



Dry Ice Blasting for Mould Removal

Removing mould from timber and structures without adding moisture

Mould grows where there is moisture and poor ventilation: lofts, roof timbers, cellars, voids and commercial buildings. It stains timber, damages finishes and is a concern for health and for property surveys.

Removal usually means scrubbing, sanding, wire brushing or chemical treatments. These work, but they are slow and messy, sanding removes timber, and wet methods add more moisture, the very thing mould needs.

Dry ice blasting offers a different approach. In this guide I want to explain how it works and where it delivers real advantages in mould removal.

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 removes visible mould

Dry ice lifts mould growth and staining from timber, brick and other surfaces, including rough timber and joints.

2. No moisture added

Dry ice adds no water, so it does not feed the problem it is removing.

3. Gentle on timber

It is non-abrasive, so it removes mould without sanding away timber.

4. No grit and no chemicals

No media to clear up and no harsh chemicals sprayed in the building.

5. Faster than scrubbing

Large roof areas can be cleaned much faster than by hand.

6. Ready for treatment

Clean surfaces can be treated with an antimicrobial if needed, and inspected properly.



Environmental credentials

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.
- **Fewer chemicals.** Less biocide and chemical cleaner sprayed in buildings.
- **No blast media waste.** No grit to send to landfill.
- **Preserving timber.** Less sanding means less timber replaced.

At a glance

	Scrubbing, sanding and chemicals	Dry ice blasting
Moisture added	Wet methods add water	None
Timber damage	Sanding removes timber	Non-abrasive
Chemicals	Often used	None from the ice itself
Media left behind	Sanding dust or grit	None
Speed	Slow	Usually faster

Typical applications

- **Lofts and roof timbers:** mould on rafters, sarking and joists.
- **Cellars and basements:** brick and timber.
- **Voids and crawl spaces:** subfloor timbers.
- **Commercial and agricultural buildings:** roof structures and walls.
- **Heritage buildings:** careful cleaning of historic timber.

Our setup at Vortex Ice Labs, and why it matters for mould removal

Vortex Ice Labs is a fully mobile service. We bring a complete, self-contained system to the property, so we do not need your power or compressed air. 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. This matters here. The aim is to remove mould without adding any moisture or oil to the surface.
- 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 delicate historic timber to heavily stained rafters.

Every stage protects the result. Clean, dry air means clean, dry surfaces.

Working safely, and where it fits

Dry ice blasting is a powerful tool, and we plan each job before we start.

- **Ventilation.** As the ice sublimates it releases CO₂ gas. Lofts and cellars are enclosed, so we manage this with ventilation and 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.** Mould spores are disturbed during removal, so we seal off the area, wear respiratory protection, protect the rest of the building, and collect the debris.
- **Fix the cause.** Removing mould does not stop it coming back. The moisture or ventilation problem that caused it needs to be found and fixed, and we recommend an antimicrobial treatment where appropriate.

Used this way, it is most valuable for lofts and roof timbers, large areas and anywhere moisture must not be added.

Final thoughts

Property owners need mould removed effectively without damaging the building. Traditional methods will always have a role, but they bring moisture, chemicals and timber loss with them.

Dry ice blasting removes many of those trade-offs. It cleans dry, preserves timber, and gets the job done faster.

If you have a mould problem, I would be happy to visit and test a small area. Get in touch with us at Vortex Ice Labs.

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