



Dry Ice Blasting for Spray Foam Removal

Cleaning spray foam residue from roof timbers

Spray foam insulation was sold to many homeowners as an easy upgrade. Since then, many mortgage lenders, surveyors and equity release providers have become wary of it, because it hides the condition of roof timbers and can trap moisture. Owners trying to sell or remortgage are often asked to have it removed.

Removing it is hard work. The bulk foam is cut away by hand, but a layer of residue stays bonded to rafters, battens and the underside of the roof. Scraping and sanding are slow, can damage timber, and still leave residue that surveyors may not accept.

Dry ice blasting offers a different approach to that final clean. In this guide I want to explain how it works and where it delivers real advantages in spray foam 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 foam residue from timber

After the bulk foam is cut away, dry ice lifts much of the remaining residue from rafters, battens and roof surfaces, leaving timber that can be inspected.

2. Gentle on timber

Dry ice is non-abrasive. It does not grind away timber like sanding or abrasive blasting.

3. No water

Dry ice adds no water to the roof space.

4. No grit in the loft

Abrasive media gets into ceilings, insulation and the house below. Dry ice leaves only the removed residue.

5. Faster than hand cleaning

Cleaning residue by hand in a cramped loft is slow. Dry ice is usually much faster.



6. Ready for survey

Clean timbers can be inspected properly, which is what lenders and surveyors want to see.

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.
- **No blast media waste.** No grit to send to landfill.
- **No chemicals.** No solvents or strippers in the home.
- **Preserving timber.** Less damage means less timber replacement.

At a glance

	Scraping and sanding	Dry ice blasting
Residue left	Often significant	Much less
Timber damage	Sanding removes timber	Non-abrasive
Dust and media	Sanding dust or grit	No media
Water	None	None
Speed	Slow	Usually faster

Typical applications

- **Residential lofts:** rafters, battens and the underside of roof coverings.
- **Sale and remortgage:** preparing roofs for a survey.
- **Equity release:** where removal is required.
- **Commercial and agricultural buildings:** foam on roof sheets and structures.

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

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 in a roof space. The aim is to leave timber clean and dry, not to add oil or moisture.
- 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 battens and membranes to heavily bonded residue on rafters.

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

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 are enclosed, so we manage this with ventilation and gas monitoring, and keep the hatch and house area safe.
- **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 residue travels, so we seal off the loft hatch and protect the house below, and collect the waste.
- **What it will not do.** Some foams bond very strongly and some residue may remain. We test a small area first and tell you honestly what to expect. Dry ice does not repair damaged timber; it lets it be seen.
- **Check with your lender.** Lenders and surveyors set their own requirements, so check what they need before work starts.

Used this way, it is most valuable for the final clean after bulk removal, before a survey.

Final thoughts

Homeowners with spray foam often need it removed to sell or remortgage. Traditional methods will always have a role, but they are slow, damage timber and leave residue.

Dry ice blasting removes many of those trade-offs. It cleans timber faster, without grit or damage, and gets the roof ready for a survey.

If you have spray foam to remove, I would be happy to visit, look at the roof and test a small area. Get in touch with us at Vortex Ice Labs.

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