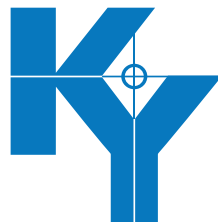


REDEFINING THE EDGE

ULTRA PRECISION DIAMOND TOOLS

FOR CONTACT LENS
AND IOL PRODUCTION



DIAMOND

www.kydiamond.ca

Ultra precision Diamond Tools Manufacturer

OUR UNMATCHED CAPABILITIES, YOUR ADVANTAGE

Single crystal diamond tooling is used in conjunction with ultraprecision CNC machines and other more traditional lathes in order to produce contact lenses and IOL lenses and/or mold inserts.

K&Y Diamond manufactures both insert type tools (and shanks) and rigid shank tools for all ophthalmic machine tool manufacturers including: DAC International, Nanotech, Precitech/Optiform, Precitech/Nanoform, CityCrown and others. Haptic mills and drills are also available that are made from single crystal diamond, and offer much longer lifetime compared to traditional tooling. CBN tools for hardened steel molds are also offered.

THESE OPTICAL ELEMENTS ARE COMPRISED OF THE FOLLOWING MATERIALS

Direct Lathe Lens Materials:

- RGP
- Hydrophobic
- Hydrophilic

Mold Materials:

- NiP (>10% P)
- CuNi
- Al
- CuZn



PART NUMBER SELECTION TABLE

	N	C3	60	R	020m	M						
TYPE OF DIAMOND	N Natural	M Synthetic	P PCD									
WAVINESS	N $\leq 2.00\mu\text{m}$	C1 $\leq 1.00\mu\text{m}$	C2 $\leq 0.50\mu\text{m}$	C3 $\leq 0.25\mu\text{m}$	U1 $\leq 0.10\mu\text{m}$	U2 $\leq 0.05\mu\text{m}$	U3 $\leq 0.02\mu\text{m}$					
INCLUDED ANGLE°												
SHAPE	R Radius	S Split Radius										
RADIUS SIZE (R & S)	X.XXm Radius in mm .XXX Radius in inch											
RAKE ANGLE	G 10°	H 8°	J 5°	K 3°	L 0°	M -3°	N -5°	R -10°	T -15°	W -25°	X -30°	Y -35°



K&Y Diamond has a wide variety shank sizes and angular offsets for insert holders.

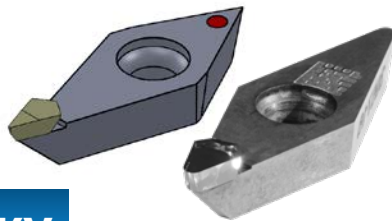
PRECISELY THE TOOL YOU NEED

K&Y Diamond's state of the art manufacturing and metrology techniques provide unique capabilities for shaping diamond into complex shapes with unsurpassed accuracy.

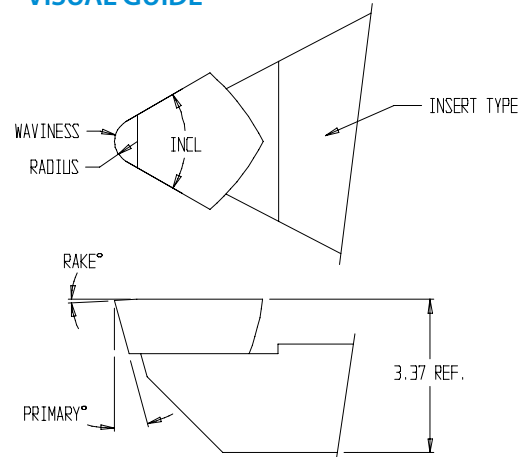
Our unmatched capabilities are your advantage! Contact us to find out how K&Y can give you an edge on the competition.

A CLEAR EDGE

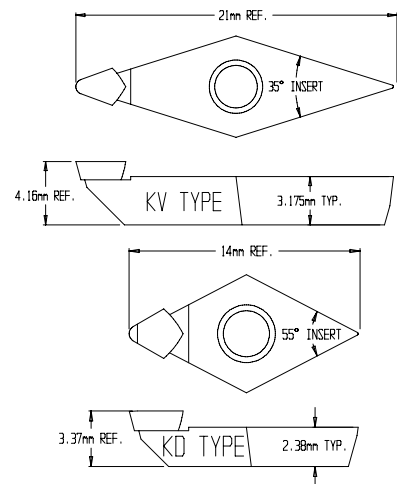
The cutting table of the diamond for machining these materials is typically configured with a neutral rake (0°) for metals and alloys, and either 0 or $+3^\circ$ rake for plastics. Diamond tool edge profiles can be configured with radii ranging from 0.001mm to 600mm, flat, V-shaped or split radius. K&Y Diamond can produce control waviness cutting edges over 120° tool sweep, as low as 20nm P/V. K&Y Diamond's state of the art manufacturing and metrology techniques provide unique capabilities for shaping diamond into complex shapes with unsurpassed accuracy.



VISUAL GUIDE



INSERT TYPES



E C 30 — KV

PRIMARY CLEARANCE	TYPE OF CLEARANCE	SECOND CLEARANCE	INSERT TYPE
B 30°	C = Conical	Optional XX°	KV 35° insert
C 25°	_ = Cylindrical		KD 55° insert
D 20°			CI Custom
E 15°			
F 12°			
G 10°			
H 7°			
J 5°			
K 3°			

Diamond End-mills for Ophthalmic applications: Haptic Milling or Marking



FEATURE	K&Y CAPABILITY
Radius	0.001mm to 600.0mm
Waviness	<10nm P/V over 120°
Rake	-35° to $+10^\circ$, $\pm 0.5^\circ$
Front clearance	3° to 30° , Cylindrical or Conical
Cutting profile	Full Radius, Split Radius, V-Tool, Flat, Elliptical, Custom Facet
Included angle/Sweep	2° Smallest included angle 180° maximum sweep
Shank Material	Insert Type, Carbide, Steel

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
1801 Boul. Saint Regis
Dollard-des-Ormeaux, QC, H9B 2M9
CANADA

sales@kydiamond.ca
T.: 514 676 0640 F.: 514 676 0645

USA Customers, please send all tools for repair to:

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