



Vapormatt



Surgical instruments

For surgical instruments you can rely on,
start with a wet blasted finish

Vapormatt | Surgical instruments

The benefits of a wet blasting



- Removal of burrs and surface imperfections
- Create non-reflective surfaces
- Easier to sterilise
- Surface strengthening

When precision, confidence and accuracy are critical, you've got to have high quality instruments you can completely rely on for the best possible result. There's no better example of this than the high-pressure environment of an operating theatre.

Surgical instruments need to meet rigorously high standards that ensure each item is fit for its designed purpose. That's why instrument manufacturers are increasingly turning to Vapormatt to provide the wet blasting equipment that guarantees this.

Given the potentially very serious repercussions of any foreign bodies inadvertently left in a patient, burr removal is of critical importance. The highly accurate, controllable and repeatable nature of wet blasting lends itself perfectly to this operation. This high level of precision, coupled with the clean nature of wet blasting, gives manufacturers, and their customers, absolute confidence in the surface integrity of their instrument.

Typically, dry-blasting instruments creates a surface with $1.3\mu\text{m Ra}$ – well above the European Hygienic Engineering and Design Group's (EHEDG) acceptable limit. However, wet blasting with glass beads leaves surface roughness typically between 0.25 and $0.6\mu\text{m Ra}$ – the optimum surface Ra for instruments that need to be perfectly sterilised.

Alongside burr removal and a surface that can be perfectly sterilised, another primary advantage of wet blasting your surgical tools is to give a non-reflective surface. Non-reflectivity is essential, preventing staff from encountering difficulties caused by the reflective glare from operating theatre lights.

It's also essential for surgical tools to remain robust – no matter how delicate their use might be. To ensure nothing breaks away from the tool, and to preserve its integrity, wet blasting can be used to peen areas of possible weakness. Peening relieves tensile stresses that build up during the production process by strain hardening the metal. This means your customers can perform their intricate work in the knowledge their tools won't fail them.

The benefits of wet blasting Surgical instruments at a glance

Process	Advantage	Benefit
Burr-removal	Removes burrs without leaving embedded media.	The removal of burrs and embedded media reduces the risk of complications for a successful patient outcome.
Surface preparation	Reduces the reflectiveness of surfaces and produces a surface perfectly suited to sterilisation.	Reduction of unwanted distractions from light reflection in the operating theatre. Confidence that instruments are sterile and safe for use.
Peening	Strengthen areas of known weakness by reducing tensile stresses and strain hardening the surface.	Increases the life of the implant adding to the quality perception of the product and brand.



Why work with us?

Vapormatt isn't just the world leader in wet blasting. We invented the process and remain solely focused on it to this day.

Since Norman Ives Ashworth developed the first wet blasting machines in the 1940s, we've been developing, improving and refining wet blasting for edge radiusing, surface preparation and peening. And we're still led by the Ashworth family today, continuing to design and manufacture bespoke machinery and after-market services built to the specific requirements of your cutting tool inserts business.

Our expertise spans many different sectors: from tooling carbide insert manufacturing, to stainless steel weld cleaning. Our breadth of knowledge means we can explore a wider range of applications that benefit a business like yours.

Because at Vapormatt, while we might be pioneers of wet blasting technology, we never believe the job is done. We're constantly researching, developing our techniques and discovering new technological enhancements that we can apply to cutting tool inserts. Consequently, we hold and have patent applications pending in significant areas of process control and repeatability.

When working with you, we'll build a long-term technical partnership, giving you access to our know-how and world-leading wet blasting services. As a result, we understand you may need us to develop methods and processes in confidence. You'll benefit from our discretion too – in fact, we have a long track record of doing just that with our key customers across a number of high-tech sectors.

What you can expect of us?

- **Integrity** - We always conduct business with you in a confidential, honest, open and ethical manner
- **Commitment** - Every member of our team aims to exceed your expectations at every level
- **Innovation** - We're at the forefront of wet blasting technology, implementing our technical expertise
- **Value** - You gain value from us through our high levels of service and technical excellence
- **Collaboration** - As a customer focused company, we work collaboratively to ensure you enjoy the best possible experience

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The Vapormatt Promise

In designing and manufacturing specialist machines that meet your exact requirements, we're always improving. Always refining. Always pushing the boundaries. We build on the successes of the past, incorporating proven designs and approaches, and combine them with innovative thinking to meet the specific challenges we face together with you.

Throughout that collaborative process, we're also completely honest and discreet. And it's in this respect that we make a promise to you.

As we develop more efficient, more seamless and more effective ways to deliver the benefits of wet blasting to you, any off-the-shelf solution is unlikely to be suitable. So complete validation of every design detail is practically impossible, and some functions – software, for example – will inevitably need modification as they're integrated into your processes.

Equally, once the equipment is installed on your premises, things are unlikely to be up and running without a glitch from the first moment, in a plug-and-play manner. Performance will always improve as operators and maintenance teams become familiar with the machines and their operation.

Other manufacturers might shy away from such an honest admission. However, we accept that this is simply part of building and refining the right wet blasting machines for you. That's why we promise to make the entire Vapormatt team, including our engineers, designers and sales specialists, available to offer advice, guidance and practical assistance once the equipment is installed and integrated in your workplace.

And we won't be satisfied until it's working to its full potential and this promise is kept.

The four pillars of our promise:

- To continuously improve the design and manufacture of our equipment
- To provide you with machines of the highest possible quality
- To support you in achieving optimal performance from your machines
- To collaborate with honesty and discretion