-EDG® spark erosion process of all tools for wood and plastic processing

LACH DIAMANT offers the optimal machine concept from the service to complex production machines - with a simple handling system - for machining all sizes PCD tools for various industries.

Service: Comprehensive support in setting up a professional diamond sharpening service

LACH DIAMANT has been manufacturing universal sharpening machines, saw blades, back and flank sharpening machines for PCD tools since 1979.