



Blast Cleaning Weld Cells with a Disappearing Media

By Jenny Kulikowsky

It's not magic, nor a mystery. Imagine a blast media which requires no need for containment and poses virtually no safety risk or spillage concerns. A blasting tool which uses media that disappears on contact, leaving no need for cleanup. In addition, this blasting technique does not create additional dust. Sound too good to be true?

There are many tools in a toolbox, each with a special job to do. Dry ice blasting is a fast, efficient, non-abrasive method of cleaning industrial equipment and machinery. It is the environmentally responsible choice. Find out why you should add dry ice blasting to your toolbox.

A dirty weld fixture causes such problems as misalignment of parts and poor quality welds, leading to the unfavourable result of rejects and rework. Use of either harsh chemicals or grit blasting is time consuming, requiring several hours of downtime, and leaves not only the contaminant, but also the abrasive material to clean up afterwards.

What is Dry Ice Blasting?

Dry ice blasting lifts away dirt. Particles of dry ice, propelled at high speed by compressed air, impact and remove unwanted contaminants then sublimate, safely returning to the atmosphere as carbon dioxide gas. The underlying equipment surface is completely dry, oil free and undamaged, and the waste falls to the floor, easily swept away during final cleanup. Dry ice blasting is a non-flammable and non-conductive process, so it will not create fire hazards or damage active and sensitive electrical and mechanical parts.

Benefits of Dry Ice Blasting

Briefly, the benefits of cleaning weld cells with dry ice include:

- No need to power down.
- No masking of electrical controls, sensors, photo-electrics, relays and robot wiring.
- Maintenance prep time and commissioning time are near-zero.

- Massive reduction in cleaning costs, along with a higher-quality clean.
- No damage to contained wiring or equipment.
- No secondary waste on cell walls and doors.
- Improved pin cleaning.
- Improved arc time.
- Reduced overheating of equipment due to slag buildup.

Increased Uptime – Cleaning in place and online is possible with this method, because dry ice disappears on contact with the targeted surface, so there is no concern of harmful grit entrapment. Many time consuming, labour intensive steps are no longer necessary, including cool down, disassembly, transport of the equipment and reassembly. In many industries, downtime once measured in days or hours is now measured in minutes with dry ice blasting.

Reduced Equipment Damage – Dry ice blasting does not erode or wear away the targeted surface, as traditional grit media and wire brushes do. Surface integrity and critical tolerances are preserved. With traditional cleaning methods, equipment is often damaged (bumped or dropped) while in transit to or from a dedicated cleaning area. Cleaning in place eliminates this problem.

Reduced or Eliminated Caustic Chemical and Solvent Use – Many users of dry ice blasting utilize the process because of the need to reduce or eliminate toxic chemical/solvent use. Sometimes these reductions are necessary to comply with environmental regulations or to improve worker safety. Dry ice blasting is a safe alternative to hand scrubbing, and meets environmental regulations.

Faster, More-Thorough Clean – This process is far more effective than cleaning by hand. Many users point to the substantial labour savings when compared with scrubbing with abrasive pads or wire brushes. Dry ice blasting successfully cleans nooks and crannies that are difficult to reach by hand. This helps equipment run more efficiently, and greatly improves maintenance efforts, by



A Wickens technician cleans weld cells, on-site at SKD Milton, with dry ice blasting.

revealing leaks and other problems before they cause a major system failure. Dry ice blasting will remove years of contaminant build-up and even grit remaining from previous cleaning. This process can reduce your cleaning time by 75%.

Reduced Waste Disposal – Whether accustomed to using solvents or traditional abrasive media, industries that turn to dry ice blasting often see a dramatic reduction in waste volume. When removing hazardous material, other blasting media mix with the contaminant and all must be disposed of as toxic waste. Because dry ice blasting sublimates on impact, all that must be disposed of is the contaminant itself. The resulting savings are often remarkable.

Who Uses Dry Ice Blasting?

Tony Ramsumair, Robotics Engineer of SKD Milton, Ontario: "I 100% support dry ice blasting. It is the best method for cleaning weld cells. A clean tool produces better parts."

SKD Milton is a high-volume supplier of medium-to-large stampings and welded modules for the automotive industry. The company produces and ships more than two million stampings and welded modules per month to over 20 assembly plants throughout North America.

Darryl Sharpe, Technical Supervisor, responsible for half the MIG welding operation at F & P Manufacturing, Tottenham, Ontario: "Before implementing dry ice blasting, our costs were \$119,000 per year to manually clean the jigs and tooling. After switching to dry ice, our costs have been cut to \$25,000 per year, for dry ice and labour. Dry ice blasting has reduced our costs by almost \$100,000 annually, and we get a far better clean."

Based just outside of Toronto, F&P Manufacturing is the primary supplier of suspension and undercarriage parts to Honda Canada and Honda America. The company manufactures wheel knuckles, sub-frames, and steel components for the auto giant.

Where is Dry Ice Blasting Used?

Dry ice blasting is used globally, in almost every industry. Such a versatile and portable technology makes it easy to clean anything, from tiny, sensitive electrical and machine parts to entire facilities – floor to ceiling.

Many industries have switched to dry ice blasting as their cleaning method of choice for shutdown periods and outages. Also, they have adopted the technology for regular, general

maintenance on a weekly basis in their facilities and enjoy labour and time savings as a result.

Want to Add Dry Ice Blasting to Your Toolbox?

Wickens Industrial Ltd. provides Cold Jet dry ice blasting equipment and accessory sales, contract cleaning services to suit any need and a full rental fleet. Our specialized technicians provide complete training, maintenance and parts service for your dry ice cleaning needs.

If you would like to add dry ice blasting to your toolbox or learn more about this cleaning technology, please contact us at 1-888-900-0086 or visit our web site at www.wickens.com. Service is our reputation; you can count on us to give you the right tools for the job!



Manfan in an automotive assembly plant being cleaned in-place with dry ice blasting.

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