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**THE CLEANING
SYSTEM OF
THE FUTURE**



CQ Dry Ice Solutions

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Dry Ice Blasting



Field Service

ABOUT US

Officially, CQ Dry Ice Solutions was founded in 2007. However, our company is built on years of experience in working with industrial machinery. We know all about the hard work, long hours and high costs involved in cleaning and maintaining complex equipment. That is why we were the first to revolutionize industrial cleaning in Queensland. Our service is incredibly fast, low-cost and uses environmentally friendly cleaning technology. The insight into our customers' needs makes CQ Dry Ice Solutions extremely successful in providing high-quality cleaning services to businesses alike.



ABOUT US

Professionalism. We are proud to offer our clients cleaning services based on the best equipment on the market and on highly trained staff. Our standards are high and we make no compromise when it comes to quality, environment and work safety.

Partnership. You can trust us to be part of your success as a business. No more unnecessary downtime, no more money wasted on replacement of good equipment. You can always count on our prompt service.

Pioneering. We were pioneers in professional cleaning industry and we plan to stay on the cutting edge of technological developments. That is why we invest only in eco-friendly cleaning technology and we are always ahead of our competitors.



SAFETY

We aim for zero injuries. We know that this is an ambitious goal in our line of business. However, we take every possible measure in order to achieve it. And until now, CQ Dry Ice Solutions is proud to report its success in keeping its staff, contractors and clients safe from injury and risks to health while at work.

CQ Dry Ice Solutions has its own safety policies, procedures, manuals and material safety data sheets . Every truck from our fleet is compliant with all mining requirements and our employees are trained to work at heights, in confined spaces, on platforms and are capable to give first aid and if necessary extinguish a fire.



ENVIRONMENT

Dry Ice is completely non-toxic. As no hazardous chemicals or solvents are used in Dry Ice cleaning, operators avoid being exposed to hazardous fumes and other dangers during cleaning. In contrast to high-pressure hosing, polluted drain water is avoided.

Dry Ice is produced from liquid carbon dioxide (CO₂). The liquid CO₂ utilized in Dry Ice production is an industry by-product and as a type of "recycling" is not a contributing factor to the Green House effect.



An Environmentally Safe Service - The Dry Ice particles instantly and safely sublime, turning from solid to gas on impact. By using this process, you will reduce harmful air emissions from toxic chemicals and ultimately reduce employee health risks through exposure to hazardous solvents. And you can also reduce secondary waste volume.

Brief Description

The HV cabinets on the Haul truck fleet are cleaned via a blower vac during routine maintenance. This method of cleaning would remove the majority of contamination, but over time residue has continued to build up causing unplanned down time. CQ Dry Ice Solutions were engaged to clean the cabinets back to OEM specifications.



Benefits

- Increased maintenance Reliability.
- Improved defect identification.
- Hazards associated with air borne dust particles reduced

Contact for further information

Geoff Green : HME Haul Truck Planner
CQ Dry Ice Solutions

Extension number

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TESTIMONIALS

“The finish in all cases using the dry ice system was superior to any method we deployed. The more physically detailed a piece of equipment was, the better this method performed against all other methods. If we were to clean all this equipment to the standard performed by this method, we would still be cleaning seven weeks after the shutdown was completed. Although our existing methods quickly removed the bulk of the grease, dirt and general build-up you get with dragline operations, it could not compete with the final finish, or speed, in which the dry ice cleaning method achieved, for multiple environment equivalent and equipment types, using just this one system.”

Steve Mannix
Electrical Engineer – Maintenance
Anglo Coal – Moura



“Dry Ice Cleaning has helped eliminate the constant headaches of faults and mis-readings due to dusty and dirty environments. Every day without fail, as electricians we were sent out to draglines and shovels with problems until we heard of CQ Dry Ice Solutions. We use CQ Dry Ice Solutions every 6 months now, and to this day we have not received a call out for faults now. It was very hard to grasp the concept of using dry ice to clean until we seen it with our own eyes. They are very popular on our site now.”

Chris Zheng
Electrical Engineer- Field
The Dawson Mines
Anglo Coal (Dawson Management) Pty Ltd

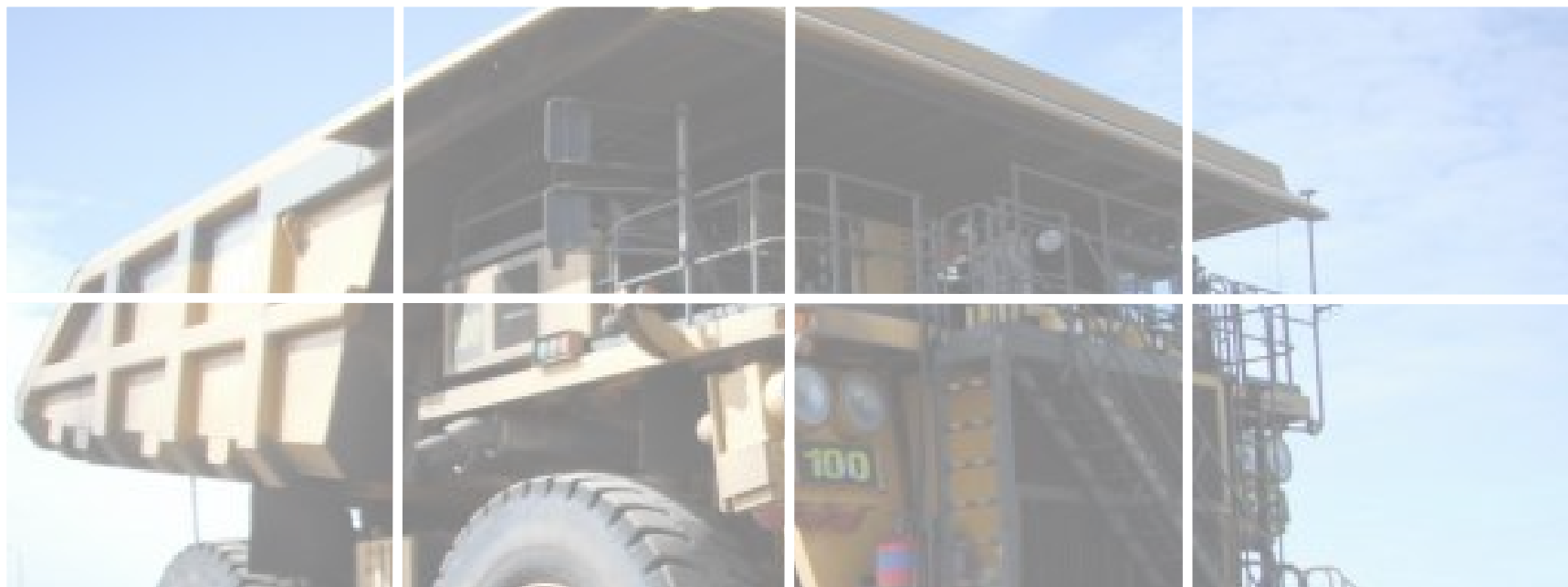


ELECTRIC REAR DUMP TRUCKS



Dry ice cleaning is capable to clean gentle and with great attention to detail any kind of electrical or electronic equipment, component and switchboard. Because there is no use of chemicals, no secondary waste or damage is produced. The cleaning process is no longer a painstaking and time-consuming enterprise. Electric coal haulers, rear dump trucks and shovels are examples of industrial equipment that benefits most from the revolutionary dry ice cleaning.

ELECTRIC REAR DUMP TRUCKS

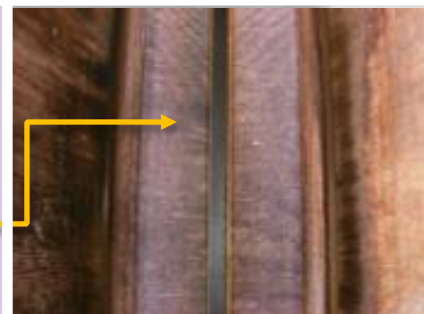


Overheating & Fire:

Overheating and fire risk are significantly increased in the presence of abrasive contaminants and have been directly attributed to numerous Fire Emergencies in Queensland. The average post-fire unscheduled Downtime is 19 days.

Radiators-

Dry ice cleaning removes up to 80 percent of impurities between the radiator fins that slow down the air flow for cooling..



DRAGLINES



Dragline excavation systems are recognized as being hard to maintain and clean. This is no longer true. Our dry ice cleaning service offers cleaning solutions that other blasting service companies simply cannot. We clean to perfection all dragline components. Cleaning PCR rooms, filter fans, dyna veins, gensets, electrical cabinets, lube rooms and slip rings has never been easier.

DRAGLINES



Lube Rooms



MG Sets



Filter Fans



Dyna Vanes



PCR Rooms



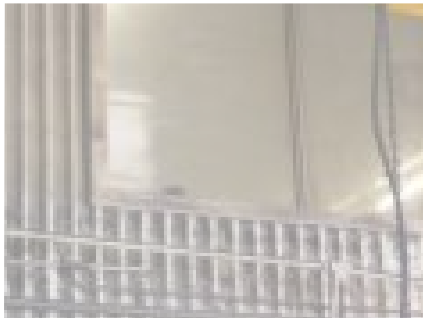
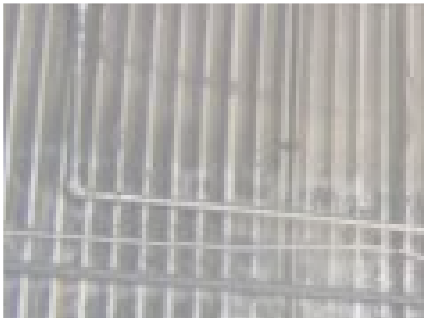
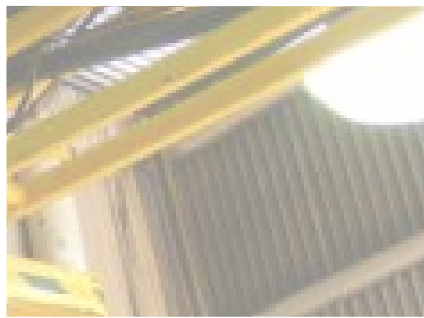
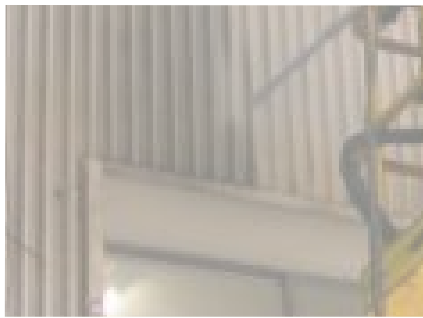
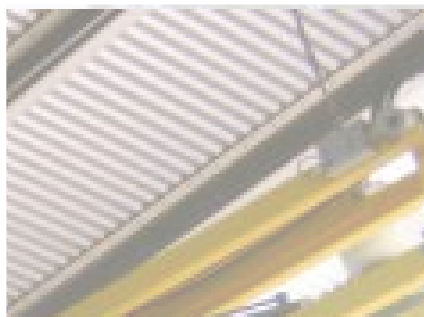
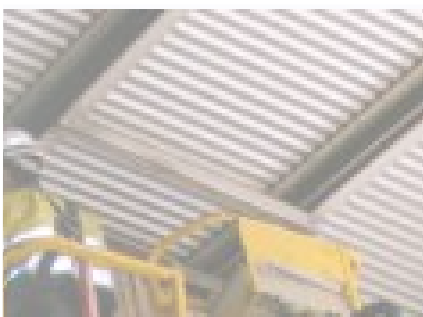
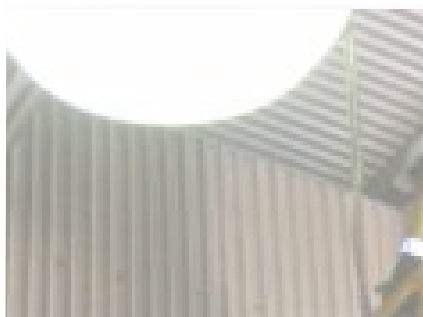
INDUSTRIAL WORKSHOPS



Industrial Workshops are the hub for maintenance, storage, and peripheral equipment designed to support mining and industrial activities across Central Queensland. The workshops on mines serve a number of functions related to equipment and mechanical repair including maintenance, welding, parts replacement, cranes, tools, and general supplies. Workshops in non-mining sector industry are very much the same in their function and utility, often with similar levels of traffic and buildup of elements and contamination. Specialized workshops such as automotive or large vehicle repair can experience more severe conditions of buildup due to the accumulation of lubricants, grease, and other hazardous compounds.

INDUSTRIAL WORKSHOPS

Workshop Equipment



Workshops



WASHPLANTS



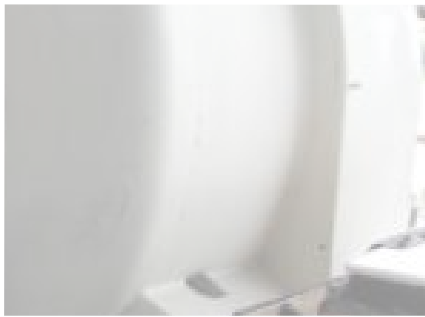
Our dry ice cleaning service is ideal for wash plant during scheduled maintenance or shutdowns. We clean sensitive electrical motors and Centrefuses that cannot allow water or waste to touch its components. In addition, dry ice blasting can clean most of industrial equipment without prior dismantling of individual parts. CQ Dry Ice Solutions is also perfect for electrical cabinets, and train load outs.

WASHPLANTS

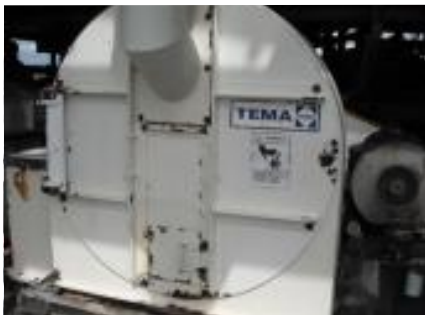
Electrical



Electric Motor



CentreFuses



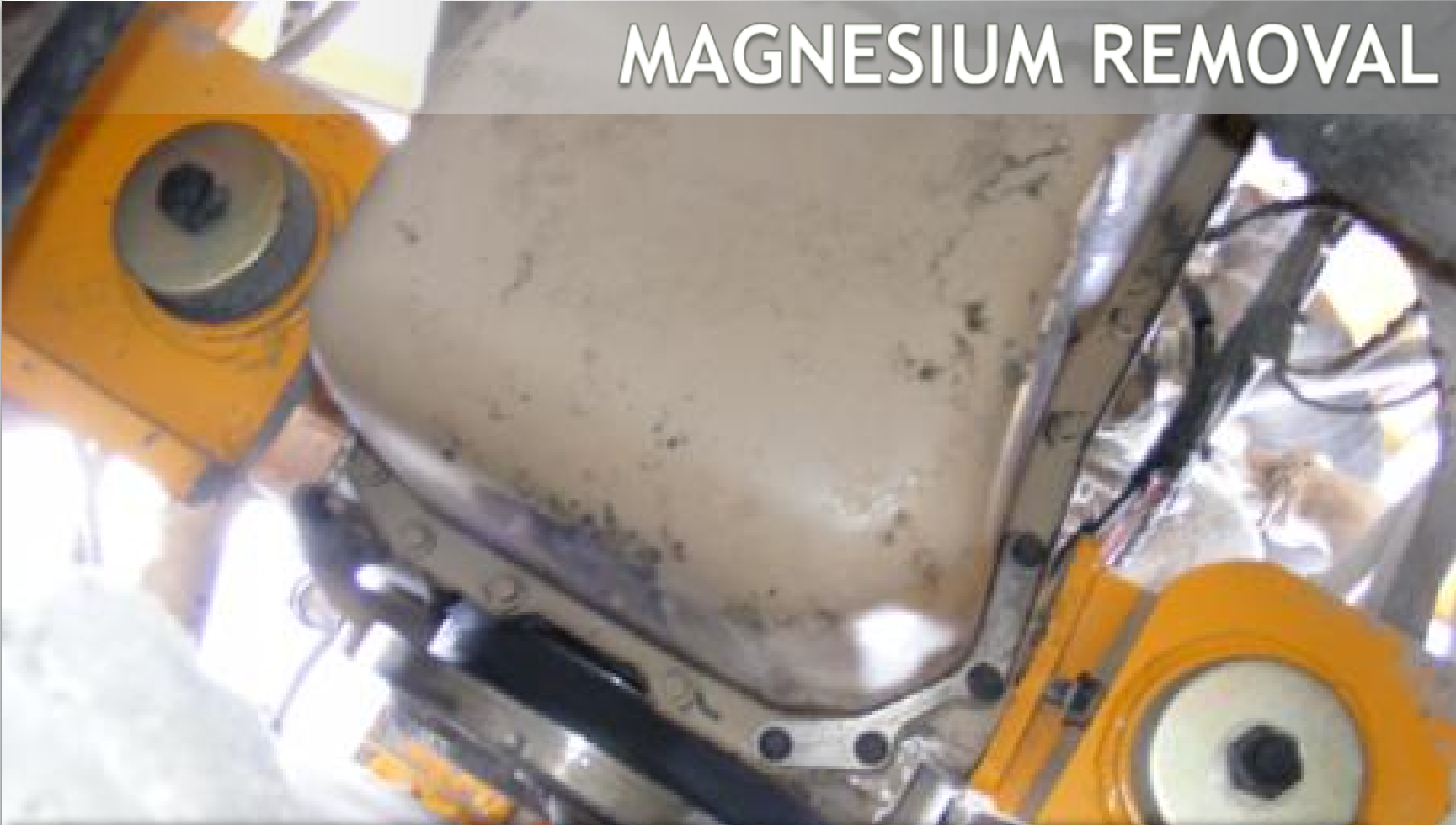


Dry ice cleaning is perfect for weld clean up. It targets and removes paint and build-up exactly on the weld line. And because the cleaning method does not involve sand or other secondary wastes, the slews and grease areas are protected. Dry ice cleaning is also great for 10 year inspections on various industrial machinery.

NDT TESTING

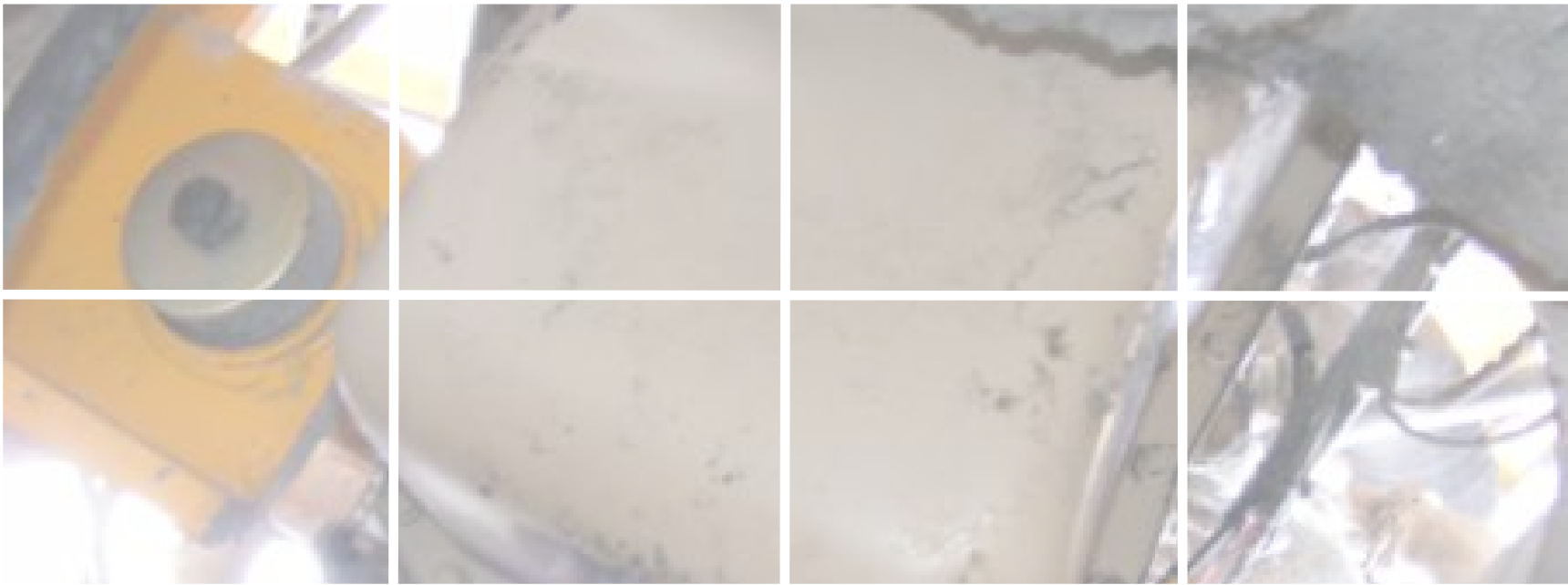


MAGNESIUM REMOVAL



Removing magnesium or other condensed metals from the surfaces of metal processing chambers – furnaces or vacuum induction metal furnaces – is a dangerous task if done with the traditional cleaning tools. Magnesium is known to easily burst into flames. Nevertheless, dry ice blasting eliminates this danger because it is non-conductive and non-abrasive. Moreover, deburring magnesium, aluminium and zinc die casts has never been easier. CQ Dry Ice Solutions does not only successfully remove magnesium from various surfaces, but it is also able to beautifully clean magnesium components. Dry ice blasting is the best method for cleaning soft, fragile metals and their alloys such as copper, zinc, magnesium, beryllium or aluminium.

MAGNESIUM REMOVAL



FIRE RESTORATION



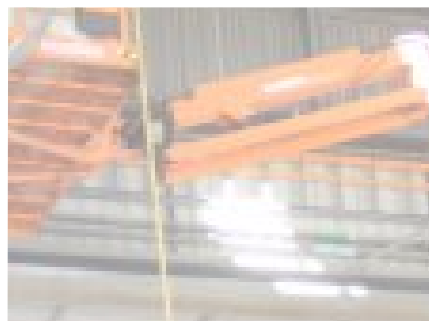
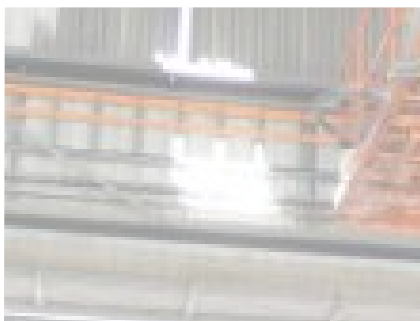
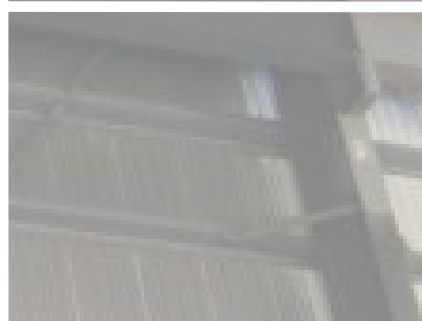
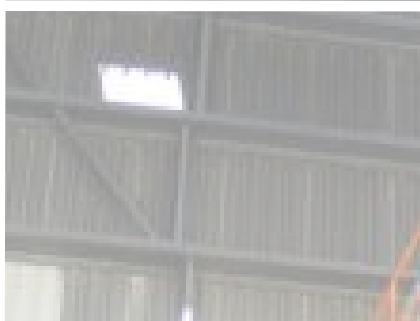
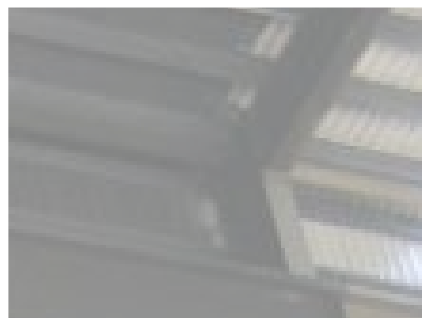
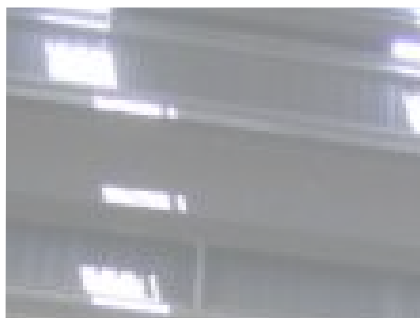
A fire in your home or business place is a distressful experience, but trying to clean it up yourself can make the matters worse. Dry ice blasting is the best method for removing toxic residues, soot and odors after a fire. It's fast and efficient, cleaning to perfection even in the tightest spots – around nails, wiring, plumbing and trusses. And it gets you rid of the musty, burnt smell while it cleans. In addition, dry ice blasting reduces or completely eliminates the use of toxic chemicals. The overall time and cost of repairs are considerably reduced. Thus homeowners are benefiting greatly using dry ice cleaning. CQ Dry Ice Solutions offers a 24-hour disaster clean up response. We will have professionally trained technicians on-site of the damage as soon as possible to begin clean up services.

FIRE RESTORATION

Residential Fire



Residential Fire



BMA Workshop Fire



FOOD INDUSTRY



Food industry demands impeccable standards of hygiene. This is a hard aim to meet if we consider all the grease, crumbs, proteins, seasonings, and countless other build-up that accumulates over the course of a single work day – or it was, until now. Dry ice blasting is perfect for the food and beverage industry, killing over 85% of bacteria with just one cool blast. Without using water or harmful chemicals, dry ice blasting quickly removes any kind of filth from mixing machines, bread and pastry equipment, chocolate/food moulds, conveyors, pack-off tables, proof box grids, slicing equipment, waffle irons and much, much more.

FOOD INDUSTRY



Baking Tray



Bread roll Tray



Oven & Stoves



Under milking units



Salt works- Gearing

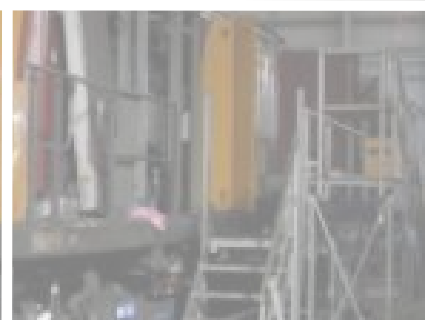
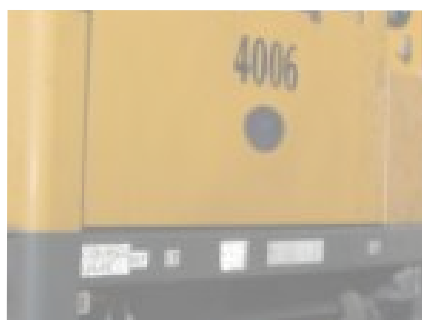
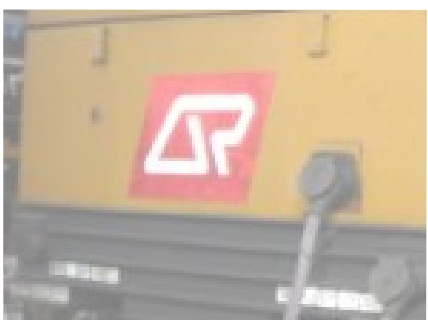
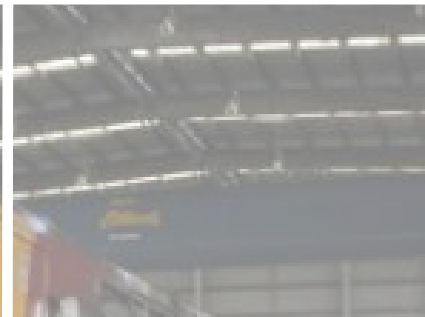
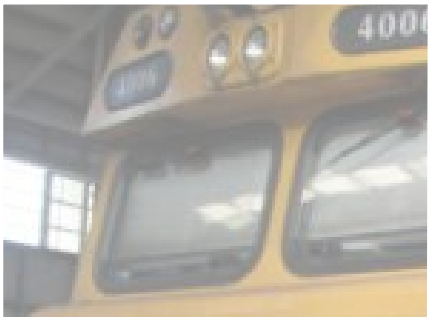


LOCOMOTIVES

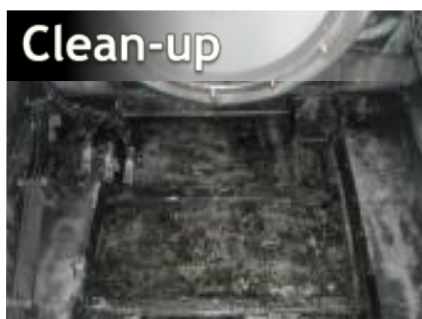


Locomotives and train equipment need regular cleaning and maintenance to stay on track. And nothing is more efficient and fast than dry ice cleaning. Unlike traditional methods that are quick in wasting precious water and time, dry ice blasting uses only environmentally friendly CO2 pellets which, on contact, pass directly from solid to vapour state without adding secondary waste. And it doesn't use any chemicals either. Dry ice blasting is ideal for cleaning the interior and exterior of any type of locomotives, electric motors, turbines, insulators, cable ways, small electric components and electric switchboards. All in all, CQ Dry Ice Solutions offers you an inexpensive ticket to high-class cleaning.

LOCOMOTIVES



Clean-up



Clean-up



Electrical Cabinets



Electrical Cabinets



BENEFITS

Dry Ice Cleaning is rapidly becoming favoured for environmental as well as production reasons.

Due to strict environmental regulations, industries need to minimize wastes.

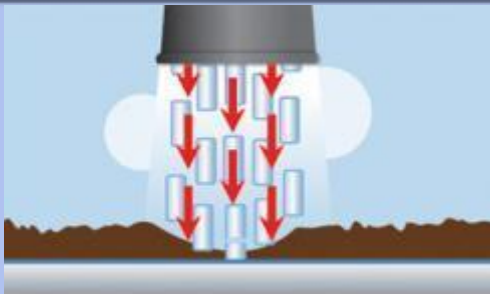
In addition, industrial tools have much to gain in terms of performance through dry ice cleaning.

There is little or no production downtime, cleaning quality is enhanced and there is no damage to equipment.



HOW DRY ICE CLEANING WORKS

1



Kinetic – When dry ice pellets are accelerated in a jet of compressed air and strike a surface at the speed of sound, they crack and loosen the deposit on the surface being treated.

2



Thermal- The low temperature of dry ice pellets (-79C) makes the deposit brittle, cracks it and loosens it. This allows dry ice to permeate the deposit.

3



Microscopic Shock Waves- Dry ice penetrates the deposit and immediately sublimates (passes direct from solid to vapour state). This results in a 700-fold increase in volume, explosive microscopic shock that lifts the deposit off the surface.

3



The substrate remains clean and intact.

HOW DRY ICE CLEANING WORKS

Dry ice is dosed in through the air current

Dry ice is filled into the machine manually or automatically by use of the auto-fill system or directly connecting the IceMaker PR150 to the machine.

Dry ice is led by the air current out through the blasting hose

The compressed air is connected

The gun can be operated manually or by use of a robot for automatic blasting

The coating is cleaned with dry ice

What is Dry Ice?

Dry Ice is carbon dioxide (CO₂) in solid form. It can be produced as pellets or blocks of various sizes. At atmospheric pressure, the temperature of Dry Ice is 79°C.

How Does Dry Ice Cleaning Work?

Reduces bonding between the coating and the underlying surface. This allows Dry Ice to permeate the coating. Explosive Effect – Sublimation: Dry Ice penetrates the coating and immediately sublimates (passes directly from solid to vapor state). This results in a 700fold increase in volume, an explosive effect that lifts the coating off the surface.

Why Should I Use Dry Ice Cleaning instead of traditional methods?

Dry Ice cleaning is a completely Dry process. Dry Ice cleaning is non-toxic, nonconductive and nonabrasive. Dry Ice vaporises immediately on contact with treated surfaces. This gives several advantages in comparison with traditional cleaning methods. With Dry Ice cleaning there is no secondary waste material (sand, glass, plastic, etc.). The only waste to be swept or vacuumed up is the coating dislodged by the treatment. It is therefore possible to clean objects in which other cleaning methods' residual cleaning material would collect in every inaccessible corner. Dry Ice cleaning allows cleaning to be performed while machines are running, without the need for dismantling. This is, of course, of great economic importance as costly downtime can be eliminated or drastically reduced.

What happens to the 'Blasted Off' Coating?

Dry coatings crack into small flakes that can be swept or vacuumed up. Moist coatings (e.g. oil or grease) are carried away in the compressed air jet in a fashion similar to that seen with high-pressure hosing. The treated surface is left Dry and clean.

Which materials can withstand Dry Ice Cleaning?

As the process is Dry and nonabrasive, any material can be cleaned by Dry Ice cleaning without ill effects. For example, Perspex and highly polished aluminum can be treated without the surface becoming matt.

Does Dry Ice Cleaning have economic benefits?

Machinery can often be cleaned with Dry Ice cleaning while it is running, without the need for dismantling and subsequent reassembly. This is, of course, of great economic importance as costly downtime can be eliminated or drastically reduced. Costs connected with the disposal of cleaning material and solvents are eliminated. Cleaning and maintenance payroll costs will often be reduced to a fraction of present levels by substituting Dry Ice cleaning for traditional cleaning methods. Dry Ice cleaning treats material surfaces very gently.

Is Dismantling Necessary Before Dry Ice Cleaning?

It is often unnecessary to dismantle machinery or equipment to be cleaned by Dry Ice cleaning because the process is completely Dry and leaves no cleaning material or chemical residues.

Can I use Dry Ice Cleaning to Clean Hot Machinery While It is Running?

Yes. Faster and more effective cleaning can often be achieved when the object to be cleaned is hot.

Can I Minimize Downtime – or Avoid It Entirely?

Yes. In many cases it will be possible to clean machinery without shutting it down. In other cases, it will be possible to reduce the duration of shutdowns for cleaning purposes, as cleaned surfaces remain Dry.

Does Dry Ice Cleaning Damage the Underlying Surface?

No. Cleaning pressure can be adjusted to suit the material to be treated so that coatings can be removed without damaging the underlying material itself. This means that Dry Ice cleaning can also be used on easily damaged materials like nickel, chromium and soft aluminum.

Is an External Compressed air Source Necessary?

Yes. The Dry Ice blast machine must be connected to an external compressed air source with the following data: Operating pressure – minimum 5 bar / maximum 16 bar. Compressed air consumption – 311 m³/min. - depending on nozzle combination.

Is the Dry Ice Jet Capable of Conducting Electricity?

No, the Dry Ice jet is nonconductive as long as the compressed air used is Dry.

Does Dry Ice Cleaning Cause Condensation?

Condensation will normally not occur when cleaning warm surfaces, as the temperature of the surface will remain above the dew point. To prevent condensation occurring in connection with intensive cleaning or when cleaning is performed in cold locations, the use of heat lamps, fan heaters or heated compressed air is recommended.

What cannot be achieved by Dry Ice Cleaning?

Dry Ice cleaning is nonabrasive and treats surfaces very gently. Therefore, it cannot be used to obtain a rough surface.

Can Dry Ice Cleaning be used in the Food Industry?

Yes. Dry Ice cleaning is ideal for the food industry, as the cleaning process does not involve the use of water or chemicals. The various applications of Dry Ice cleaning in the food industry clearly illustrate just how versatile the system is. The process is used to remove baked on food deposits from ovens and to clean mixers and moulds. It can remove paper and adhesives from packaging machinery. Dry Ice cleaning can be used on plastic and metal surfaces irrespective of whether the object to be cleaned is hot or cold.

Can Dry Ice Cleaning be used on Electronics?

Yes. Dry Ice cleaning can be used to clean dirt and soot from electronics without making them wet or using chemicals. Dry Ice cleaning can be used on units of up to 29 kW without disconnecting the power supply. Unexpected power failure and resulting production shutdown can be avoided by periodically cleaning electronic components.

Can Dry Ice Cleaning be used on Packaging Machinery?

Yes. Dry Ice cleaning effectively removes adhesive residues and other dirt from packaging machinery. This improves package line flow considerably and can reduce the incidence of unexpected shutdown. Clean adhesive nozzles and chain drives can result in large savings in the purchase of spare parts.

Can Dry Ice Cleaning be used in Printing?

Yes. Dry Ice cleaning is an effective means of removing wet and Dry ink, powder, paper dust and adhesive residues. This keeps the number of unexpected shutdowns to a minimum, improves product quality and reduces maintenance time.

Can Dry Ice Cleaning be used on Moulds?

Yes. Dry Ice cleaning can beneficially be used to clean moulds during production. This reduces downtime. Mould surfaces are not damaged, as the process is very gentle.

Can Dry Ice Cleaning be used on Buildings?

Yes. Dry Ice cleaning can be used to remove soot and dirt from buildings and thus restore surfaces. The method is often used for factory buildings where it is crucial to recommence production as quickly as possible. Because Dry Ice vaporises on contact with the building surface, Dry Ice cleaning can be used to clean the insides of buildings without the need to move equipment, machinery or furnishings. Where traditional cleaning methods – involving the use of water and chemicals – are used, it is often necessary to dismantle and move equipment to protect it from damage.

Can Dry Ice Cleaning be used in the Pharmaceutical Industry?

Yes, the pharmaceutical industry sets high hygiene standards. Dry Ice cleaning is therefore the ideal cleaning method. It is a clean and Dry process that effectively and quickly removes coatings and deposits from moulds, conveyors, containers, mixers and other production equipment. Steam and water based cleaning methods can produce health risks. Firstly, steam can provide a breeding ground for bacteria and other micro-organisms. Dry Ice cleaning is a Dry process that eliminates this problem. Secondly, cleaning with water and steam can increase the risk of accidents with electronics. As Dry Ice vaporises on contact with the surface being cleaned, there is no secondary waste material. Because Dry Ice cleaning is a nonabrasive process, moulds used in production cannot be damaged.

Does Dry Ice Cleaning have any Environmental Consequences or Benefits?

Dry Ice is completely non-toxic. In contrast to cleaning methods that use water or high-pressure hosing, there is no emission of polluted water to the environment. The dislodged coating can be swept or vacuumed up and disposed of as appropriate. Dry Ice cleaning produces no toxic fumes from solvents and other chemicals during cleaning.