



Vapormatt

Wire and cable

Automated surface preparation for wire,
cable and other strip products.

The benefits of wet blasting surface finishing specially adapted for wire and cable products

Wet blasting uses abrasive media, water and compressed air to achieve a desired finish on a surface. The addition of water, produces a much smoother and more consistent finish compared with dry blasting.

The process removes contamination, corrosion and other residue, whilst cleaning, increasing strength and durability. It also creates a reactive surface that is perfect for coatings like lubricants and adhesives for bonding.

Designed specifically for wire and cable finishing, our automatic Profelis wet blasting system allows for high levels of control so you achieve exactly the right finish for your products. Automation ensures that precise finish is delivered every time.

The specially designed blast manifold of the Profelis comes with 4, or optional 8 blast heads for complete 360 degree processing.

The system is designed to sit in line with existing manufacturing setups to ensure maximum productivity. To help with this it can be configured to run left to right or right to left as required.

And applications of the Profelis go beyond final wire and cable finishing. It can be used to create a reactive surface on wire for the application of lubricants that aid further drawdown processes.

The blast manifold of the Profelis wet blasting system and the controllable factors of the wet blasting process

Controllable Factors

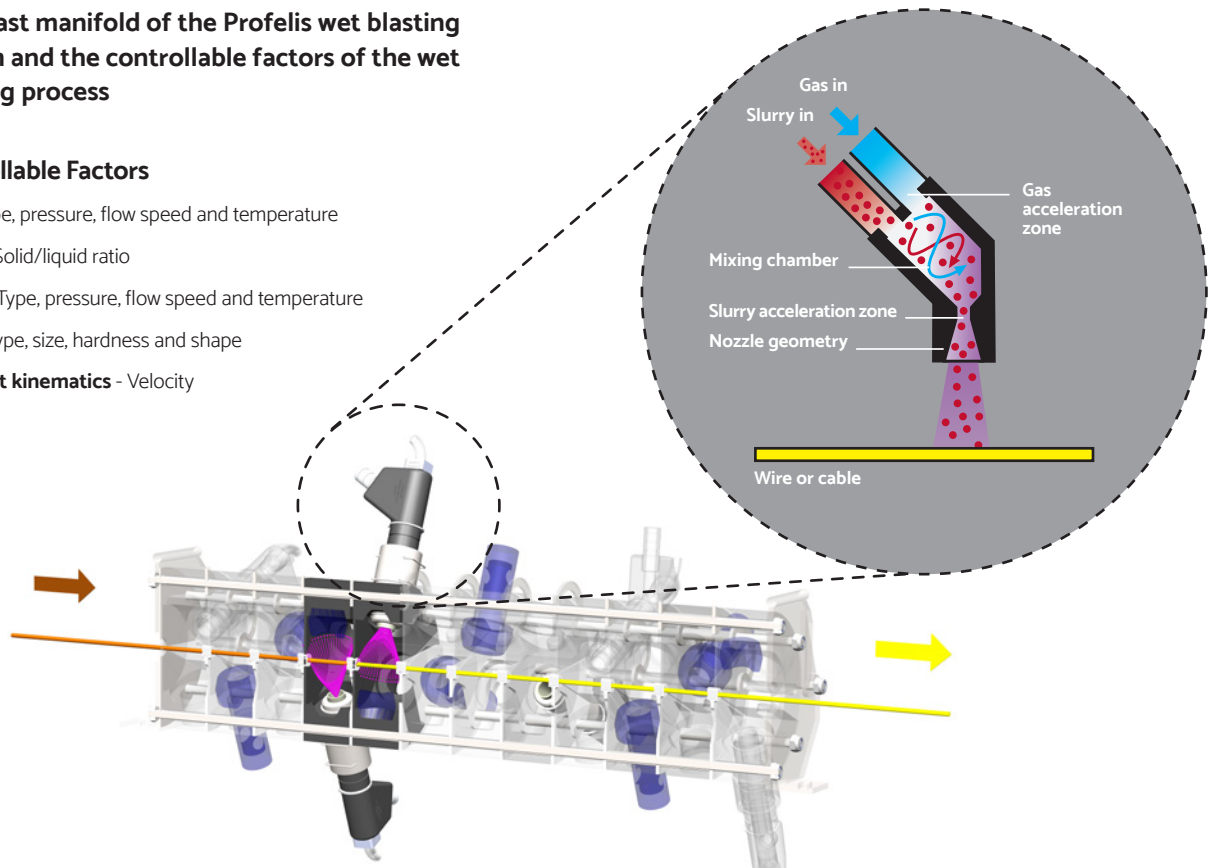
Gas - Type, pressure, flow speed and temperature

Slurry - Solid/liquid ratio

Liquid - Type, pressure, flow speed and temperature

Solid - Type, size, hardness and shape

Gun/part kinematics - Velocity



The combination of automation, in-line processing and high quality finishing means the Profelis delivers outstanding ROI compared with alternative finishing systems. All of this makes the system ideal for finishing:

- Overhead high voltage power cable
- Submarine communications cable
- High technology wire
- Spring wire
- Memory wire
- Carding wire
- Wire for conform

Some of the specific application and benefits are shown opposite.

In line processing by wet blasting

Applications and Benefits

Overhead power cable

Application: Creating a non-specular finish to high voltage overhead aluminium power cables. This process is situated 'in line' prior to the take up reel.

Result: The wet blasting process enhances the surface without substrate damage or excessive media inclusion.

Benefits: The non-specular finish improves the emissivity of the power cable enabling improved heat dissipation, reduced resistance and hence a greater current carrying capacity. In the USA a non-specular finish is a government requirement over all federal land, wet blasting aluminium power cable can produce a surface with an average diffuse reflectivity of less than 32%.

Aluminium feeder wire

Application: Cleaning of aluminium feeder wire, in line, immediately prior to the rotary extrusion process.

Result: The wet blasting process cleans the surface of the aluminium wire to a level where there are no surface imperfections or oxides drawn into the extrusion.

Benefits: Enables cost savings on otherwise expensive feedstock and reduces scrap on fine, intricate aluminum profiles.

Copper feeder wire

Application: Cleaning of copper feeder wire, in line prior to the rotary extrusion of intricate profiles.

Result: The wet blasting process provides a very clean surface that prevents imperfections and oxidation in the feeder wire being drawn into the extrusion process.

Benefits: Enables cost savings on otherwise expensive feedstock and reduces scrap on fine, intricate copper profiles.

Steel wire

Application: Cleaning of tool steel wire to remove soaps, drawing lubricants, most commonly graphite, which has conventionally been difficult to clean. It's also highly effective at removing heat scale.

Result: The wet blasting process entirely removes the graphite; leaving the wire clean for subsequent downstream forming, drawing, rolling, annealing, and heat treatment.

Benefits: Simple, environmentally friendly and effective cleaning. The Vapormatt process is proven to remove even the most difficult of lubricants.

Carding wire

Application: Cleaning and honing of carding wire after heat treatment. Removal of heat scale and grease.

Result: The wet blasting process removes all discoloration whilst honing the carding profile.

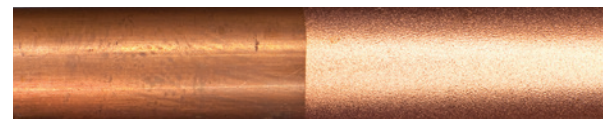
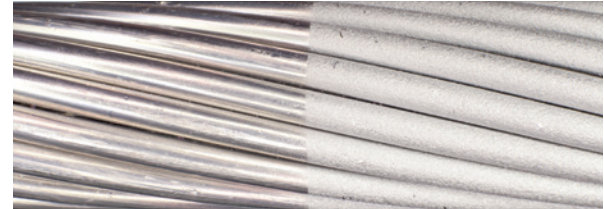
Benefits: Carding efficiency is increased due to the smooth finish and precisely honed edges of the carding teeth.

Submarine communications cable

Application: Creation of a clean reactive surface for bonding.

Result: The wet blasting process cleans the wire surface to a specific level of roughness (Ra) that is perfect for bonding.

Benefits: The strongest possible bond is created between surfaces due to the finishing of the cable surface to the specific Ra that is ideal for bonding. The blasting process does this without leaving embedded media in the cable.



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