



**CONTOUR  
TECHNODIAMANT**

FINE & PRECISION TOOLING

Welcome to the world  
of Diamond tools

**Contour Fine Tooling** specialises in producing tools for the optical and precision engineering industries. Established in 1982, Contour has earned a reputation for innovation, precision, quality and value for money in the field of single point diamond cutting tools.

With manufacturing sites and repair facilities in England, The Netherlands, United States, Japan and Brazil Contour provides local customer support on a global basis.

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*Contour Fine Tooling and Technodiamant are members of the Diamond Tools Group B.V., with 17 companies in 12 countries all involved in the production of diamond tooling.*

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**Technodiamant**, since 1968, is not only specialized in producing tools for the optical and precision engineering industries, but is also dedicated to applications of diamond and CBN tools in other areas of industry such as rotogravure and grinding. Manufacturing sites in The Netherlands and Belgium and a sales site in the United States offer industries a comprehensive range of specialised diamond tools.

## Electro Optic Tools

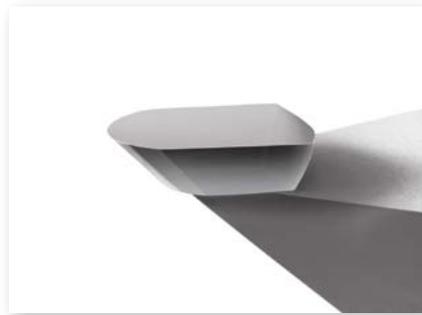
To meet the requirements of today's electro optics manufacturers we offer a complete range of diamond tools. This includes radius tools, half-radius tools, fly-cutting tools etc. For optimum cutting efficiency the correct tool geometry and diamond material must be used for any given material. Available with either natural or synthetic single crystal diamond. Different radius sizes and rake angles are offered. Tools can either be solid shank or insert style. Tools are provided with standard waviness or low waviness. Diamond orientation is controlled to maximize the wear-resistant characteristics.



For further information please contact either **Contour** or **Technodiamant**.

## High Clearance Tools

Tools with higher clearances are available for machining products with high slopes. Both conical and cylindrical clearances are available. Tools can either be solid shank or insert style. Tools are provided with standard waviness or low waviness.



For further information please contact either **Technodiamant** or **Contour**.

## Concave Radius Tools

As an alternative to existing production methods for optical quality convex lenticular structures, we provide an alternative solution in the form of concave diamond tools. Non-controlled and controlled waviness tools are available. They can be used in various processes that include raster fly cutting and ruling. These tools fuel the further proliferation of lenticular optical structures in, for example, Brightness Enhancement Film and 3D television applications.



For further information please contact **Technodiamant**.

## Milling Tools

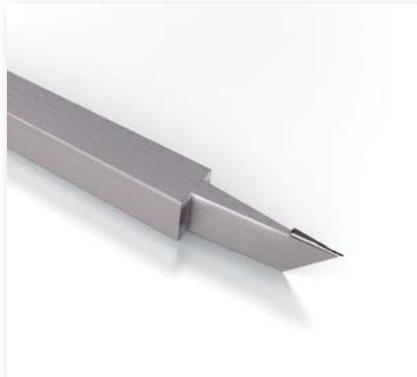
A complete range of milling tools to meet the requirements of today's users. Cylindrical milling cutters for milling micro structures, ball end or toric milling tools for free form machining of moulds and/or structures. Available in mono crystalline natural diamond as well as in poly crystalline CVD diamond.



For further information please contact either **Contour** or **Technodiamant**.

## Drum Tools

These tools are used for manufacturing films for LCD displays used in laptops, televisions, mobile phones. Many consumer electronics companies rely on the machining of large drums to produce the master templates. High visible materials are produced using similar methods. Sharp pointed tools and tools with various facets and facet widths are available. When requested very tight included angle is available.



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## Ophthalmic Tools

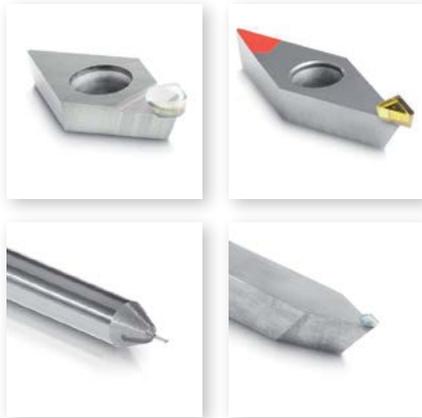
High quality fine cutting ophthalmic diamond tooling. These are often referred to as fine cutters and are the second stage of the lens generation process. We have a full line of natural and synthetic mono crystalline diamond tools that are designed specifically for use in the most common ophthalmic generators.



For further information please contact either **Contour** or **Technodiamant**.

## Contact Lens & IOL Tools

For the direct lathing and finishing of contact lenses and IOLs as well as for moulds we have developed a range of tools with non-controlled waviness (for bulk removal) and controlled waviness (for finishing). These tools are available with natural or synthetic single crystal diamond with the insert system or the traditional solid shank.



For further information please contact either **Technodiamant** or **Contour**.

## CVD Tools

Generally recommended for machining non-ferrous materials where high abrasion resistance and no optical finish is required. This means it can be used on a wide range of materials: aluminium, copper, brass and bronze alloys, metal matrix composites, graphite, glass-reinforced plastics and carbon fiber-based materials, sintered and pre-sintered tungsten carbide, plastics and rubber. The cutting edge preparation of the CVD diamond developed by Contour Fine Tooling offers the highest possible edge sharpness in combination with high wear resistance. This reduces production time dramatically (no grinding and less or no polishing) and more flexibility on produced shapes and forms.



For further information please contact **Contour**.

## PCD & PCBN Tools

PCD is used for non-optical finish machining of non-ferrous metals, alloys, composites, re- reinforced plastics, aluminium-silicon alloys, cast-irons, titanium alloys, ceramics and tungsten carbide. Grey and high strength cast irons can be machined with PCD as long as the temperature is kept below 700°C, otherwise PCBN is a better option. PCBN is generally recommended for machining steels with a hardness greater than 45 HRC. Both PCD and PCBN tools are available in ISO-inserts and custom made shanks. We are capable of creating extremely small features and profiles in PCD and PCBN with our manufacturing equipment including a wire erosion machine with a smallest diameter of 50 micron.



For further information please contact **Technodiamant**.

## Toolholders

Made in standard and customized offsets to fit inserts of existing designs. With the high production demands for toric designs and the need to remain cost competitive, new technologies are being employed using high speed tool actuators. We have met this challenge with lightweight titanium tool holders required to keep the tool mass to the absolute minimum.



For further information please contact either **Contour** or **Technodiamant**.

## Aperture Technologies Tools

Diamonds, PCD and tungsten, known for their hardness and wear resistance, offer significant advantages for a wide range of applications including: wire guides, coating tools for wire and cable industry, winding tools for the light bulb industry, nozzles for micro abrasive jets, air pressured water jet nozzles, etc. Aperture Technologies' expertise is in laser drilling, ultrasonic wire and polishing.



For further information please contact **Contour**.

## Rotogravure Tools

Technodiamant is one of the largest suppliers of natural and synthetic diamond tools used in rotogravure. The product range includes tools for the Helioklischograph and Ohio Engraver, and PCD tools for the Polishmaster, Kaspar Walter-CFM, Flying Scott and other milling machines.



Hell stylus



Rough cutter



Ohio stylus

For further information please contact **Technodiamant**.

## Anvils

Used to apply extreme high pressure to analyse material properties. Typically a sample is pressurized and then x-ray or laser radiation is passed through to determine properties under intense pressure. We use type IA or IIA diamonds without fracture, inclusions or imperfections. Synthetic diamond is also available (either HPHT or single crystal CVD). If required we can provide anvils with low or ultra-low fluorescence and low or ultra-low birefringence.



For further information please contact **Technodiamant.**

## Windows

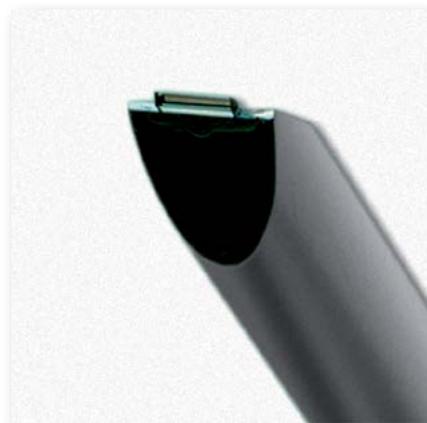
Diamond windows have a number of applications ranging from high power lasers in the automotive industries, to protective windows for wide range of spectroscopic instruments. The spectrographic applications range from use in space, to sampling in food industries and analysis of medical samples. Diamond is transparent across a very wide range of wavelengths and diamond inertness provides an ideal non-reactive window.



For further information please contact **Technodiamant.**

## Cleaving Knives

Technodiamant supplies a range of standard and custom diamond cleaving knives for fiber optics or other applications that can be used "free-hand" or incorporated into your own cleaving unit. A wide range of shank sizes and materials can be used in either rectangular, square, or round shapes. The diamond is normally brazed to the shank material, but can also be glued. Our capabilities and experience in this field assure consistency from tool to tool.



For further information please contact **Technodiamant.**

## Grinding Wheels

Diamond and CBN grinding wheels are utilized for applications in metalworking, electronic, plastic, ceramic and the glass industries. The grinding wheels can be provided with either resin, metal, ceramic, polyamide, or hybrid binder. Diamond wheels are used for grinding tungsten carbides, flame-sprayed wear resistant alloys, tungsten carbide/steel combinations, glass and ferrites. CBN wheels are used for grinding high speed steels, hardened high speed steels, hardened 12% chromium steel and flame-sprayed wear resistant alloys.



For further information please contact **Technodiamant.**

## Thin Wheels

These ultra-thin sawing blades are made from a carefully selected mixture of high-quality diamond powder and metal powder. The production method ensures blades with a very high rigidity and wear resistance which makes the wheels excellent for accurate cutting or grooving of electronic devices such as CSP packages, ceramics, and optical materials. Also, since they have both excellent rigidity and cutting ability there is low risk of wavy cutting. Other applications of these blades are the production of LED lighting, various types of semiconductor packages, mono-crystal ferrite, glass, etc.



For further information please contact **Technodiamant.**

## Glass Industry Tools

Metal bond diamond wheels (including shallow to full hemispherical profiles), drills and countersinks for the glass industry are used for the manufacture of automotive glass, mirrors, flat-glass and architectural glass products. These tools can also be used for other crystalline materials such as piezo ceramics. The glass drills and countersinks have a stainless steel body with a Belgian, habit or straight mandrel connection. Other connections including adapters are also available. Our monobloc design drills overcome problems with furnace yield caused by poor edge quality. Custom diamond wheels and drills can also be provided according to customer requirements including profiles in almost any requested shape.



For further information please contact **Technodiamant.**

# Micro Core Drills

Technodiamant produces a range of metal bond diamond Micro Core Drills that are particularly suited for drilling glass, silicon and ceramic materials. These drills are available with very small outside diameter sizes and tight tolerances. They can be mounted to any type of adapter and allow for coolant delivery through the centre of the drill to assure efficient cooling and clearing of the swarf. A range of water swivel adapters is available.



For further information please contact **Technodiamant.**

# Ceramic Tools

Technodiamant offers a full range of ceramic bond wheels. Please contact us with your requirements.



# Electro Plated Tools

Diamond plated and CBN plated tools are produced according to customer requirements. Please send us your inquiry for review.



For further information please contact **Technodiamant.**

# Dressing Tools

Technodiamant tools used for setting and profiling grinding wheels can be supplied in various configurations. In principle, each type of diamond tool has its own application. It is crucial to choose the right dressing tool, otherwise problems can occur when dressing grinding wheels, particularly when a high quality surface is required.



For further information please contact **Technodiamant.**

## Paste & Slurry

Diamond polishing pastes are supplied in either a water-soluble or oil-soluble carrier. The water-soluble paste, with very high adhesion is most suitable for use of higher rotational speeds. Before spreading, the paste requires to be thinned down with water or solvents such as carbon tetrachloride or trichloroethylene. The oil soluble paste, with less adhesion than the water soluble paste, is capable of being very finely spread. It is particularly suited for hand-polishing or for machine-polishing with a to-and-fro movement. This paste may also be thinned down with the solvents mentioned above.



For further information please contact **Technodiamant**.

## ClubCFT & ClubTDA

These web portals are available for our customers, providing a number of resources to help with their use and management of their diamond tools. The benefits include online technical references, tool management system and troubleshooting guides.

[www.clubcft.com](http://www.clubcft.com)

[www.clubtda.com](http://www.clubtda.com)



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## Tool Repair Service

Our qualified technicians at our facilities repair and service diamond tools quickly and reliably. Incoming tools are processed efficiently with the aim to achieve maximum tool life and to return the repaired or serviced tools in perfect working condition to our customers as quickly as possible. We also provide this repair service for most other brands.

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