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Wheelabrator

For cleaning and peening railway components, shot blasting delivers the highest productivity and quality.

Shot blasting and peening are central to railway manufacturing and refurbishing, with everything from wheels to whole carriages requiring cleaning or surface enhancement. Compared to manual working with power tools, shot blast machines (air or wheel blast) offer incredible productivity combined with predictable quality.

Blasting lots of complex parts is a challenge that Wheelabrator helps operators like SNCF meet. Whether you're cleaning new railway lines or peening springs, processing lots of

small components or just a few large ones, there is a solution to fit. Here's a round-up of typical applications and the state-of-the-art technologies available to handle them.

Don't Get Derailed

Shot blasting is the most efficient way to descale new tracks as they leave the factory and to clean up used ones prior to other operations like profile regrinding or milling.

Roller conveyor wheel blast machines rapidly clean rails in a continuous feed-through process, either as a standalone unit or integrated into a larger production line. Wheelabrator offers many roller conveyors for different applications and work speeds, with the Type G a popular

choice with large operators like Deutsche Bahn.

The Type G handles through-feed widths from 600mm to 3m, with up to eight blast wheels ensuring full coverage of every part of the rail profile.

Working with Wheelsets

Wheelsets define safety-critical components; regular inspection and periodic refurbishment are vital. Shot blasting provides a fresh, clean metal surface for ultrasonic or magnetographic crack detection, as well as the correct surface roughness for grip on the rail.

Blasting is also good preparation for any lathe re-turning required to

remove larger surface defects and restore the desired wheel profile. Installed at one Paris-based rail and metro operator, Ventus 350 PR cabinets can clean an axle in around 30 minutes. Specialised tooling is available to support the axles (minus wheels), with a carriage to move components in and out.

Automation Handles Whole Fleets

Where there are more axles to blast, companies including a large Swiss national rail operator pick equipment like the new Ventus 350 PR AXT. This semi-automatic, 2-axis machine can process an axle in 25–30 minutes. As well as greater throughput, automation delivers more consistent surface quality – perfect for these vital components.

Operators like SNCF and SNCB clean lots of complete wheelsets using the larger MC 2200 A. Fully automated, the base version can clean 30 standard wheelsets in an 8-hour shift. Larger again, the top specification MC 2200 A drives down cycle times below 15 minutes.

Both MC machines feature sophisticated pass-through processing, with axles on carriages entering and leaving the cabinet through automatic doors. The machines automatically recognise each part and select the relevant treatment programme, further enhancing throughput.

De-Stress Your Wheels

Train wheels are at serious risk of fatigue failure. By adding compressive stresses to the wheel

surface, peening helps prevent cracks forming.

Specialists like MG-Valdunes trust Wheelabrator's fully-automated, high-capacity, in-line shot-blasting machines like the Railway Wheel Peener. It offers fine process control, able to monitor and control variables such as blast velocity, blast media size and media flow rate.

Springier Springs

Leaf and coil springs are vulnerable





to fatigue failure too. Shot peening increases their fatigue strength and lifespan, raises the maximum working load and prevents sagging.

The exceptionally productive Wheelabrator RDS is purpose-built for coil spring peening. Parameters like throughput speed, blasting time, discharge speed, shot size and distribution can be controlled with absolute precision, letting the user deliver exactly the right peening intensity and coverage.

Shiny Bogies

A blasting booth with one or more operators controlling open-circuit airblast nozzles is the typical way to process small numbers of bogies but, where larger volumes are involved, a robotised solution offers the highest capacity.

Within an air-tight cabin, a robot arm directs an airblast nozzle which fires media like steel or corundum to blast away accumulated rust, dirt and old paint. Bogies are carried on trolleys which can simply be pushed through the loading door into

position, while a pit collects used media that is automatically recycled for re-use.

Blast a Fishplate or a Whole Carriage

Some rail components don't fit neatly into a certain blasting category. Smaller cast parts are best processed using fixed airblast cabinets while larger components may require blasting in situ.

The latter case requires mobile blasting, with portable pressure-fed, closed-circuit airblast kits offering extreme flexibility plus much higher

productivity over conventional power tools. Powerful, easy to use, compact and manoeuvrable, these machines' recovery systems continuously reclaim dust and debris while recycling reusable abrasive back to the gun, removing dust or disposal problems.

At the other end of the scale, closed-circuit machines are also perfect for refurbishing very large assemblies like carriages either off-site or within a custom-built booth where multiple operators stand on access platforms and operate the blast nozzles manually. Wheelabrator also builds large pass-through wheel blast machines for whole carriages.

These airblast rooms can be made to any size, feature honeycomb floors for abrasive recycling and cut cycle times by half or more compared to manually directed airblasting.

Boost Your Productivity, Capacity and Quality

With more railway miles, wear and maintenance on the way, rail's need for better, more efficient cleaning and peening is set to grow. If you intend to serve this market or improve your offering to clients, highly automated, precision shot blasting is the best route to profit.

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Save time and money with highly efficient shot blast processes

We offer a full range of shot blast solutions for the rail industry – from cleaning track to peening springs, from processing wheelsets to blasting whole carriages.

Increase your capacity, improve your productivity, stabilise your process.



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