

GRINDING & SURFACE FINISHING

LACH DIAMANT "contour-profiled" profile grinding wheels

The new cost killer for the deep grinding of carbide, hardened steels and ceramics in serial production

Based on Horst Lach's patent from 1982 (EP 0076997), LACH DIAMANT has developed metal-bond diamond and CBN profile grinding wheels with so far unmatched performance factors for serial production of workpieces made of carbide and/or hardened steels and ceramics.

Highlights include:

Profile: almost any profile is possible, with minimal tolerances up to 0.005 mm
One application is the deep feed grinding of thread cutting plates.

Time savings: on average 35 percent with 60 percent higher feeds per workpiece.

Costs of abrasives: grinding material savings up to factor 8. Deep grinding reduces the previous use of several grinding wheels to only one "contour-profiled" grinding wheel.

Profile depth: possible over the entire diamond or CBN coating height and width, even wheels with large radius as in the photo.

Profile duration – tool life: solid carbide thread cutting plates reach approximately 25 times higher profile duration compared to a resin-bond grinding wheel set.

Service – reprofiling: "contour-profiled" grinding wheels can be reprofiled multiple times, with guaranteed repeatability.

At EMO in Hanover LACH DIAMANT will demonstrate the profiling of a metal-bond diamond grinding wheel utilising the "contour-profiled" procedure.

This procedure for "contact free grinding" was originally developed over 35 years ago. LACH DIAMANT modified the original EDG (Electrical Discharge Grinding) procedure for shaping polycrystalline diamonds and adapted it for metal-bond grinding wheels, based on patent EP 0076997.

The greatest advantage compared to other procedures under current discussion

(for example wire EDM) is the repeatable profile accuracy even when reprofiling multiple times.

There are no profile distortions during the manufacturing of "contour-profiled" diamond grinding wheels.

LACH DIAMANT reports profile accuracy of 0.005 mm for inner and outer radii, which demonstrates the extraordinary efficiency of this technology; only a processed larger diamond grain can be dissenting to the tolerance.

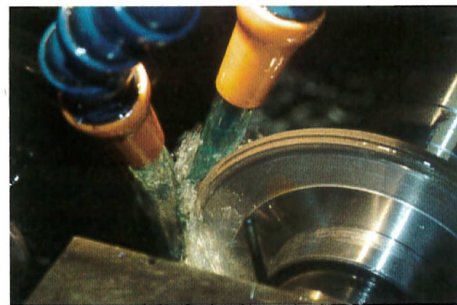


Examples of electro-plated diamond and CBN grinding, cutting and deburring tools

LACH DIAMANT's new metal-bond "contour-profiled" diamond and CBN grinding wheels and its "contour-profiled" procedure open new cost-cutting possibilities for serial production of work pieces made of carbide, hardened steels and ceramics.

Electro-plated diamond and CBN grinding and deburring tools

Electro-plated is usually referred to surface-coated. Depending on the grain size of diamond or CBN grits, the coating will be layered onto the grinding or deburring body, with up to 1.5 times (including electro plating) o the original particle size. Protruding diamond and CBN tips prove to hold a special advantage over other bond types, for example plastics, metals or ceramics. The tips are immediately available and provide a high cutting ability for grinding, deburring and separating of fibre composites, graphite, hard metals and ceramic green bodies, as well as generally in



LACH DIAMANT grinding wheel during profiling via "contour-profiled" EDG-plus procedure

mould and tool construction, internal grinding, steel jig grinding from 58 HRc (JCBN) and others.

LACH DIAMANT offers re-coating of worn bodies, as well as coatings of special custom bodies as special services for its customers.

Jakob Lach founded the present company in 1922, initially specialising in the cutting of diamonds. In 1932, industrial and diamond tools were added, and in its heyday the company employed 600 diamond grinders. The jewellery diamonds were finally replaced in 1950.

Since then, strengthened by new technologies such as the development of synthetic diamonds, the company has become a worldwide leading manufacturer of diamond and CBN tools as well as a supplier of special machines for the manufacture and sharpening of all polycrystalline diamond tools for the processing of aluminium and plastics (PCB, GRP, GFRP etc.) as well as wood and wood-like materials.

In its anniversary year in 2017, the company will present how LACH DIAMANT tools and grinding wheels have accelerated many technical innovations during the last fifty years.

To learn more about the advantages of electro-plated grinding and deburring tools, visit the LACH DIAMANT stand at EMO.

LACH DIAMANT

Tel: 0049 6181 103822

Email: office@lach-diamant.de

www.lach-diamant.de

Hall 4, Stand D41