Dry Ice Blasting

How does your current cleaning process compare?

Dry ice blasting is the superior alternative to Media Blasting, Solvents, Water, Steam, Hand Cleaning, Chemicals and Abrasives

If you are experiencing prolonged downtime, high costs for secondary waste disposal or costly wear and tear on equipment it's time to evaluate your cleaning process and measure it against the Cold Jet dry ice blasting process.

Cold Jet dry ice blasting is an environmentally-, employee- and equipment-friendly alternative to most conventional surface preparation and cleaning methods. Compare your current cleaning process to the dry ice blast cleaning process and see how Cold Jet can add value to your business through improved productivity, reduced waste and lower costs.

<table>
<thead>
<tr>
<th>Cleaning Method</th>
<th>Secondary Waste</th>
<th>Electrically Conductive</th>
<th>Abrasive</th>
<th>Toxic</th>
<th>Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry Ice</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Excellent</td>
</tr>
<tr>
<td>Sand Blasting</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>*</td>
<td>Good</td>
</tr>
<tr>
<td>Soda Blasting</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>*</td>
<td>Good</td>
</tr>
<tr>
<td>Water Blasting</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>*</td>
<td>OK</td>
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<tr>
<td>Solvents/Chemicals</td>
<td>Yes</td>
<td>N/A</td>
<td>No</td>
<td>Yes</td>
<td>Limited</td>
</tr>
<tr>
<td>Power Tools</td>
<td>No</td>
<td>N/A</td>
<td>Yes</td>
<td>N/A</td>
<td>Limited</td>
</tr>
<tr>
<td>Hand Tools</td>
<td>No</td>
<td>N/A</td>
<td>Yes</td>
<td>N/A</td>
<td>Limited</td>
</tr>
</tbody>
</table>

* Upon contact, traditional blasting materials become contaminated when used to clean hazardous substances and objects. These blasting materials are also then classified as toxic waste and require appropriate safe disposal.

Top 10 Reasons Dry Ice Blasting is superior:

1. **Superior clean**: fewer cleaning cycles = less downtime
2. **Machines can be cleaned in place**: dry ice blasting is a dry process and requires no disassemble/reassembly which means much less downtime
3. **Quicker clean**: less resource = more runtime = more profits
4. **Non-abrasive, nonflammable and nonconductive**: dry ice blasting won't damage most substrates and can be used safely on electrical components
5. **No secondary waste clean up**: this not only saves additional cleanup labor and expense, but also means temporary containment areas can possibly be reused - an additional cost savings
6. **Can get into tight spaces that many other methods can not**
7. **Environmentally friendly**: meets USDA, FDA and EPA guidelines
8. **Operator safety**: no exposure to chemicals or grit media
9. **Operator efficiency**: not as labor intensive as traditional cleaning methods
10. **Clean enough for the food industry, strong enough for everything else**
Dry Ice Blasting vs the others:

Abrasive Blasting

This process results in some level of cleanliness and roughness with sand being the most common blasting media. Like all open blasting, sandblasting creates fugitive dust, and this dust is usually toxic. In all cases, it is a nuisance, creating mess and dramatically shortening the life of all nearby moving parts through wear.

Cold Jet dry ice blasting uses nonabrasive dry ice that won't wear away the surface being cleaned and won't create additional waste for disposal. You can also take the Cold Jet dry ice blasting system to your equipment - cleaning it in place without risky and time-consuming material handling. Cold Jet dry ice blasting is the logical choice when no surface roughness is desired.

Soda Blasting

Soda Blasting is generally an effective cleaning method. However, Soda Blasting, like all open blasting, creates a great deal of secondary waste. Often, the time spent blasting is matched, if not doubled by the time it takes to clean up the extra waste soda blasting creates. In fact, the residue and waste left behind by soda blasting can adhere to wood and other substrates being blasted.

Cold Jet dry ice blasting uses nonabrasive dry ice that often surpasses the clean left behind by soda, but does so without leaving any secondary waste to dispose of. There is also some debate as to the effects soda blasting can have on the PH levels of the soil it comes into contact with after blasting. Since Cold Jet leaves no secondary waste to attend to, the entire project time and the secondary mess are drastically reduced.

High Pressure Water Blasting

While it is among the fastest methods of cleaning, water blasting nevertheless has limited applications. On steel surfaces, for example, it cannot create any specific surface profile, which is a key parameter in paint performance. Also, the use of water induces flash rusting, which makes paint or coating application more difficult and risky. Furthermore the use of water blasting on production equipment including automated welding lines, presses, motors and machine tools can result in severe electrical problems. Many customers tell us that water blasting is the quickest way to burn up a motor.

Cold Jet dry ice blasting can be used on any variety of materials as well as on or near electrical equipment. Because dry ice evaporates quickly, equipment stays clean and dry. Waste streams are minimized as no additional waste (such as wastewater) results from the cleaning process.
Solvent Cleaning

Most solvent cleaning processes involve substances that are detrimental to the environment and worker safety. When solvents are used to dissolve unwanted surface materials, a subsequent flushing, rinsing or hand tool operation is frequently required to remove the dissolved materials. Equipment must often be disassembled or extensively prepared prior to the solvent cleaning to protect sensitive portions. Solvent management and disposal are also costly issues for businesses.

Cold Jet dry ice blasting dissolves and blasts away unwanted material in one step. Like solvent baths, the Cold Jet dry ice blasting process can simultaneously clean numerous objects with differing, complex geometries. Plus, Cold Jet dry ice blasting systems provide safe, thorough, in-place cleaning for components, sub-assemblies and complete machines. The dry ice evaporates on contact with the surface, preventing the creation of any secondary waste stream for cleanup.

Power Tool Cleaning

Power tool cleaning can provide a quick solution for flat, simple geometries—but it can also damage or wear down surfaces.

Cold Jet dry ice blasting provides the benefits of power tool cleaning without added "wear" on expensive molds and other production tooling. This, combined with an increased cleaning rate, is the reason Cold Jet dry ice blasting is rapidly replacing power tool cleaning in these operations.

Hand Tool Cleaning

Quick, easy tasks that would take too long to set up for more mechanized approaches are often accomplished by employees who clean only defined areas and use specified hand tools that may end up damaging your equipment.

Cold Jet dry ice blasting is the ideal tool for these "easy" jobs. When performed by trained employees using specific nozzles and according to various other parameters, the Cold Jet dry ice blast cleaning process results in 10 to 20 times less labor hours required for cleaning.
Environmental Facts about Dry Ice Blasting

Dry Ice Blasting is Clean and Safe

- Dry ice is an approved medium by the EPA, USDA & FDA, and is non-toxic, non-hazardous and inhibits mold & bacteria growth
- Dry ice blasting has been effectively used in EPA, USDA, FDA, AIB and GFSI inspected/certified facilities
- Dry ice blasting is safe to use with food processing equipment
- Dry ice blasting does not release harmful gases into the atmosphere
- Dry ice blasting does not generate secondary waste
- Dry ice blasting is safe and non-toxic (once particles impact the surface they dissipate into the atmosphere)
- Dry ice blasting reduces or eliminates employee exposure to (and corporate liability from) the use of dangerous chemical cleaning agents

Other cleaning methods can be toxic

- Sand, soda, or water blasting can leave toxic secondary waste to be cleaned up in addition to the toxic substrate
- Sand, soda, or water blasting can create downstream contamination that effects surrounding installations
- Soda blasting can kill surrounding vegetation
- Chemical and solvent cleaning methods are toxic, which creates toxic waste to be disposed of
- Workers are exposed to potentially harmful substances through the use of chemicals and solvents

Completely Environmentally Friendly

In addition to being clean and safe, it is also important to remember that dry ice is obtained as a byproduct of other industrial processes - i.e. it is made from reclaimed CO2. It does not produce CO2 or add CO2 to the atmosphere and therefore does not contribute to the greenhouse effect.

Dry ice blasting is truly, and completely, environmentally friendly!