

Cryogenic Decontamination

A fast and effective solution for the decontamination of rotating electrical machinery.

Cryogenic decontamination has become widely adopted by operators of rotating electrical plant as part of their general maintenance programme. Ideal for cleaning rotating machinery and associated equipment as well as reducing wear and tear, cryogenic decontamination can remove coatings such as oil, grease, dust, soot and mould often with minimal preparation, eliminating the need for dismantling and costly downtime.

Key Benefits

- Variable pressure can be applied, minimising the risk of damage to insulation
- Insulation Resistance (IR) measurements are taken throughout the decontamination process, serving as a tangible indicator to overall progress
- Can be carried out in situ or with minimal disassembly / plant disruption
- The use of a nontoxic material with the absence of water, solvents and detergents means it's an environmentally safe option
- The requirement for a drying out period and/or for the equipment to be 'baked' in an oven is removed, significantly reducing downtime
- The process can equally be applied to other electrical equipment such as switchgear, transformers, etc. and rotating parts, including fan blades
- Improved production quality

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HOW IT WORKS

Cryogenic decontamination uses an accelerator propelling particles of dry ice, through a stream of pressurised air. The resultant ice immediately sublimates away to a harmless vapour on impact. Kinetic energy is transferred from the dry ice particles to the surface, without any abrasion or damage to the substrate. The dry ice expands rapidly, forcing the contaminant to be removed from the surface, dislodging loose paint, varnish, oil, grease and carbon material. The result is a more efficient insulation system with optimal performance.

Why use Cryogenic Decontamination?

- **Minimising Waste:** Because nothing is added, it is a dry process, there is no secondary waste and no debris to pick up except for the contaminant itself. The materials being removed generally become a light, dry dust that can easily be cleaned.
- **Environmentally Preferable:** The process is completely non-toxic as no hazardous chemicals used.
- **Reduced Costs:** With no hazardous chemicals used, there are no associated costs.
- **Fast and Effective:** Dismantling requirements are largely reduced through in-place cleaning saving a lot of time, as well as reducing equipment breakage associated with cleaning operations. Items cleaned can also be immediately put back into service without waiting for them to dry out.
- **Non-Abrasive:** Even though it is aggressive, dry ice blast cleaning is absolutely safe to use on rotating machinery and associated electrical plant. It will not etch and leaves behind no additional waste or residue. Surface integrity and critical tolerances are preserved and equipment will not have to be replaced due to surface erosion.
- **Non-conductive:** The process is non-conductive of electricity, therefore it can be used on electrical components and wires, around switches and other components that need to remain dry.
- **Accessibility:** Cleans difficult to reach areas inaccessible by other methods.



You can rely on Quartzelec for all your decontamination requirements. Contact us to discuss your next project or to find out more about our range of products and services.

