

Dry Ice Cleaning in the Plastics Industry



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Cold Jet[®]
the force of nature

We are Cold Jet

The global experts in environmentally sustainable cleaning, surface preparation and cold chain management solutions.

Dry Ice Cleaning

Cold Jet has developed the most efficient dry ice blast cleaning technology available. Our environmentally responsible systems are used for cleaning, surface preparation and parts finishing. Designed with unrivaled innovation, unmatched performance and based on years of customer input, our systems let you clean better and with less effort, thus increasing productivity and profit.

Dry Ice Production

Our dry ice manufacturing technology offers the greatest level of reliability and the highest quality of extruded dry ice. Dry ice production systems are fully automated, provide the best output to footprint ratio, offer dry ice on demand and pass UL, USDA, FDA and CE standards.



Integrated Dry Ice Cleaning

Our dry ice cleaning systems are ideal for production integration. Cold Jet's integrated systems combine a pelletizer unit with one or more blasting system for continuous or fully automated use. They are custom-engineered to meet our customer's specific requirements.

Distinct Solutions in Diverse Industries

- Aerospace
- Automotive
- Composites
- Contract Cleaning
- Disaster Remediation
- Electric Motor
- Food & Beverage
- Foundry & Metal Forming
- General Maintenance
- Historic Restoration
- Oil & Gas
- Medical Device Manufacturing
- Packaging
- Plastics
- Power Generation
- Printing
- Restoration
- Textile
- Transportation

Local Company with a Global Presence

We are local. Everywhere. With 13 service centers located in 10 countries - and with the largest install base of human technical resources - when you need us, we will be there. The Cold Jet customer support team is available 24/7 to provide the personal service your business demands.

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Finland
Ireland
Slovenia

Great Britain
Norway
Sweden

Greece
Romania
Turkey

Asia Pacific

Australia
New Zealand

India
Philippines

Indonesia
Thailand

Japan
Vietnam

Malaysia

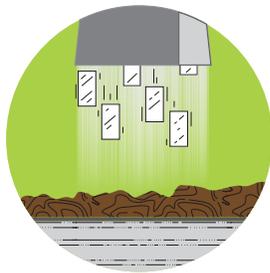
Singapore

What is Dry Ice Cleaning?

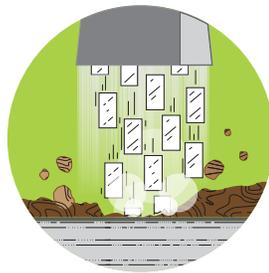
Environmentally Responsible Cleaning & Surface Preparation

How it Works

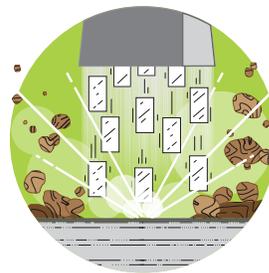
Dry ice cleaning is similar to sand, bead and soda blasting in that it prepares and cleans surfaces using a media accelerated in a pressurized air stream. It differs in that dry ice cleaning uses solid CO₂ pellets or MicroParticles, which are blasted at supersonic speeds and sublime on impact, lifting dirt and contaminants off the underlying substrate.



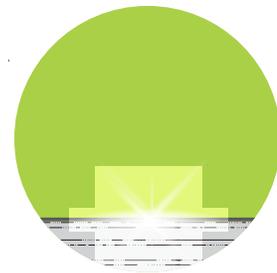
DRY ICE IS ACCELERATED BY COMPRESSED AIR THROUGH A NOZZLE AT SUPERSONIC SPEEDS.



THE TEMPERATURE (-109°F) OF THE DRY ICE CAUSES THERMODYNAMIC SHOCK. THIS HELPS BREAK THE BOND BETWEEN THE SURFACE AND THE CONTAMINANT.



ONCE THE DRY ICE COLLIDES WITH THE SURFACE, IT SUBLIMATES - CAUSING A MINI CO₂ EXPLOSION, LIFTING AWAY THE CONTAMINANT.



BECAUSE DRY ICE IS NON-ABRASIVE AND TURNS TO GAS, YOU ARE LEFT ONLY WITH A CLEAN SURFACE - NO SECONDARY WASTE.

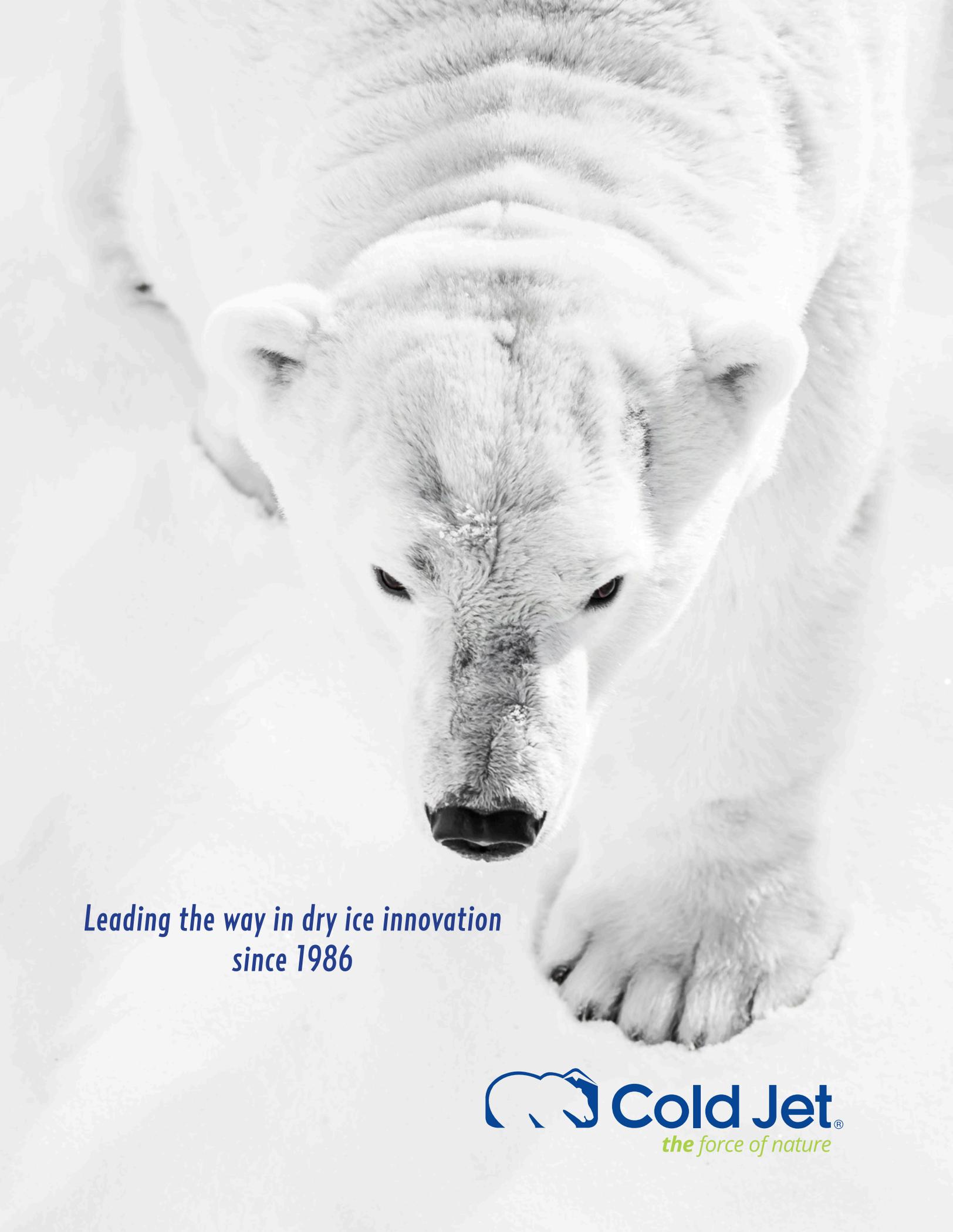
Why it's Better

The unique characteristics of dry ice make it the perfect cleaning media. Dry ice is non-abrasive, non-conductive and will not damage surfaces or equipment. It sublimates on impact, leaving behind no secondary waste. It is non-toxic and safe for employees.

These attributes make dry ice cleaning an efficient, cost effective and environmentally responsible cleaning solution.

Dry Ice Cleaning is Effective & Safe

Dry ice is made of reclaimed CO₂ and does not produce more CO₂ or add additional greenhouse gases to the atmosphere. The EPA, FDA and USDA approved media does not release harmful gases or generate secondary waste. It is safe, nontoxic and reduces or eliminates employee exposure to the use of dangerous chemical cleaning agents. Dry ice cleaning is truly and completely environmentally responsible.



*Leading the way in dry ice innovation
since 1986*

 **Cold Jet**[®]
the force of nature

The Cold Jet Advantage

Since 1986, Cold Jet has been the leader in dry ice technology and has set the industry standards for product development. We manufacture the most reliable, durable and technologically advanced dry ice cleaning machines on the market.

Cold Jet CONNECT™

Cold Jet, with its Industrial Internet of Things (IIoT) solution, has designed smart dry ice blasting machines that monitor, diagnose and implement corrective action and maintenance programs.

Get the right information at the right time, whether it is predictive maintenance, machines exchanging data or machines adapting their behavior to changing operating conditions.

The ability to remotely monitor and track real time parameters improves the manufacturing process, saves operational costs and improves machine serviceability.

Predictive Maintenance

Monitoring the health of equipment and predicting when maintenance is needed is possible via Cold Jet CONNECT.

Process Diagnosis & Tracking

Irregularities are detected in early stages, so corrective actions can be made prior to negative effects on production.

Preventative Maintenance

Production downtime and costly repairs are avoided when machine conditions are monitored and operators are alerted of negative conditions.

Energy Optimization

Energy usage is tracked and an alert is sent when the machine exceeds normal operation or sits idle.

Machine Utilization

Maximize factory productivity by monitoring production levels and performance of machines.



Dry Ice MicroParticles

Cold Jet's patented MicroParticle technology shaves dry ice into sugar-sized particles. This leads to more media striking the surface per second than with pellets, which results in an increased coverage area and more particle strikes per square inch, resulting in a faster and more even clean.

The particles are less aggressive than pellets and are delicate enough to thoroughly clean sensitive materials without damaging the surface. The particles can enter the hardest to reach places that pellets and conventional methods cannot.



Advanced Nozzle Performance

Cold Jet's Patented Nozzle Technology for Superior Cleaning Results

Cold Jet has the widest selection of nozzles with advanced performance. With patented MERN (Multiple Expansion Reflection Nozzle) technology and variable fragmenting technology, you have the power to control the aggression of a nozzle for a full range of performance and maximum effectiveness.

Variable Fragmenting Technology

0 = PELLET

Maximum aggression for removing the toughest contaminants

1 = MEDIUM FRAGMENTING

Aggression with control

2 = FINE FRAGMENTING

Power and precision

3 = EXTRA FINE FRAGMENTING

Gentle cleaning on delicate substrates



Cold Jet nozzles feature
MERN Technology used
by NASA



MERN: Multiple Expansion Reflection Nozzle

A technology used in similar form in the aviation industry to achieve optimum energy efficiency with maximum performance enhancement. MERN ensures full pellet integrity throughout the nozzle and full, even blast coverage.

Cold Jet Innovation

Innovation at Cold Jet is driven by our customers increasing demands for efficient, environmentally responsible, safe and controllable dry ice blasting machines.

Enhanced SureFlow System

Allows for consistent and continuous blasting

Sealed Lid

Eliminates moisture and clumping of dry ice

Stainless Steel Insulated, Isolated Hopper

Reduces sublimation and ensures reliable feed rate

Hopper Vibrators

Keeps dry ice fluidized

Tilt-out Hopper

An automatic tilt-out hopper to quickly and easily unload and preserve unused dry ice

Advanced Radial Feeding System

Aerodynamic loading reduces wear on pads and rotor



SureFlow System

Cold Jet's patented SureFlow System ensures uninterrupted cleaning performance by preventing clogging and pellet sublimation. Particle integrity is maintained throughout the blasting process, allowing for maximum performance. The components that make up the SureFlow System are:

- Isolated and insulated hopper
- Multi-layer insulation (MLI)
- Radial feeder
- Sealed lid
- Advanced agitation technology



Now You See It, Now You Don't

The Magic of Dry Ice Cleaning in Plastic & Rubber Molding

Welcome to Cold Jet!

Plastics and Rubber processors are under great pressure to increase the productivity of their equipment, improve the quality of their parts and reduce costs. This can be a balancing act between using the most effective technologies and working within a tight budget.

The magic of dry ice begins with the fact that Cold Jet tends to make things disappear – particularly, molding problems. Dirty mold cavities and vents account for numerous issues, including short shots, burns, sticking parts, plate-out, splay, weld lines, contamination, blemish and flash.

Mold cleaning remains a critical component of producing quality products. Cleaning mold cavities and vents of resin off-gasses, cured material or mold release agents can prevent the molding problems mentioned above. Cleaning is often delayed because traditional methods cause extended downtime and often involve the use of chemicals or mechanical means that are harmful to employees, abrasive to the tooling and can wear away critical mold tolerances.

We understand this problem and offer solutions to clean molds more often, faster, cheaper and non-abrasively, in a sustainable, environmentally responsible manner. Cold Jet's Dry Ice Environmental Cleaning and Surface Preparation (ECaSP) systems present a proven solution to accomplish productivity, quality and cost reduction initiatives that many plants are pursuing.

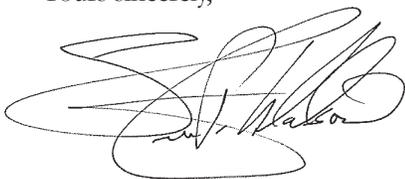
Many molders have initiated proven manufacturing management methodologies such as LEAN, 5S and Total Productive Maintenance (TPM). TPM programs are striving to improve the Overall Equipment Effectiveness (OEE) of their equipment. Dry ice cleaning solutions assist molders in achieving these objectives.

Dry ice is also utilized in our industry to deburr and deflash plastic parts. Thermoset parts will always have flash (sometimes thermoplastic parts as well), and the part geometries do not always lend themselves to tumbling. Our solutions are often completely automated.

We also offer solutions with on-demand dry ice production and blasting for the surface preparation/cleaning of plastic parts prior to painting. Cold Jet systems are designed for easy integration into existing automated paint line systems. They replace aqueous cleaning methods and the associated problems that come with wet cleaning: large floor space needed for drying oven, high operation costs for a drying oven and water reclamation system and scrap parts that do not dry thoroughly.

Thank you for your interest in our technologies and solutions. As you explore this brochure, you will discover the numerous problems that dry ice is solving in our industry. We look forward to working with you on your next dry ice cleaning project. Should you have any questions, or if we can be of assistance in any way, please do not hesitate to contact us.

Yours sincerely,



Steve Wilson



Global Business Unit Manager – Plastics, Rubber & Composites

The background of the slide is a photograph of an industrial setting, likely a factory or manufacturing plant. In the foreground, a worker wearing a dark cap is partially visible on the right side. The central focus is a large, light-colored industrial machine with a control panel that has "ON FANUC S-2000" printed on it. The machine is surrounded by various metal structures, railings, and other equipment. The lighting is somewhat dim, and the overall color palette is dominated by blues and greys, with a bright green and blue geometric graphic overlay at the bottom. The text is presented in a white, torn-edge style box.

Plastics Industry Overview

The Cold Jet Difference

Dry ice environmental cleaning and surface preparation systems allow for cleaning tools on-line, while they are at operating temperatures, thus increasing machine uptime, mold asset life and profitability. Dry ice is proven to clean molds better, while reducing cleaning time up to 75% without causing mold wear.



 **Cold Jet**

 **MICROCLEAN**

Increase Productivity, Improve Product Quality



Maintaining clean mold cavities and vents is a major concern for plastic part manufacturers in meeting today's high quality standards. The build-up of unwanted surface residue from either the product mix itself, mold releases or the labeling process can create various problems, ranging from product release ("knock out") to inferior product quality and possible tool damage. Flash on the product also creates challenges for manufacturers. Mold halves leave a parting line in the final product, and that parting line, or flash, must be removed to preserve product quality.

Proven Applications

Blow Mold
Compression Mold
Extrusion Die
Injection Mold

Plastic Injection Screw Barrel
Plate-out and Off Gassing
Thermoform Mold
Urethane Molds and Overspill

Product Finishing

Deburring Machined Parts
Deflashing & Surface / Parting
Gloss Leveling
Line Vents

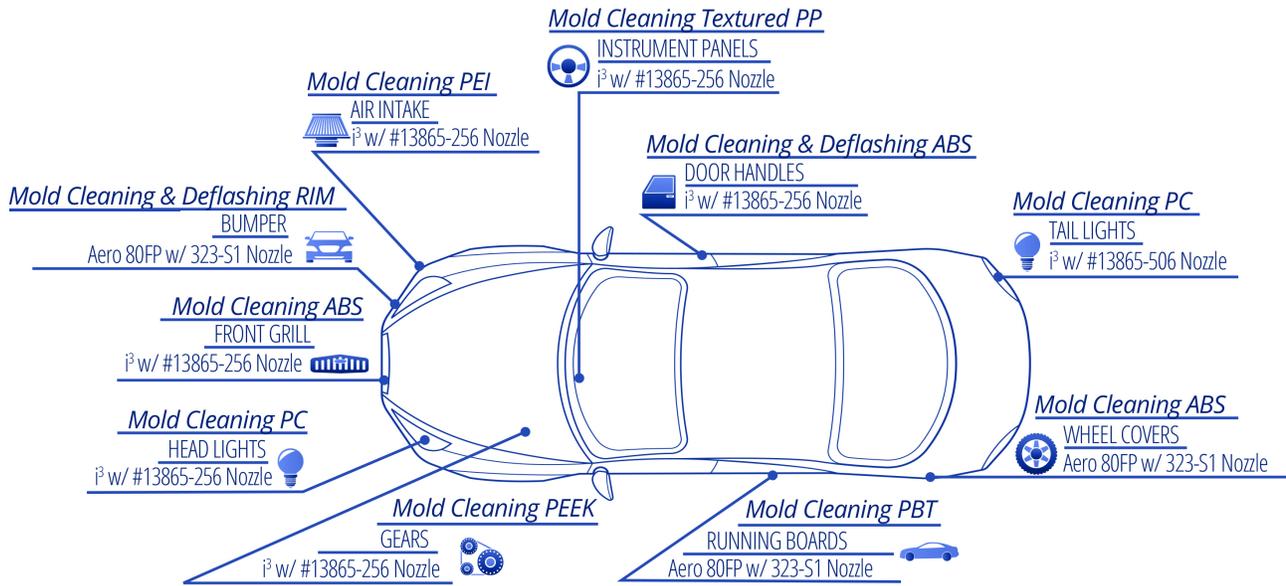
Traditional cleaning and deflashing methods involve tedious and ineffective manual processes using chemicals and hand tools. Cold Jet's alternative cleaning process provides a non-abrasive and environmentally responsible method that allows molds and product to be cleaned in a fraction of the time, allowing increased cycles between preventive maintenance. In addition, molds can be cleaned hot and in-place, without water, chemicals or the creation of secondary waste.

Key Benefits

Improve product quality | Reduce scrap | Reduce production downtime | Reduce cleaning time and labor costs | Clean in-place; no disassembly required | Non-abrasive; no damage to product or equipment | Environmentally responsible; no secondary waste

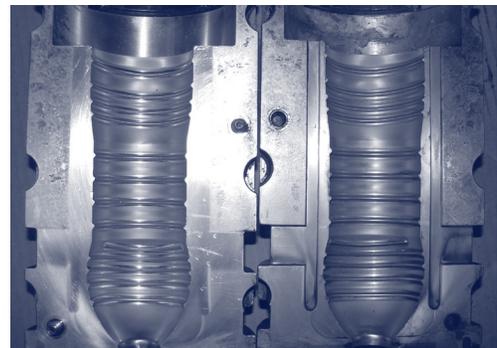
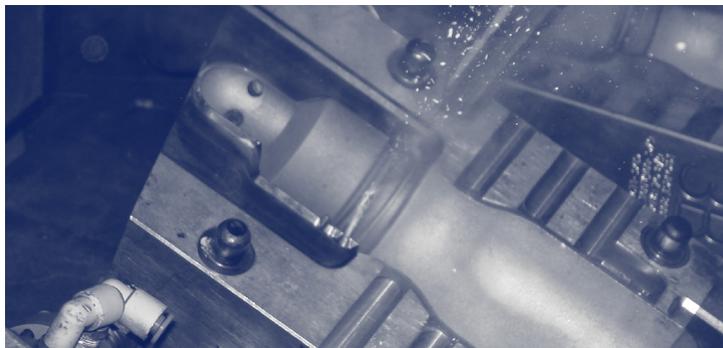
Automotive Mold Cleaning

Cold Jet's ECaSP systems have helped automotive molders reduce annual costs and meet stringent industry demands: 6-Sigma, Kaizen, 5S, TPM (Total Productive Maintenance). Our systems enable molders to optimize their manufacturing process by cleaning contaminants from cavities, vents and hard-to-reach places faster, better and more economically than traditional methods. This can reduce cleaning times by as much as 75% and decrease annual mold cleaning costs by as much as \$50,000.



Blow Mold Cleaning

Cold Jet's environmentally responsible blow mold cleaning systems can reduce mold cleaning time up to 75% while also increasing productivity and product quality. The system utilizes the patented shaved dry ice technology, which allows molds to be cleaned hot and in-place with MicroParticles. The non-abrasive method requires no chemicals, and produces no secondary waste. The specially designed nozzles and applicator allow for cleaning in hard-to-reach spaces to ensure a complete clean every time. A quicker clean means more production time and the thorough clean allows consistent quality products and less scrap. As a result, Cold Jet dry ice blast cleaning helps your facility become more profitable.



Deflashing & Deburring

Cold Jet's ECaSP systems were developed to improve quality and reduce operating costs for manufacturers with parts that have flash or burrs. Our automated systems eliminate the need for manual deflashing or deburring, thus improving part quality, increasing productivity and lowering cost. Our systems can safely remove flash and burrs from a variety of materials: PEEK, PBT, Acetal, Nylon, LCP, ABS, UHMWPE, Nitinol, etc. without causing part surface damage.

learn more at coldjet.com



Extrusion Line Cleaning Solution

In the arena of flexible packaging – such as blown film lines – cleaning the dies, sizing ring and collapsing tower is critical in order to maintain output and quality. Oftentimes, an additive or slip agent is compounded into the resin to increase the output of the extruder. This additive will off-gas, leaving a waxy substance on the tower. Dry ice cleaning is a non-abrasive method that can quickly remove the contaminant while minimizing line downtime.

The cooling rolls in the sheet extrusion business are one of the most important aspects of the line. Cleaning with dry ice helps take care of your rolls so that they can work effectively. It is also important to be cautious when cleaning to avoid disfiguring them, whether they are embossed or not.



LSR & LIM Mold Cleaning

Because silicones flash very easily, molds for these high performance thermoset elastomers are manufactured to critical tolerances, often +/- .0002 inches. Protecting the critical dimensions on parting lines and sealing surfaces, as well as the mold surface finish, is vital. It is also important to keep the vents open in order to evacuate the air

out of the mold prior to injection – this helps to produce high quality molded parts.

With Cold Jet dry ice cleaning, you can clean molds in the machine at processing temperature (typically 250–400 degrees Fahrenheit), without causing mold wear – thus increasing production capacity and improving product quality.



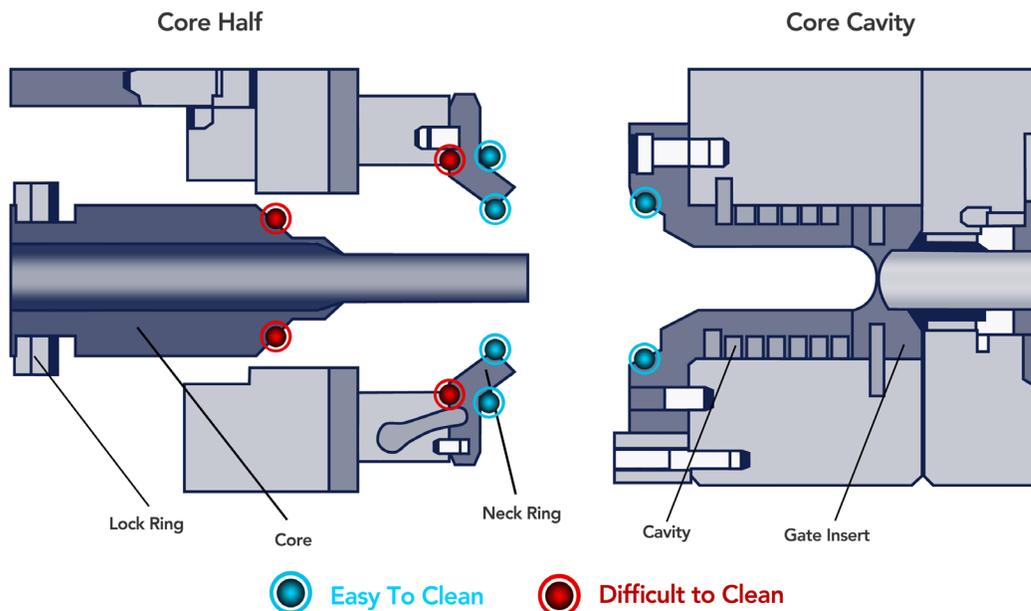
Medical Device Mold Cleaning & Deburring

Cold Jet's systems have helped medical industry manufacturers meet stringent industry process demands for quality and consistency. Our systems enable manufacturers to optimize their process by cleaning contaminants from cavities, vents and hard-to-reach places. This is done without the use of chemicals, which eliminates chemical residue on the mold and ensures that products are delivered without flaws.

PET Preform Mold Cleaning

Cold Jet's systems have helped packaging molders meet stringent productivity demands. Our systems help molders clean faster, better and more economically, increasing production capacity and improving product quality. Mold cleaning times can be reduced up to 75% with Cold Jet.

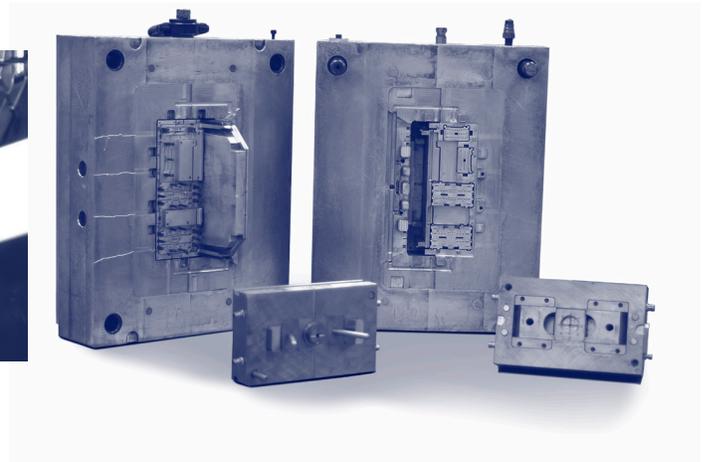
Dry ice cleaning technology allows molds, lock rings, cores and gate inserts to be cleaned without the disassembly of the stripper plate and while the mold is still in the press. The system also cleans blow molding machines, palletizing equipment, conveyor belts and glue machines.



learn more at coldjet.com

Technical Mold Cleaning

Molders are very familiar with the requirements of precision (high-tolerance) and micro-molding parts and the difficulties that come with them. Keeping small orifices, micro-cavity production molds - as well as the deep, complex geometry of micro tools - clean is a critical concern when manufacturing high tolerance plastic parts. Dirty molds cause vents to fill up and cause a variety of molding problems: burns, short shots, foreign particles, flash and plate-out. After the vents fill, a sticky and sometimes abrasive off-gas is forced between other close-fitting tooling. Mold damage can also occur from trapped air "dieseling" or "jetting" due to clogged vents.



Rubber Industry

Keep the lines running with more efficient mold cleaning

A major problem faced by rubber molders is mold fouling. Buildup of cured material and mold release agents causes sticking molds, blemishes and unwanted flash on final parts, making them unusable and requiring line shutdown for cleaning.

Proven Applications

Blow Mold
Compression Mold

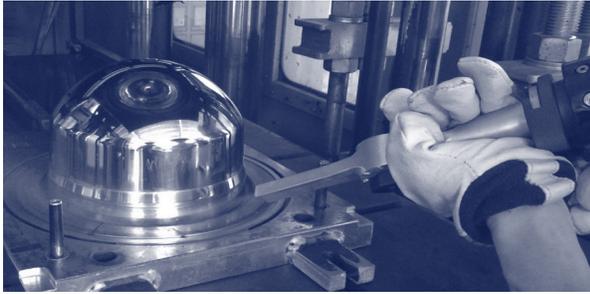
Injection Mold
Lift Press

Metal Bonded Mold
Tilt-back Press

Traditional cleaning methods such as manual scraping, glass bead blasting or ultrasonic cleaning can be time consuming, ineffective, damaging to molds and result in high labor and material costs. Dry ice blasting offers an in-place, online, quick and effective way to clean without damaging expensive molds.

Key Benefits

*Eliminate production shutdown | No mold disassembly | Reduce product scrap
Non-abrasive; no impact damage or mold erosion | Reduce cleaning time and labor costs up to 75%
Environmentally responsible; no secondary waste*



Composite Tool Cleaning

In-place, non-abrasive & environmentally responsible

Cold Jet dry ice cleaning extends the life of a mold by eliminating the need for harsh chemicals, wire brushes and coarse pads. It is a non-abrasive mold cleaning solution that protects the critical dimensions and geometric shapes of parting lines and sealing surfaces and preserves the mold surface finish.

There are a variety of materials utilized in the composite tooling industry, from epoxies and urethanes to aluminum and steel, including Teflon-coated tools and tools that are highly polished. It can also safely remove a variety of residual process contaminants from the molds, including mold release agents, epoxy, Teflon tape, silicone, phenolic, carbon, graphite and many more without damaging the tooling.

Proven Applications

Compression Molding
Resin Transfer Molding

Extrusion
Pre-pregging

Wet-layup

Key Benefits

*Reduce production downtime | Reduce cleaning time and labor costs
Environmentally responsible; no secondary waste | Non abrasive; no damage to product or equipment
Clean tooling in place*





A close-up photograph of a worker wearing a black hard hat and safety glasses, focused on using a dry ice blasting tool. The tool is a black, cylindrical device with a handle and a nozzle. The worker's face is partially visible through the safety glasses. The background is a blurred industrial setting. The image is overlaid with a green and blue geometric pattern at the bottom.

Industry Leaders Benefiting from Cold Jet Providing Global Satisfaction Since 1986

Cold Jet's cutting-edge design and innovation of dry ice blasting and production technology has led the way for thousands of customers worldwide to realize an impressive return on investment, as well as a substantial increase in productivity.

Join the Industry Leaders

Case study sampling

Autotest

PROBLEM

When painting interior and exterior plastic parts in the automotive industry, high quality and efficiency standards must be met. Autotest utilized power washing, which led to lower product quality. With geometrically complex parts, water accumulates in cavities, leaving visible water stains, which leads to parts being rejected.

SOLUTION

Cold Jet COMBI 120H



RESULTS

- Improved part quality.
- Reduced scrap.
- Automated and continuous cleaning process enabled increased efficiency.

"With dry ice cleaning, the quality of our finished parts increased greatly. Power washing leads to varnishing and stains on the parts, while dry ice cleaning eliminates this." - Oliver Bolk, Managing Director, Autotest Iggingen GmbH

Electrolux

PROBLEM

During the refrigerator manufacturing process, insulator foam is injected into the shell of the unit, which can leak and leave foam remnants on the surface of the product. To remove this, chemicals and hand tools were used. This was labor intensive and risked decreasing product quality. If the product was scratched, it would be discarded as scrap.

SOLUTION

Cold Jet i³ MicroClean®



Electrolux

RESULTS

- Reduced scrap and maintenance costs while reducing overall risk.
- Productivity and time savings improved.
- Alignment with company's environmental initiatives.
- Improved part quality.
- Recuperated cost of machine based on scrap savings alone.

"The i³ MicroClean system is more efficient with relation to the quality and speed of the cleaning process. It has improved our business."

- László Koncsek, Lean Specialist, Electrolux





Electrolux

Hans Geiger

PROBLEM

For each mold, 96 cavities had to be cleaned by hand. One mold required 20 man-hours of cleaning and two employees. The complex crevices and angles on the mold led to difficulty in cleaning the entire unit. This method also led to the risk of the mold being damaged.

SOLUTION

Cold Jet i³ MicroClean

RESULTS

- Maintenance cycles reduced by 50%.
- Machine utilization increased while costs were greatly decreased.
- Risk of damage to the mold eliminated.
- Return on investment in one year.



"Dry ice cleaning is very effective at removing coatings from tools and even helps when burnings occur. For certain coatings, we could reduce maintenance cycles up to 50%." - Hans Kolb, Process Engineer, Hans Geiger



Performance Plastics



PROBLEM

Manual mold cleaning processes, which included a complete tear-down and involved dangerous solvents and abrasive brushes, were time consuming, labor intensive, harmful to the mold and dangerous to both the employees and environment.

SOLUTION

Cold Jet i³ MicroClean

RESULTS

- The mold is now cleaned safely while hot and in the press, which extends the running time of the mold 200-500% before a complete tear-down is necessary.
- Eliminated the use of harmful wire brushes and chemical solvents.
- Time and labor savings.
- Improved part quality.



Honeywell

"Cleaning with Cold Jet will not roll parting lines, change or destroy the metal. Most importantly, it allows our running time to be extended. We use it every day and on every shift." - Tom Mendel, Performance Plastics



Silgan Plastics



PROBLEM

For a 72 cavity mold, it would take 2-3 hours to clean by hand. It was also difficult to clean the entire mold and access areas behind the slides and neck rings. Mold cleaning led to increased downtime and added costs, while exposing employees to harmful chemicals and solvents.

SOLUTION

Cold Jet i³ MicroClean & Aero 30



RESULTS

- Cleaning time reduced from 2-3 hours to 45 minutes.
- Improvement of product quality, while decreasing machine downtime.
- Maintenance room staff reduced to single person.
- Environmental and worker safety initiatives achieved.



"The time savings alone have been phenomenal. We have been able to clean our equipment better and faster while still online. We no longer have to worry about working dangerously close to hot equipment, our environment and safety managers are happy and we have dramatically reduced the products we buy and use for cleaning." - Joe Pond, Setup Supervisor, Silgan Plastics



TE Connectivity

PROBLEM

Utilizing conventional cleaning methods, such as hand scraping and sand blasting, led to the mold cleaning process being lengthy and laborious for TE Connectivity. It also raised the possibility of the molds being damaged during disassembly and during the cleaning process itself.

SOLUTION

Cold Jet i³ MicroClean



RESULTS

- Cleaning time reduced from 6-12 hours to just one hour, cutting daily cleaning time by 80%.
- Labor reduced from multiple people to one person.
- Return on investment in only one month.
- Worker safety was enhanced by eliminating use of chemicals.



"In addition to cleaning our molds faster and more frequently, we no longer need a team of people to help us disassemble, clean and reassemble molding equipment." - Jan Schotte, Process Technology – Plastics, TE Connectivity

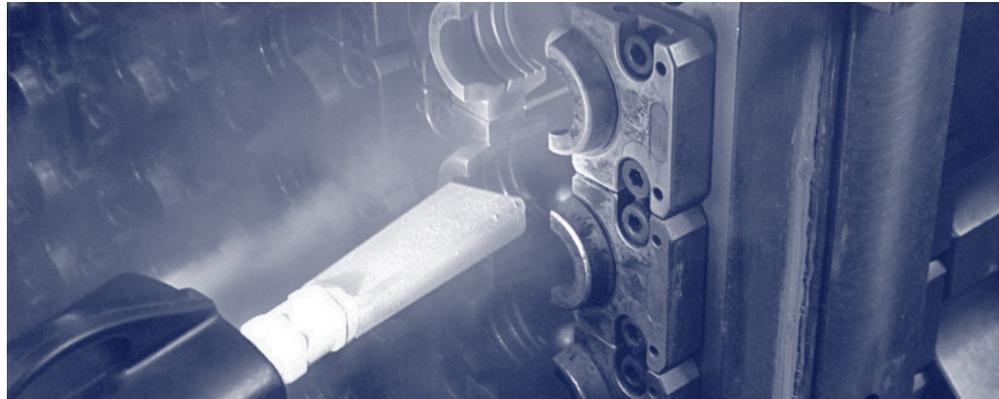


the force of nature



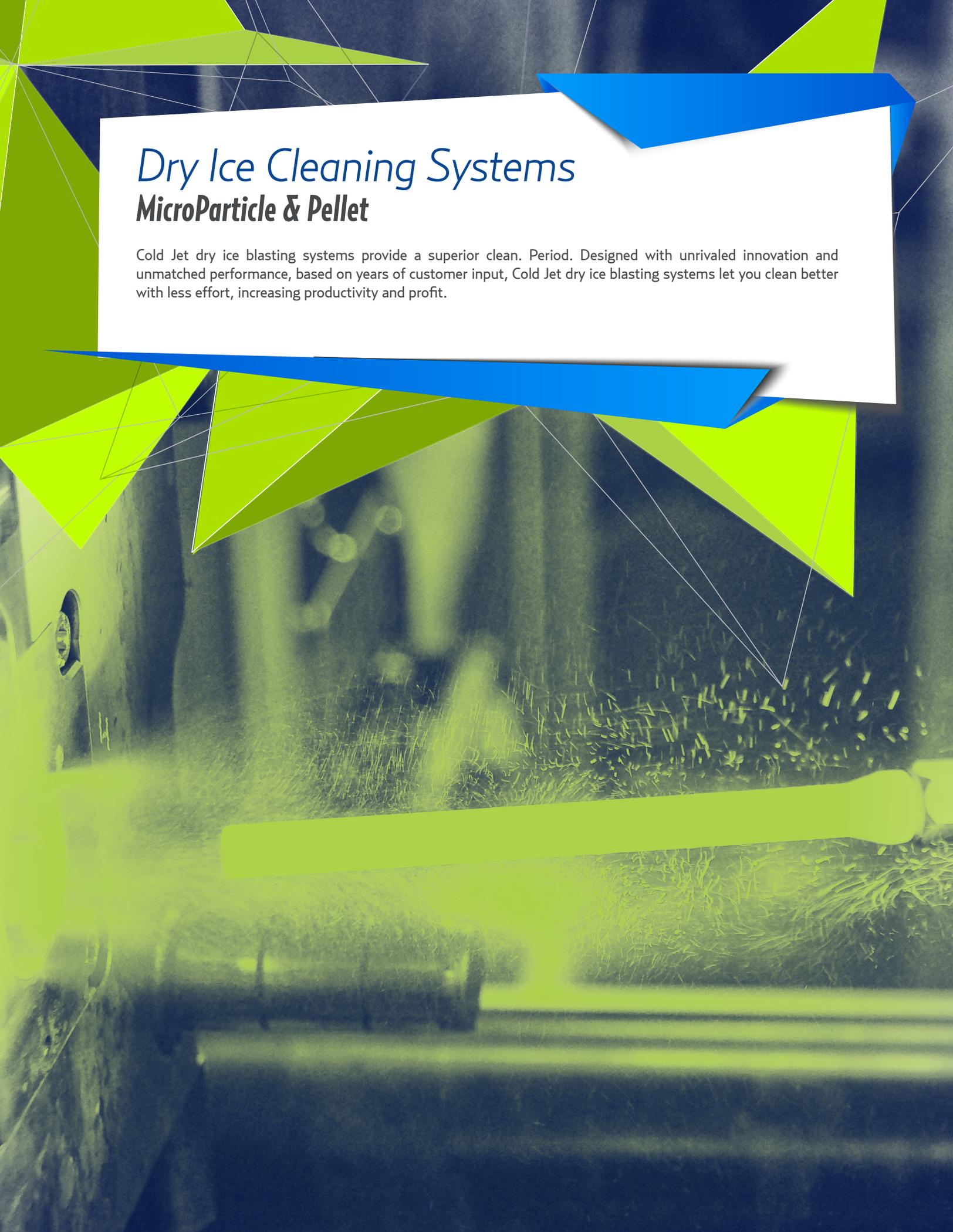
Injection Molding Machine (IMM) Payback Example

Dry ice cleaning compared with manual cleaning



MOLD CLEANING	48 CAVITY IMM	96 CAVITY IMM	144 CAVITY IMM
Production Maximum (Hours / Year)	8,400	8,400	8,400
Time Saving per Week with CJ	1.5	2.0	2.5
Time Saving per year with CJ	78	104	130
Efficiency Improvement with CJ	0.9%	1.2%	1.5%
Extra Hours Production	78	104	130
Mold Cycles per Hour	360	360	360
Extra Preforms Made per Year	1,347,840	3,594,240	6,739,200
Profit per Preform	\$0.0036	\$0.0036	\$0.0036
Profit per Year from Extra Production	\$4,912	\$13,098	\$24,559
Payback-time per IMM in Months	89	33	18
Payback-time per 5 IMM in Months	18	7	4

Example calculated based on: Maximum production, pre-set mold cycle time, estimated profit per preform, etc.
Not taken in consideration: savings by labor cost, reduced repair costs, extended equipment life time

The background of the page is a photograph of a dry ice blasting system in operation. A bright green nozzle is directed at a surface, creating a spray of white particles and a mist of vapor. The scene is dimly lit, with the primary light source being the spray itself. The overall color palette is dominated by dark blues and greys, contrasted with the vibrant green of the nozzle and the white of the spray. Abstract geometric shapes in green and blue are overlaid on the image, particularly in the upper and middle sections, creating a modern, technical aesthetic.

Dry Ice Cleaning Systems

MicroParticle & Pellet

Cold Jet dry ice blasting systems provide a superior clean. Period. Designed with unrivaled innovation and unmatched performance, based on years of customer input, Cold Jet dry ice blasting systems let you clean better with less effort, increasing productivity and profit.



Dry Ice Cleaning Systems

MicroParticle Systems

Cold Jet's patented MicroParticle technology shaves dry ice into sugar-sized particles. By shaving dry ice into MicroParticles, more media strikes the surface per second than traditional methods, which results in an increased coverage area and more particle strikes per square inch. This leads to a faster and more even clean. The particles are less aggressive than pellets and are delicate enough to thoroughly clean sensitive materials without damaging the surface. The particles can enter the hardest-to-reach places that pellets and conventional methods cannot.



i³ MicroClean®

Unique Features:

- Dry Ice Capacity: 20 lb
- Feed Rate: 0-1.2 lb/min
- Blast Pressure: 20-140 psi
- Accepts pellets, nuggets or block with patented shaving technology
- Designed for absolute precision
- Easy to maintain with removable panel design
- Table-top footprint, includes cart for mobility



**Pellet & MicroParticle System*

SDI Select™ 60

Unique Features:

- Dry Ice Capacity: 60 lb
- Feed Rate: 0-6 lb/min
- Blast Pressure: 65-250 psi
- Uses any form of dry ice
- Bypass for full 3mm pellet performance
- Clean from as low as 50 CFM, using 1/3 of the compressed air and reducing noise levels and air usage
- Increase blast pressure up to 250 psi to clean the most stubborn contaminants

Dry Ice Cleaning Systems Pellet Blasting Systems

Performance Series

The Cold Jet Performance Series line of dry ice cleaning machines provides unparalleled patented technology, ergonomics and safety in a user-friendly package, delivering a full range of reliable performance from gentle cleaning at 20psi (1.4 bar) up to aggressive blasting at 300psi (5.5 bar).



Aero 40FP



Aero 80FP

- Dry Ice Capacity: up to 80lb
- Feed Rate Range: 0-7 lb/min
- Blast Pressure Range: 20-300psi
- Full Range of Pressure
- Advanced SureFlow System
 - Reliable Pellet Flow
 - Insulated Hopper
- Most Advanced Nozzles
- Easy-to-Maintain
- Safe Operation
- Rugged and Mobile

Industrial Series

The IceTech Industrial Series line of dry ice cleaning machines provides the perfect universal dry ice blasting experience for many industrial applications. With advanced features and an operational versatility, the industrial series is suitable both for lighter applications and for extremely heavy duty cleaning.



Elite 20



Xcel 6

- Dry Ice Capacity: up to 44 lb
- Feed Rate: 0.6 – 3.7 lb/min
- Blast Pressure: 72 – 232psi
- Stainless Steel Body
- SureFlow System
- User Friendly Control Panel
- Full Range of Air Pressure
- Quick Disconnects

learn more at coldjet.com

Integrated Cleaning Systems

COMBI Systems & RoboBlast

Integrated cleaning systems are cost effective solutions with superior cleaning performance and minimal space requirements. Integrated systems provide continuous, uninterrupted and completely automated operations. Each Cold Jet integrated system is custom engineered to meet specific customer requirements.





Integrated Cleaning Systems

COMBI Systems



COMBI 120H
up to 120 kg/hr | 264 lbs/hr

COMBI 350H
up to 350 kg/hr | 772 lbs/hr

Fully automatic machine for dry ice production and dry ice blasting

Several Functions in One:

- Pelletizer unit
- Dry ice blasting unit (one unit for COMBI 120H & two units for COMBI 350H)
- Cutter unit ensures the right pellet size
- Distribution system ensures availability of pellets when needed
- I/O Box for integration in plant control units and automation process
- Optional control for two separate distribution systems to facilitate the connection of several nozzles
- Optional system for heating blasting air to avoid condensation on nozzles
- Optional control for up to four heated nozzles (COMBI 350H only)

Unique Features:

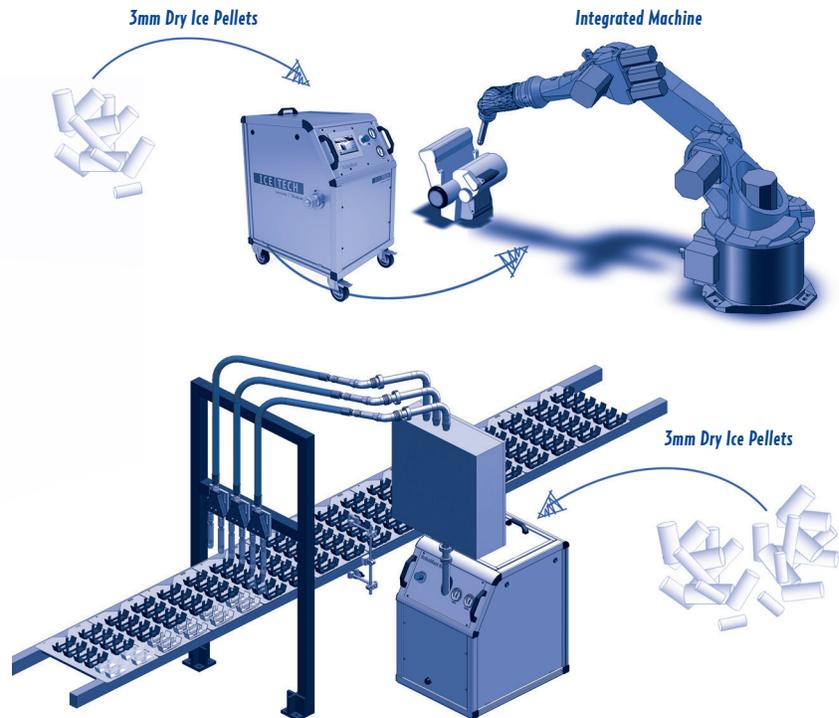
- Stainless steel enclosure reduces noise level below 75 db(A) and protects machine components
 - Fully automated, one-button operation
- Sub Cooling Technology increases CO₂ utilization
 - 15" multi touch built-in control panel
- Quick startup reduces downtime and loss of valuable CO₂
- Shutdown function removes dry ice from the hopper
 - Cold Jet *CONNECT*
 - Compact footprint

Integrated Cleaning Systems

RoboBlast



RoboBlast
up to 40 kg/hr | up to 88 lbs/hr



Semi-automatic machine for dry ice blasting connected to automatic system

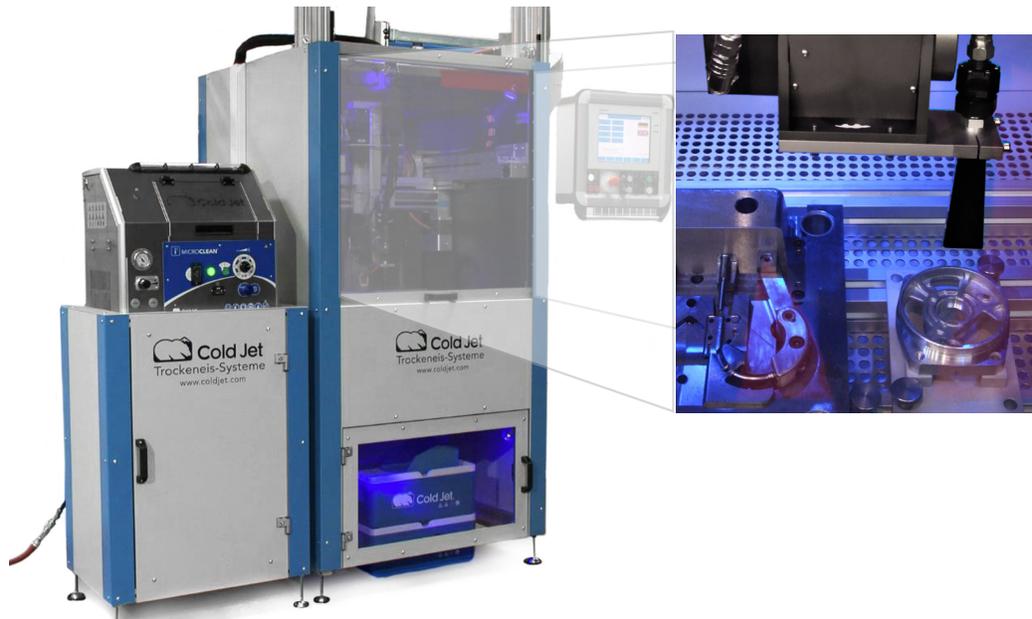
Unique Features:

- Up to 100 kg/hr (3.6 lbs/min) dry ice feed rate
- Operational up to 16 bar (232 psi)
- Delivered with a number of process monitoring functions to ensure perfect blasting process
- Prepared for direct coupling to a robotic control
- The control system - based on Beckhoff Industrial PC and HMI system - provides maximum functionality and a user-friendly 7" touch screen

learn more at coldjet.com

Integrated Cleaning Systems

i³ MicroClean Complete Package

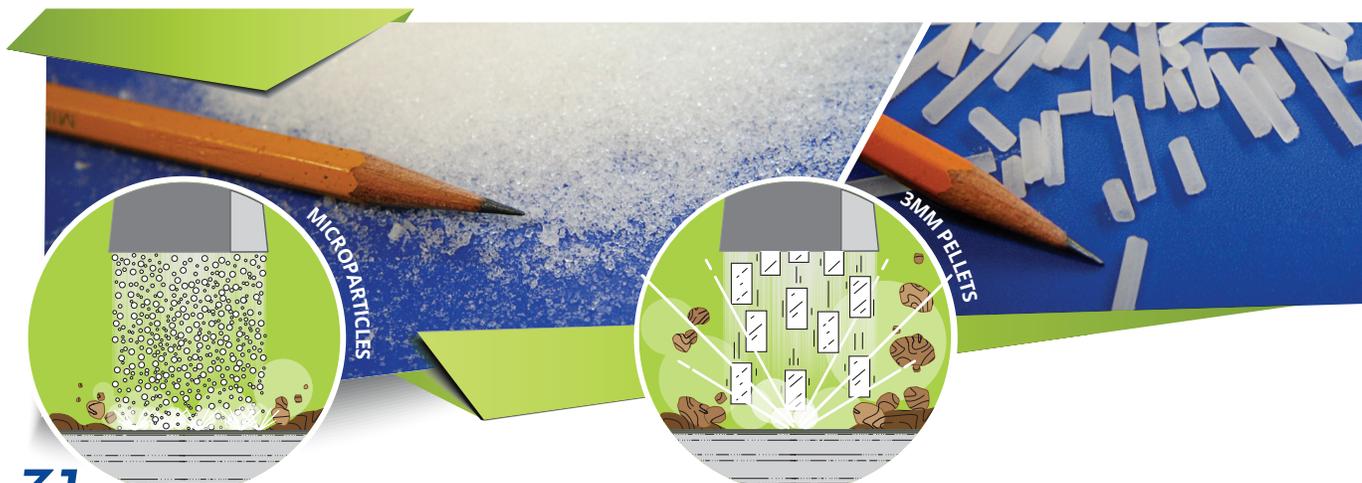


MicroParticle Integration – Less air, less ice, more coverage

Unique Features:

- Cold Jet's shaved dry ice MicroParticle technology provides a thorough, yet delicate, clean for many applications
- i³ MicroClean DX accepts pellets, nuggets or block with patented shaving technology
- Designed for absolute precision
- Easy-to-maintain with removable panel design

MicroParticles vs. Pellets:



World-Class Customer Service

Available when you need us.



Our Customer Service team is always ready to help keep your critical blasting and production equipment up and running.

The Cold Jet customer support team of technicians is available 24 hours a day, 7 days a week, providing the personal service that your business demands.

We are local. Everywhere. With service centers around the globe, our technicians are always within reach. Cold Jet has 13 service centers located in 10 countries around the world and the largest install base of human technical resources. When you need us, we will be there.

Our services range from answering your technical support questions and helping you find the right accessories for your unique cleaning application to assisting with spare parts orders and providing preventative maintenance options.

No other dry ice blasting company offers you this level of customer service:

- Global Service Centers
- Troubleshooting Support
- 24-hours a day / 7-days a week Technical Support
 - North America & Canada +1-800-777-9101
 - Outside North America +1-513-576-8981
- Preventative Maintenance Inspections
- Project Management
- Installation & Training
- Spare Parts and Accessories



learn more at coldjet.com

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