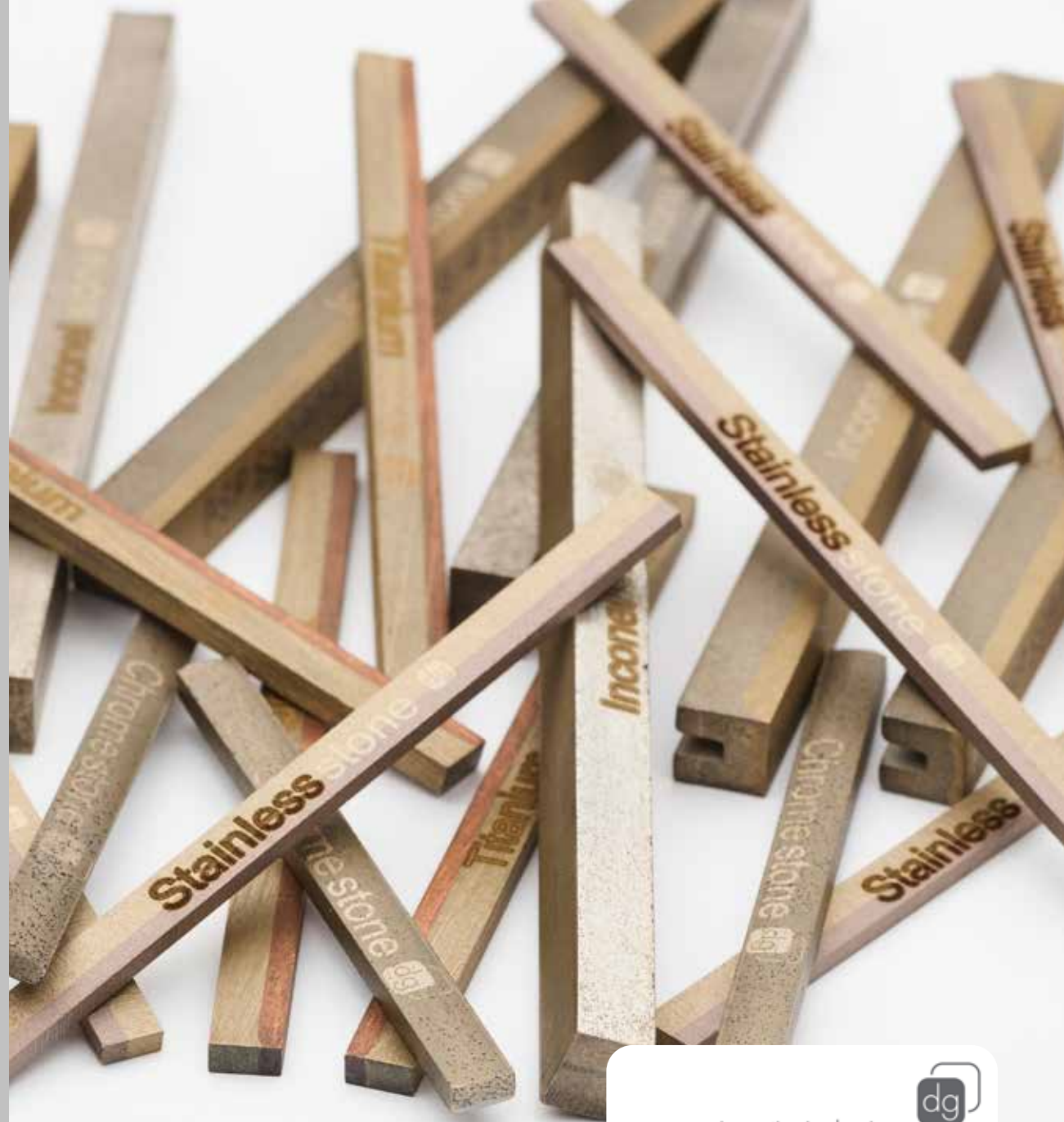


delapena sintered products

Part of delapena group, delapena sintered products is an innovator in the design and manufacture of high quality, technically advanced super abrasive honing sticks.



Introducing delapena sintered

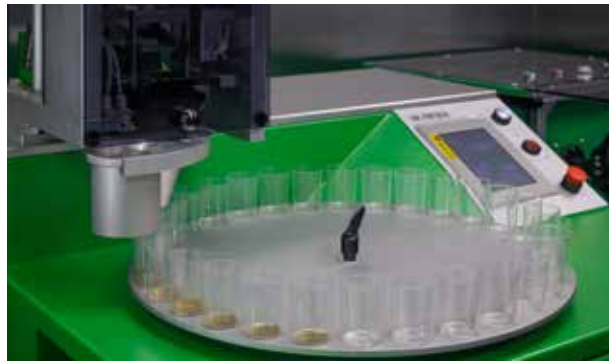
Complete sintering production

delapena 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.

Exacting quality assurance

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.

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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.

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.

Every product can be identified 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.





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 their 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.



Diamond

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.

Research and Development

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.

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.

We use very coarse grit; D or B 602 (80 grit), to extremely fine micron size grit; D or B 15 (10-20micron), as standard across the Diamond and CBN range.

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Products

Honing Sticks

In addition to manufacturing standard abrasive honing sticks, delapena sintered products have developed a complete range of Sunnen and Rottler compatible super abrasives in both CBN and Diamond.

All our honing stones are manufactured in standard sizes to meet OEM specifications, using the latest equipment to ensure optimum quality. We have the facility and experience to produce bespoke super abrasives to suit our client's individual requirements.

Materials

delapena sintering has the capacity to hone a variety of materials, including mild steel, ceramics, glass, and hard chromes. Each material requires a different type of abrasive to cut through the application effectively.

We hone bores from 1.2mm up to 1m, using delapena tooling and abrasives.

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Hard Chromes

Chrome plating tubes are common with extremely high surface hardness, we manufacture honing sticks to successfully cut hard chrome plating, with reduction cycle time of 50%.

Ceramics

Multiple industries' applications benefit from the use of ceramic materials. Our innovative new honing stick cuts a multitude of ceramic variations.



Cast Iron

Cast iron is utilised in applications where resistance to wear and deformation are beneficial. The automotive industry incorporates Cast iron within car manufacturing as it resists oxidation from air and water.

Stainless Steel

Common within many engineering fields and is utilised all over the world.





Chromestone

Honing Hard Chrome can be difficult due to the materials hardness and abrasiveness. Honing Chrome requires a Honing stone that can resist the build-up of the Chrome plating and keep an open structure. The delapena honing stone hones quicker with a lower honing temperature resulting in a longer tool life.



Inconelstone

Honing Inconel can be quite challenging due to its high hardness and work hardening tendency. The advantage of using a delapena Inconel stone is its rapid stock removal that eliminates the work hardening characteristics of the material.



Titaniumstone

Honing Titanium is demanding due to its hardness and heat resistance. Titanium is known to work harden which means it becomes tougher when machining. Using a delapena stone enable lower temperatures to be achieved during the honing process resulting in a lower work hardening of the material.



Stainlessstone

Honing Stainless steel can be moderately difficult as it is a durable and hard material. Stainless steel can be quite sticky and glaze over a standard honing stone. Using a delapena honing stone reduces material build up and also hones at a lower cutting temperature.

Specific Super Abrasives

Bonds for all 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.

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 harnesses.

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.

delapena sintered products uses a wide range of synthetic diamond grits and powder.

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Complete honing supplier

Tooling

At delapena we design, manufacture design an extensive range of standard and bespoke honing tooling and fixtures, in addition to specialist fittings for many other manufactures machines.

For every machine delapena makes a tool. Not only for special modifications on standard tooling, but for tools yet to be invented.

Our vertical tooling is throughout the world on a multitude of components and applications, with honing mandrels and horizontal tooling found in thousands of tool rooms.

The scope of our tooling caperbility is without limit and our expertise is matched by the quality of our service.



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Tooling refurbishment facility

delapena offers a complete comprehensive refurbishment service for any tool, replacing abrasives, guides, and any other component of a tool in order to bring it to full working order.



Honing consultancy

Un-trained staff or inexperienced machine set up can bring your production to a stand still, resulting in a significant impact on your organisation`s productivity. Our engineers can provide one-off troubleshooting, daily/weekly honing consultancy or training days to your honing and maintenance teams.



Machine services

To keep your components flowing at their optimal condition our engineers offer complete honing machine services.. We offer annually or fixed term service contracts.



Complete honing supplier

Services & solutions

delapena group are experts in the honing market, readily sharing our knowledge and expertise, making us a trusted and valued partner.

Our services include bespoke tooling machine design, reverse engineering of existing tooling as well as application development, abrasive development, honing consultancy, training, machine servicing and much more.

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The wider range

Selection of new generation honing machines

Our range of honing machines are user-friendly and versatile, producing consistently high-quality results. delapena honing machines feature control systems that allow for easy setup and storage of programs, with our iHone software making this easier than ever before on our range of new flagship machines.

delapena honing machines can be found in businesses all over the world. We provide comprehensive support, training, and guidance throughout commissioning and beyond.

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PowerHone E **precise/efficient/versatile**

The PowerHone E is a vertical honing machine for large and heavy components in small to medium batches and prototypes. Designed for both through and blind bores, producing an excellent surface finish



TubeHone **dynamic/commanding/dominant**

The TubeHone is the ideal machine for cylinders up to 4m in length. Our standard TubeHone hones up to 650mm bores, with bespoke options up to 1m. Powerful motors and a belt drive system ensure rapid stock removal.



PrecisionHone **flagship/advanced/accurate**

Our flagship machine, the PrecisionHone is a vertical honing machine for production honing of small parts. Accurate and packed with features, for large batch work and tight tolerances the PrecisionHone is the machine of choice. Now featuring our iHone technology; enabling ease of use and fast set up.



Intelligent honing

delapena brings you iHone, a graphical icon based machine interface designed to simplify the process of programming our honing machines. Using Siemens` touchscreen technology we now offer a conversational style interface that is easy to use, but still packed with features.

Much our our honing knowledge and best practices are baked into the iHone system, included are on-screen help pages enabling the operator to diagnose geometry and finish issues on the machine. The controller allows for extensive program storage enabling fast setup of repeat work maximising productivity.

Features

Large icon based function keys allow you to modify honing data on the fly and access in-process features.

In process monitors allows you to determine machine status at a glance from motor torques to cycle-time monitors.

Programs can be stored for later recall facilitating minimum set up time for repeat work.

Parameters are entered in a logical order and all pages accompanied by clear graphics to highlight the effect of each parameter.

The lower panel contains primary functions such as cycle time, mode select & emergency stop buttons.

All this is facilitated by a Seimens touchscreen panel that can be maneuvered to suit the operator.



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