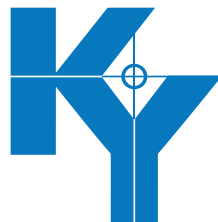


REDEFINING THE EDGE

ULTRA PRECISION DIAMOND TOOLS

FOR DEMANDING
APPLICATIONS

DIAMOND TOOLS FOR ELECTRO-OPTICS
AND OTHER HIGH-END MANUFACTURING



DIAMOND

www.kydiamond.ca

Ultra precision Diamond Tools Manufacturer

OUR UNMATCHED CAPABILITIES, YOUR ADVANTAGE

K&Y Diamond is the leader in precision & innovation when it comes to single-crystal diamond tools. With our team of highly skilled craftsmen and technicians, we are constantly pushing the envelope to create tools that nobody else can produce in order to meet some very unique and often challenging requirements.

Established in 1976 as a diamond tool company for the Watch and Jewelry industry, the company has slowly and methodically evolved into the technical leader that supplies an array of high-tech industries including:



- **Electro-optics** (diamond tools for non-ferrous metals, polymers and crystals)
- **Ophthalmic** (turning and milling tools used on all major brands of Spectacle generators)
- **High-end Swiss watch industry** (special small and highly precise tools)
- **Posalux and Benzinger machines** (diamond , PCD and carbide tools)
- **Contact lens and IOL** (diamond tipped inserts / shanks, single-crystal mills and drills for Haptics)
- **Automotive and Aerospace industries** (wide range of diamond PCD and CBN tools)
- **Endmills** (single-crystal and Polycrystalline diamond)
- **Custom** turning, milling, boring, flycutting, grooving, parting tools

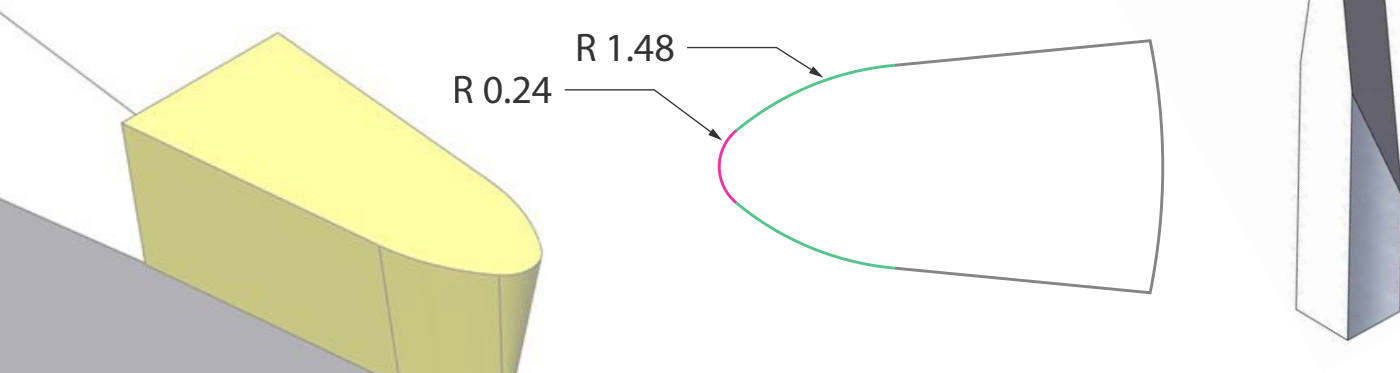
PRECISELY THE TOOL YOU NEED

In addition to standard tools, our team of CAD designers can lead and assist with tool customization. We will work with you to design and manufacture tools that meet your specific needs, as well as to provide you with a comprehensive re-lapping/re-grinding service.

Diamond can be Natural, HPHT synthetic or CVD, and we work with customers to determine the optimum material for the job. Lower cost "roughing" tools in PCD or PCVD are also available.

Tool shanks and inserts can match any design you need. You can also choose a range of shank materials including molybdenum, carbide, steel, and special no-chatter dense metal matrix shanks. We have state-of-the-art 5-axis equipment that can produce shanks or inserts in any geometry required for demanding applications.

We select only the finest quality diamonds available. Crystal orientation is crucial to making sure it will provide the required surface finish and wear resistance. Our polishing and inspection procedures allow quality assurance for our tools to perform to your expectations without any surprises.



WE ARE YEARS AHEAD

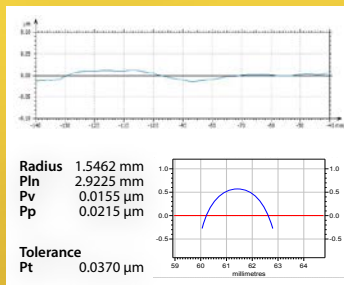
Unhindered from heavy corporate bureaucracy (an advantage of being family owned), K&Y Diamond proactively invests in capital equipment and state-of-the-art technologies. The company is owned and driven by the innovative Rene Guillaume who learned the business from his father. Rene began working with diamonds while in his teens, and has been building forward-looking polishing and metrology techniques for over 30 years. Rene plays a significant role in the industry as a driver of technical advancement. Our metrology equipment is the most recent available. We welcome the opportunity to work with you on your next challenging tool application.

AND WHAT IT MEANS

- Our radius generating equipment is specially designed to achieve **the lowest waviness on the market**. We control waviness to an unmatched level in the industry!
 $<10\text{nm}$ ($.01\mu\text{m}$) achievable on radius $<0.5\text{mm}$,
 $<20\text{nm}$ ($.02\mu\text{m}$) possible on radius size of $0.5 - 2.0\text{mm}$.
- We can achieve **radius size smaller than $1\mu\text{m}$** .
- Our tools feature **waviness control from top to bottom of diamond**, so it is not just over a small primary clearance like some other companies.
- We make “dead sharp” edges with **radius over intersection as small as $<5\text{nm}$** .
- Our equipment allows for **Included angle on diamond as small as 2°**
- We are also capable of producing conical or cylindrical **tools that compensate for inherent errors** introduced when using cylindrical radius and/or negative rake angles.
- **Also available from our lab**, Non-spherical radius / multi-radius tools for producing special threads, multi-focal optics, LCD display films, etc.



Profilometer



Resolution

0.2 nm

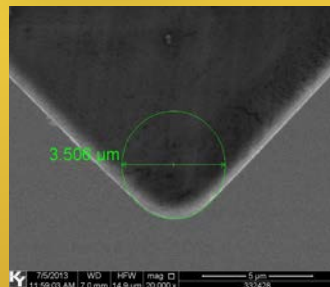
Precision

2.0 nm Pt

Inspection Capacity

100 tools/day

Scanning Electron Microscope



Optical Resolution

3 nm

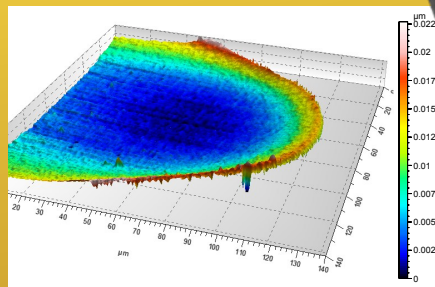
Inspection Capacity

20-30 tools/day

Magnification

x 150 000

Interferometer



Scale

40 mm

Resolution

0.1 nm

Inspection Capacity

> 50 tools/day

STATE OF THE ART LABORATORY



TOOL REPAIR/RELAP

We are aware of the importance of getting your tools back from repair as soon as possible, and our experienced and dedicated team ensures that the process is flawless and quick. When your repaired tools are shipped back to you, they will perform as new.

We are grateful for all of our loyal customers and look forward to meeting your needs and expectations as we continue redefining the edge!



K&Y Diamond

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CANADA

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USA Customers, please send all tools for repair to:

NFI Industries

c/o K&Y Diamond Ltd.
2002 Ridge Road
Champlain, NY, USA 12919