



# CO<sub>2</sub> TECHNOLOGIES

DRY ICE CLEANING SERVICES



**On-Site Industrial  
Dry Ice Blast Cleaning Services  
Available 365/7/24**

# What is CO<sub>2</sub> Cleaning?

CO<sub>2</sub> or Dry Ice Blast Cleaning is a process in which dry ice particles are propelled by compressed air, at high velocities, to impact and clean contaminants from a surface. When removing a brittle contaminant such as paint, the process creates a compression tension wave between the coating and substrate. This wave has enough energy to overcome the bonding strength and the coating is “popped off” from the inside out. When

removing a malleable or viscous coating such as oil, grease, soot or wax, the cleaning action is a flushing process similar to high-pressure water. The dry ice particles hit, compress and “mushroom out”, creating a high velocity snow flow which actually flushes the surface. This reaction



is very different from sandblasting, which is similar to using an ice pick. Sand will cut or chisel away the contaminant, but dry ice “lifts” it away, like a spatula. The dry ice then sublimates and returns to the atmosphere as carbon dioxide gas (CO<sub>2</sub>). CO<sub>2</sub> is a naturally occurring element which constitutes less than 1% of our atmosphere. Only the contaminant itself remains after cleaning for easy disposal by sweeping or vacuuming.

## Industries and Applications

- >>> Printing machines
- >>> Food & beverage processing
- >>> Power station maintenance (generators, transformers, insulators)
- >>> Pulp & paper (motors)
- >>> Automotive assembly (robot welding)
- >>> Mine equipment
- >>> Marine (boat maintenance)
- >>> Electrical/electronic equipment
- >>> Rubber & plastic injection molding
- >>> Industrial maintenance & cleaning services
- >>> Disaster recovery (promoted by the insurance industry for cost-effectiveness)
- >>> Graffiti removal
- >>> Building facade & monuments
- >>> Historic restoration

# What are the advantages of CO<sub>2</sub> cleaning compared to more conventional methods?

| Table of Comparisons              |                    |          |                   |                         |   |
|-----------------------------------|--------------------|----------|-------------------|-------------------------|---|
| Pressure/Blast Cleaning Technique | Waste for Disposal | Abrasive | Health Hazard     | Electrically Conductive | Cleaning Method's Overall Effectiveness |
| Dry Ice (CO <sub>2</sub> )        | No                 | No       | No                | No                      | Excellent                               |
| Hot Water                         | Yes                | No       | No                | Yes                     | Limited                                 |
| Steam                             | No                 | No       | No                | Yes                     | Limited                                 |
| Water/Surfactant                  | Yes                | No       | No                | Yes                     | Limited                                 |
| Water/Solvent                     | Yes                | No       | Yes               | Yes                     | Limited                                 |
| Aluminum Oxide                    | Yes                | Yes      | Silicosis         | No                      | Highly Aggressive                       |
| Metal Shot                        | Yes                | Yes      | No                | No                      | Highly Aggressive                       |
| Glass Beads                       | Yes                | Yes      | Irrespirable Dust | No                      | Highly Aggressive                       |
| Sodium Bicarbonate                | Yes                | Yes      | Irrespirable Dust | No                      | Highly Aggressive                       |
| Sponge Blast                      | Yes                | Yes      | Silicosis         | No                      | Highly Aggressive                       |
| Pumice                            | Yes                | Yes      | Silicosis         | No                      | Highly Aggressive                       |
| Plastic Beads                     | Yes                | Yes      | Irrespirable Dust | No                      | Highly Aggressive                       |

- >>> No secondary waste - only the contaminant remains behind for easy disposal
- >>> Very cost-effective - efficient consumption of dry ice
- >>> 100% free of water - no damage to electrical/electronic equipment
- >>> Non-conductive - safe to use around electricity
- >>> Eliminates health hazards such as silicosis (from exposure to sandblasting)
- >>> Food grade (antibacterial disinfectant)
- >>> Non-toxic (environmentally friendly)
- >>> Subtle to highly aggressive non-abrasive cleaning for use on a variety of surfaces including delicate, porous and difficult to clean





## SERVICE

Standard & Custom Packages

## SALES

Full Product Line complete with training and technical support

## LEASING

Lease-To-Own and Other Options

### Our Dry Ice Blast Systems are...

- >>> User-friendly and fully mobile
- >>> Rugged and reliable
- >>> Powerful for aggressive cleaning
- >>> Safe for sensitive surfaces
- >>> Versatile for use with all forms of dry ice
- >>> Cost-effective requiring 30 to 50% less dry ice

