



Dry Ice Blasting for Paint Booths

Remove overspray build-up without water, chemicals or grit

Every paint booth slowly coats itself. Overspray builds up on walls, floors, grates, light panels, doors, jigs and extraction surfaces. Over time it reduces lighting, disturbs airflow, sheds dust onto fresh work and adds to the fire load.

Most booths are cleaned with scrapers, chemical strippers, peelable coatings or pressure washing. These work, but they are slow and messy, they leave chemical or water residue in a room that needs to be dust and contamination free, and they keep the booth out of action for longer than anyone wants.

Dry ice blasting offers a different approach. In this guide I want to explain how it works and where it delivers real advantages for paint booths and finishing lines.

What is dry ice blasting?

Dry ice is solid carbon dioxide (CO_2) at around -78.5°C . Instead of melting, it turns straight back into gas when it warms, a process called sublimation.

In dry ice blasting, small pellets of this material are fired at a surface using compressed air. Three things happen on impact:

- **Impact energy** breaks up and dislodges the deposit.
- **Thermal shock** makes the residue brittle and weakens its bond to the surface beneath.
- **Sublimation** turns the pellet into gas, which expands rapidly and lifts the residue away from behind.

The pellets disappear into the air. The only thing left to collect is the residue that has been removed. There is no water, no detergent and no blast media to clean up afterwards.

Where dry ice blasting really outperforms traditional cleaning

1. It lifts paint build-up without chemicals

Thermal shock makes layers of overspray brittle and weakens their bond, and the expanding gas lifts them away. There are no strippers to neutralise and no chemical residue left to cause defects in the next job.

2. It is a dry process

No water goes into the booth, the floor, the pit or the extraction. There is no drying time, no damp left in the plenum and no risk of moisture causing finish problems when spraying restarts.

3. No grit left behind

Grit or soda blasting leaves media in every corner of a booth, which then turns up as dirt in the paint. Dry ice simply sublimates. The only thing to collect is the paint removed.

4. Gentle on booth surfaces

Dry ice is non-abrasive, so it removes build-up without scratching panels, lighting covers and glazing, or damaging seals. Pressure is adjusted for more delicate surfaces.

5. Grates, jigs and hangers

Floor grates, jigs, racks and hangers can be cleaned without soaking in strip tanks. Clean hangers also help with earthing on powder coating lines.

6. Less downtime

No stripper dwell time, no washing and no drying mean a booth can be cleaned and back in use much sooner, often within a planned weekend shutdown.

Environmental credentials

Finishing operations face tight controls on solvents, chemicals and waste. Dry ice blasting can help on several fronts.

- **Recycled CO₂.** The CO₂ used to make dry ice is typically recovered as a by-product of other industrial processes, such as fertiliser production and fermentation, rather than produced specially. Blasting returns it to the atmosphere it would otherwise have reached, so the process adds no new CO₂ of its own.
- **No chemical strippers.** Cutting stripper use reduces chemicals bought, stored and handled under COSHH.
- **No contaminated wash water.** There is no paint-laden water to collect, treat or pay to dispose of.
- **No blast media waste.** There is no spent grit to bag and send to landfill. The only waste is the paint removed.
- **Better booth efficiency.** Clean surfaces and extraction help airflow and lighting work as designed.

At a glance

	Scraping, strippers and washing	Dry ice blasting
Chemicals	Strippers often used	None
Water	Pressure washing adds water	None
Media left behind	Grit or soda gets everywhere	None
Drying time	Often hours	None
Surface damage	Scrapers can scratch panels	Non-abrasive
Waste	Paint, water and chemical mix	Only the removed paint
Downtime	Often days	Often much shorter

Typical applications in paint and finishing

- **Spray booths:** walls, floors, doors, light panels and glazing coated in overspray.
- **Floor grates and pits:** paint build-up on grates, channels and filter frames.
- **Extraction:** plenums, fan housings and accessible ducting.



- **Jigs, hangers and racks:** build-up on fixtures for wet paint and powder coating lines.
- **Powder coating:** booth surfaces, recovery systems and conveyor hangers.
- **Mixing rooms:** spills and build-up on floors, racking and equipment.

Our setup at Vortex Ice Labs, and why it matters in a paint booth

Vortex Ice Labs is a fully mobile service. We bring a complete, self-contained system to site, so there is no reliance on your own air supply. The air passes through four stages before it reaches the surface.

- 1 **Compressor.** This supplies the large, steady volume of air needed to drive the pellets. Consistent flow means consistent cleaning, with no drop in performance halfway through a job.
- 2 **Aftercooler.** Compressing air heats it, and hot air carries a lot of moisture. The aftercooler cools the air straight away so that moisture condenses and can be drained off. Without it, water would freeze inside the blaster, causing pellets to clump and block, and could be sprayed onto the surface being cleaned.
- 3 **Filtration.** Filters then remove the remaining water, any oil carried over from the compressor, and fine particles. In a booth this is critical. The whole point is to leave surfaces clean and dry, not to deposit oil or moisture that will cause defects in the next job.
- 4 **Dry ice blasting unit.** The pellets are metered into the conditioned airstream and delivered through the hose and nozzle. Pressure, ice feed and nozzle choice are adjusted for each task, from glazing and light panels to heavy layers of overspray on floor grates.

Every stage protects the result. Clean, dry air means a clean, dry booth ready to spray.

Working safely, and where it fits

Dry ice blasting is a powerful tool, and it should be planned like any other maintenance activity in a finishing area.

- **Ventilation.** As the ice sublimates it releases CO₂ gas. In a booth or pit this is managed with the extraction and, where needed, gas monitoring.
- **Noise and PPE.** Blasting is loud, and operators use hearing protection, eye and face protection, and insulated gloves. People nearby need to be kept clear of the work area or protected too.
- **Containment.** Removed paint flakes and dust travel, so we plan the work area, keep extraction running where suitable, and collect the waste afterwards.
- **Filters and fire risk.** Filters are changed as part of the clean where needed, and any paint residue is handled as your site requires.

Used this way, it is most valuable for periodic deep cleans, booth refurbishments and cleaning jigs and grates in batches.

Final thoughts

Finishing lines need booths that are clean, bright and free of contamination. Traditional cleaning will always have a role, but it brings chemicals, water, grit and downtime with it.



Dry ice blasting removes those trade-offs. It cleans without chemicals or media, leaves the booth dry, and gets it back into use sooner.

If you would like to see how it could work in your booth, I would be happy to arrange a demonstration or trial clean on site. Get in touch with us at Vortex Ice Labs.

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