



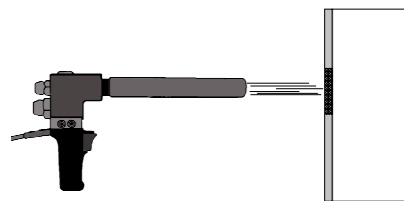
ASCO Dry Ice Blasting Technology

Advantages of Dry Ice Blasting

The ASCO Dry Ice Cleaning Technology is a gentle non-abrasive cleaning method suitable on almost all surfaces especially for mold cleaning in foundries, in the tire manufacturing, the plastic injection molding industry and the cleaning of machinery in general but especially in the food manufacturing process. Basically, it easily removes all materials, which react to differences in temperature or kinetical energy or a combination of both of them like release agent, plastic, synthetic and food residues, foam (e.g. PU), paint, varnish, adhesives, wax, bitumen, etc. without damaging or altering the surface. Another benefit is that it reduces the amount of waste material considerably.

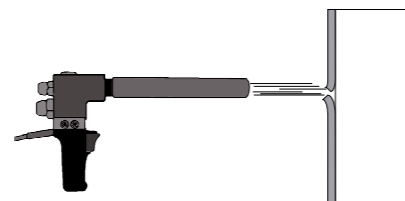
Cleaning Method

The ASCO Dry Ice Blasting Machines accelerate the pellets with compressed air to a speed of approx. 300 m/s (984.25 ft/s). The pellets hit the object to be cleaned. The surface is shock-frozen in a fraction of a second. Due to the cracking of the surface, the pellets can reach under the dirt and remove it using their kinetic energy. Immediately after impact, the pellets sublime without leaving any moisture behind. Since the hardness of the pellets is only approx. 2 Mohs, the cleaning is virtually non-abrasive, and the surface quality is maintained.



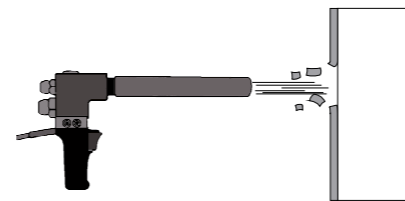
The thermo shock

As a result of the sudden and intense temperature shock on the surface, the coating or impurity contracts.



The cracking

As a result of the contraction the coating cracks and the material becomes brittle due to the cold.



The cleaning

The dry ice pellets hit the surface with great speed and remove the detached coating and clean the surface material.

What are the advantages over other cleaning methods?

Wherever conventional cleaning methods cause long and expensive down-time of equipment, machinery and/or labor, this modern technique considerably reduces down-time. The often costly and intensive after-treatment of the cleaned surfaces is no longer necessary.

Another major benefit of the ASCO Dry Ice Blasting Technology is that the removal and disposal of contaminated blasting media is completely eliminated as the dry ice pellets simply sublime back to the atmosphere.

Increased productivity - cost saving

- Since this cleaning technology is dry and non-abrasive, it can be applied directly onto the object to be cleaned. Thus down-time can be reduced to a minimum. Time is saved and cooling down or the other way around heating up of tools is obsolete.
- Cleaning of machinery, tools, molds, conveyors etc. can be done without removing them from the machine.
- Cleaning even during the running process is no problem.
- Another benefit is that it reduces the amount of waste material considerably, especially for hazardous waste.

Increased quality - non-abrasive

- The hardness of dry ice pellets can be compared with the hardness of chalk. Therefore the surface structure of the cleaning surface is not being damaged nor altered in any way.
- A gentle but nevertheless effective cleaning technology.
- Suitable for very sensitive and fine-structured surfaces (CD-stamp, wafer, polished surfaces)
- Fine edges and delicate structures remain unchanged.
- Non scrubbing (Steel brushes, scraper)

Dry & Health

- Cleaning with dry ice is a dry and non-conductive cleaning process.
- By eliminating the use of solvents and hazardous chemicals the dry ice cleaning method is safe for people and environment.

Environment friendly

- The dry ice sublimates on impact onto the surface. Only the removed contaminant remains. It is not necessary to dispose the cleaning media - it reduces waste dramatically!
- No sewage - or cleaning and filtration of waste water
- No contamination by hazardous additives, chemicals etc.
- No remains of the cleaning media
- Non toxic

Powerful and efficient

- Direct cleaning for instance onto hot molds without having to cool them down first.
- Normally, no disassembling of the machine parts is necessary.
- Unique nozzle technology with sophisticated aerodynamic flow characteristics.

Compact, mobile and polyvalent

- The equipment is light, mobile, low in maintenance, reliable and easy to operate.