

Delapena Sintered Products

High quality super abrasives
manufactured in the UK



Complete sintering production

We develop and produce super abrasives, specifically for the honing market, at our state-of-the-art production centre in the UK. In clean conditions we apply first class standards to the entire process, from mixing and dosing powders, to specialist sintering and quality control. Honing sticks are our core product, with capacity to produce over 250,000 high quality sticks per year.



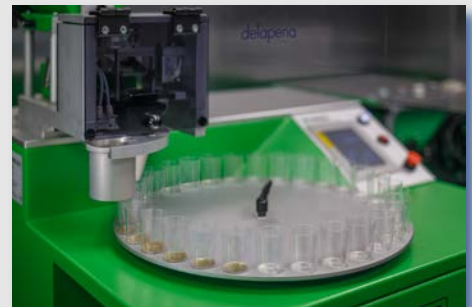
We have invested £250,000 in a state-of-the-art laboratory and clean production facilities at our UK-based headquarters. The standard of our site and the extraordinary expertise of our highly skilled team, make for unmatched standards of service and quality.



Every job is individually initiated with exact accuracy in the measurement of powders. We blend our own diamond powders and bonds, with a range of cutting characteristics, to suit all possible honing applications.



Blending and mixing is automated for consistency, but carefully controlled in our clean, laboratory environment.



Dosing is a precision part of the process, ensuring that exactly the right quantity of abrasive and bond blend is apportioned to each product.

Exacting quality assurance is built into our process

Whilst we have complete flexibility to produce super abrasives for specific applications, we are consistent and exacting when it comes to quality. Full traceability is an important feature of our process, with the ability to trace every honing stick back to the powders used, along with the sintering cycle data from the time of pressing.



Moulds are built by hand for every production run, with batch quantities of 1 to 1000's and the capacity to produce over 250,000 high quality sticks per year.



Each mould is loaded with precisely controlled powder doses. Like every stage of the process, care and attention is paid to ultimate quality.



The specialist sintering press is computer controlled and so sintering cycle data from the time of pressing is recorded for every single batch to facilitate complete traceability.



Quality is built into the entire process, with every batch finally measured for specific gravity, to a tolerance of 99.7 % accuracy.



Every product can be printed with specific information to facilitate full traceability. This includes the ability to trace every honing stick back to the powders used, along with the sintering cycle data from the time of pressing.

Specialist research and development for specific super abrasives

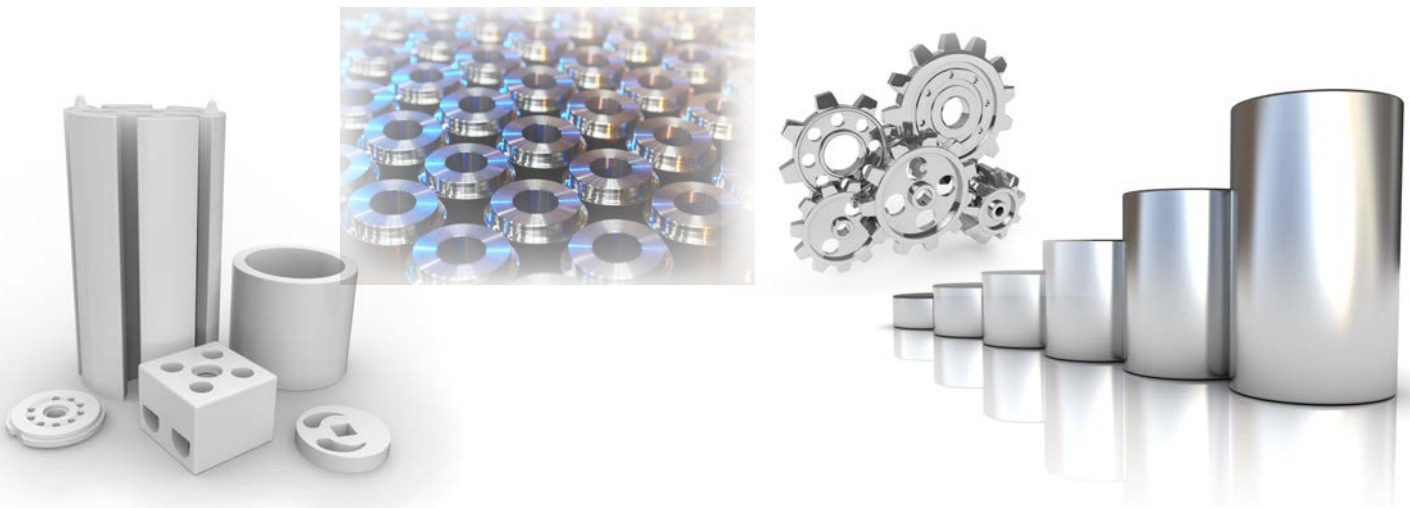
The honing market is expanding as new applications are introduced and abrasives developed that make it possible to hone an array of materials. We act as the UK's specialist research and development facility for the honing market, creating specific abrasives for customers' applications.



Honing more

Beyond just precision finishing, honing is now recognised for stock removal, to replace internal grinding and to create geometric integrity with an exact surface finish (holding tolerances down to a micron, with sub-micron adjustment).

New applications for honing are often driven by new materials to be honed. These include aluminium, brass, titanium and hard steel as standard, with harder materials such as ceramics, glass, molybdenum and inconel also within honing capability, with the right abrasives.



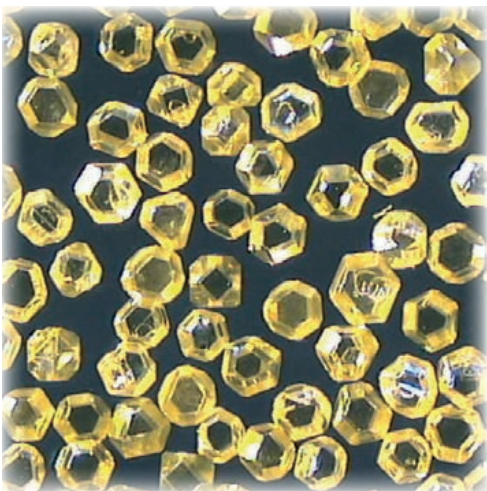
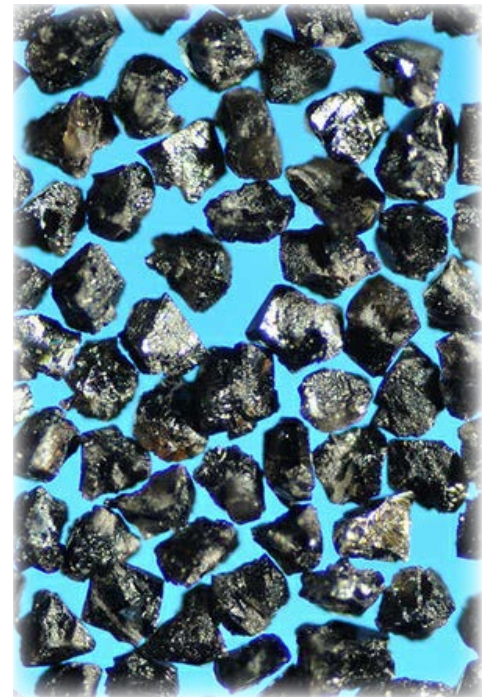
Diamond and CBN (Cubic Boron Nitride) abrasives

Diamonds and CBN (Cubic Boron Nitride) are the two main cutting crystals used in super abrasive honing stones. They have their own specific advantages and the choice of cutting abrasive can make a significant difference to the honing process. Selecting the right abrasive for the application is part of the expertise we bring.

CBN (Cubic Boron Nitride)

CBN is the second hardest material, after synthetic diamond, and is particularly suitable for machining ferrous materials. Desirable characteristics of a super abrasive include hardness, strength, abrasion resistance, and thermal and chemical resistance. Essential is the ability to maintain sharp cutting edges during use. These characteristics far exceed the values of conventional abrasives, such as silicon carbide and aluminium oxide.

Hardness is a crucial property of any abrasive. However, most abrasives suffer a loss in hardness at the elevated temperatures experienced during application. One of the physical advantages of CBN, compared to conventional abrasives, is that, in addition to being harder at ambient temperature, it maintains its hardness over a wide temperature range.



Synthetic Diamond grits

Delapena Sintered Products uses a wide range of synthetic diamond grits and powder products, to suit a wide variety of applications and the needs of different industries.

Using different sizes, shapes and strengths to suit specific application needs, means that we can meet exact requirements and ensure that the specification supplied is the optimal solution.

Grit Size

We use very coarse grit; D or B 252 (80 grit), to extremely fine micron size grit; D or B 15 (10-20 micron), as standard across the Diamond and CBN range.

Specialist bonds for specific honing needs

Working closely with our key suppliers, we produce a variety of bonds to suit requirements that range from general honing applications to more specialised materials and surface finishes.

Bonds for all honing needs

We combine the right mix of elements to create the bond best suited to the specific need.

Using only the highest quality raw materials, from our carefully selected partners, we have a wide range of bonds, for a multitude of materials and hardnesses.

From Copper and Tin, all the way through to Silver and Zinc, we utilise a wide range of elements to create the right composition of wear rate, strength and hardness for the specific material and required surface finish.

We have bonds for honing:

- Glass
- Ceramics
- Molybdenum
- Inconel
- Aluminium
- Brass
- Titanium
- Cast Iron
- Stainless Steel



Delapena offers the complete honing solution

To optimise performance

Tooling & abrasives

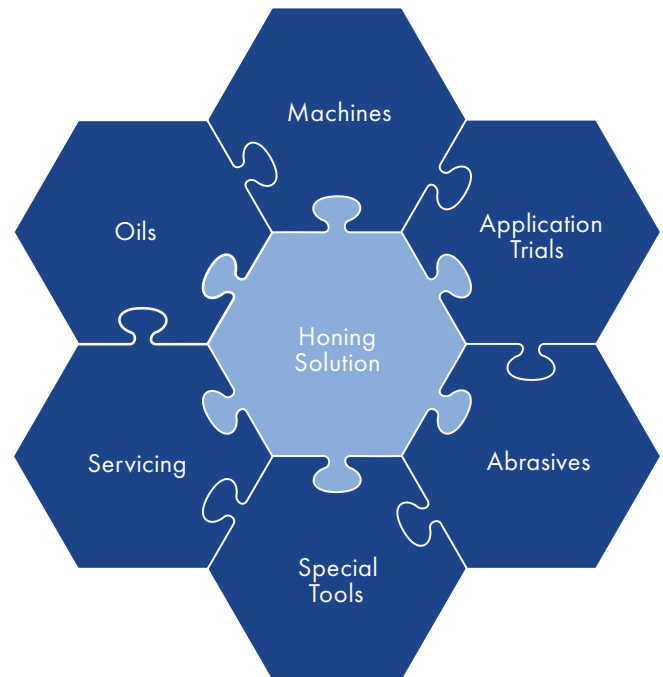
Delapena offers a complete range of horizontal, vertical and heavy duty tooling, plus special tooling which is designed and manufactured to order. Our tooling is supported by a full range of Standard and Super Abrasives to satisfy the most demanding requirements for the honing process, providing size, geometry and surface finish.

We also provide a professional refurbishment service for all variants of honing heads, to support your preventative maintenance programme.

Oils

We offer a range of high quality oils that focus upon:

- Improved surface finish
- Reduced environmental impact
- Improved operator health and safety, with low misting additives
- Improved lubricity, for reduced tool wear, better surface finishes and consistency for components
- Improved oil longevity for better value



To support use

Application trials

Each application trial includes data on surface finish, cycle times, abrasives and the best honing solution for the job.

Commissioning

Every machine is commissioned by a Delapena engineer who manages the set up and provides training for all operatives.

Training & continued education

To support clients to meet their Health & Safety requirements, we offer training as required for machine operatives. This is tailored to the specific client's requirements.

Maintenance

The name Delapena is synonymous with reliability and our machines are designed to be virtually maintenance free, with only annual checks required to ensure optimised operation. For reduced cost and downtime, Delapena machines can be remotely accessed via an internet connection to the Siemens control unit. This enables global remote access for assistance, immediate diagnostic assessment and rapid support.

Honing excellence all over the world

Part of Delapena Group, Delapena Sintered Products is an innovator in the design and manufacture of high quality, technically advanced super abrasives. Our company has an impressive history that spans over 85 years and we are exceptionally proud of our heritage. The name Delapena is synonymous with quality and is often used as a verb in the engineering world as the definitive for honing.

Today Delapena is recognised as a master in the honing market, operating internationally to offer complete honing solutions that include not only a range of technically advanced machines, but also the tooling, fixtures, abrasives and other consumables that optimise their performance. From manually operated machines to fully automated systems with Siemens electronic controls, Delapena offers a solution for every honing need and our customers rely upon our trusted expertise to optimise their process and surpass their objectives.



To learn more about Delapena Sintered Products or any other product or services from Delapena Group please visit

www.delapena.co.uk

For further details or a quotation call **+44 (0) 1242 516341** or email **sales@delapena.co.uk**

Delapena Sintered Products Ltd

The Runnings | Cheltenham | Gloucestershire | GL51 9NJ | UK

Tel: +44 (0)1242 516341 | Fax: +44 (0)1242 221246

sales@delapena.co.uk | www.delapena.co.uk



Delapena is an independently owned British company

