

Dry Ice Blasting in the Rubber Industry

Mould and tool cleaning without production stop

ascoco2.com



With our ASCO dry ice blasting technology, we have developed a powerful process that is particularly suitable for gentle mould and tool cleaning (e.g. tire moulds).

Especially in the rubber industry, the cleaning of tools and moulds is an important part of the manufacturing process and of great importance. Not only can quality be increased, but productivity and costs can also be optimized.

The ASCO dry ice blasting technology offers the following advantages:



POWERFUL & GENTLE

The hardness of dry ice pellets can be compared to the hardness of chalk. As a result, the surface structure of the cleaning surface is not damaged or changed in any way. Dry ice blasting is a gentle yet effective cleaning method. Unlike steel brushes or scrapers, dry ice blasting does not damage materials. ASCO's unique nozzle technology with sophisticated aerodynamic flow behavior ensures optimum blasting result.



COST SAVING

Downtime of the objects or machines to be cleaned, interruptions of production and expensive disposal of hazardous waste are eliminated.



TIME SAVING

Cleaning of machines, tools, moulds, conveyors, etc. can be performed during the ongoing production process. Since this cleaning technology is dry and non-abrasive, it can be applied directly onto the object to be cleaned. This way, downtime can be reduced to a minimum. Cooling or, conversely, heating of tools is not necessary. This saves valuable time.



ENVIRONMENT FRIENDLY

The pellets immediately change to a gaseous state on impact. Only the removed contamination remains. There is no need to dispose of the cleaning media. This reduces waste dramatically! No sewage - or cleaning and filtration of wastewater. No contamination by hazardous additives, chemicals etc. No remains of the cleaning media. Dry ice is basically non-toxic.



SAFETY

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 technology is safe for people and environment. The equipment is light, mobile, low in maintenance, reliable and easy to operate.

Rubber Industry: This is how dry ice blasting is used

Many manufacturers of rubber industry use dry ice blasting to avoid expensive production downtime and to achieve higher quality through more regular cleaning. The moulds are not damaged by the blasting media or the temperature difference.

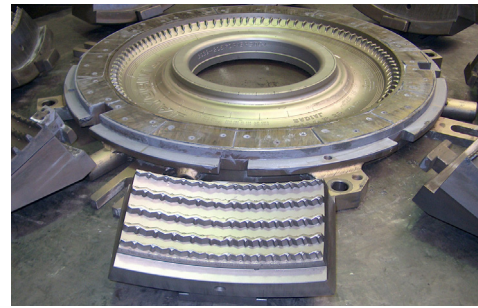
The quality of the cleaning also decisively determines the production quality and the service life of the moulds.

An important factor for production is the gentle cleaning of mould surfaces, such as the **removal of adhering polymers, kerosene deposits, carbon burns and release agents.**

Gentle cleaning can be carried out directly on the machine in the assembled state without causing downtimes and set-up times.



Tyre mould



Tyre mould

Our competence - your advantage

- For special applications in the rubber industry especially for aggressive contamination of large moulds, our **ASCO blasting units ASCOJET 1208 and 1701** can achieve excellent results.
- Together with specially developed blasting nozzles, our **ASCO blasting units** are the perfect all-round package for the rubber industry.
- The rubber industry is the driving force behind the development of our blasting technology. Tough operating conditions require solid blasting technology. The modular and maintenance-friendly design of ASCOJET blast units makes it possible for maintenance and wear repairs to be carried out by in-house technicians in the plants. This saves money and prevents unnecessary downtime.



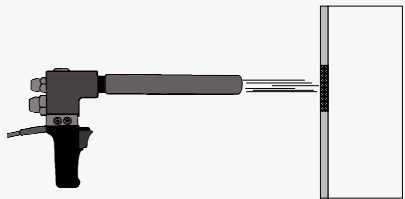
Conclusion: Are you looking for a competent partner for the optimum cleaning solution for injection moulds and tools? Benefit from our decades of experience in the rubber industry. We will be happy to help you to find a tailor-made solution for your application.

The Process

Dry ice is produced from liquid CO₂. Inside an ASCO dry ice pelletizer, the liquid carbon dioxide is expanded under controlled conditions to form dry ice snow (approx. -79 °C) is pressed into pellets by a corresponding extruder plate.

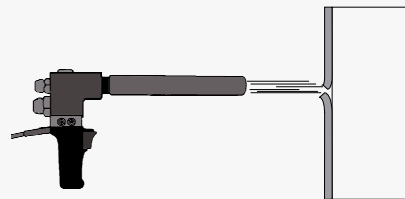
The dry ice pellets are filled into the ASCO dry ice blasting unit and conveyed to the blasting gun. Here the pellets are accelerated with compressed air to a speed of up to 300 m/s and hit the moulds to be cleaned. The impact of the pellets creates a punctual thermal shock and kinetic energy which removes the contamination. The pellets immediately change to a gaseous state on impact, leaving a clean and dry surface. Only the removed contamination remains, and no abrasive needs to be disposed of. Since the pellets only have a hardness of less than 2 Mohs, the surface quality is maintained. Likewise, thermal shock has no adverse effect on the surface structure of the moulds.

Cleaning Method



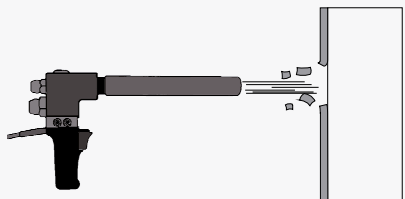
The thermo shock

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



ASCOJET 1208
The Small Industrial



ASCOJET 1701
The Industrial Allrounder



ASCOJET 1708 Combi Blaster
The Flexible Abrasive



ASCO CO₂ Detectors
For your Safety



Dry Ice Box AT126
Storage of Dry Ice Pellets



Dry Ice Pelletizer P15i
Production Capacity
150 kg/hr for 3 mm Pellets

The complete solution

As leading provider of complete dry ice blasting solutions, ASCO's aim is to find tailor-made solutions for individual customer requirements. The extensive ASCO product and service range consists of:

- Dry ice blasting units
- Dry ice pelletizers
- Dry ice containers
- CO₂ gas detectors
- Wide range of accessories
- Specially developed guns or nozzles
- Automated cleaning solutions
- High quality dry ice
- Building up your in-house dry ice production

ASCO not only introduces you to the ASCO dry ice blasting technology but helps also with integrating dry ice cleaning into the production process and continually optimizing it.

In case of an increased demand for dry ice we will be pleased to offer you an economical calculation for your inhouse dry ice production to optimize on cost and quality. Our product range contains dry ice pelletizers with production capacities from 150 to 750 kg/hr.

The **ASCO CAREFREE rental solutions** enable you to have your own dry ice production without investment costs! Ask us!