



**BLIZZARD  
BLASTING**  
SOLUTIONS

For the coolest, quickest clean

Maritime Sector





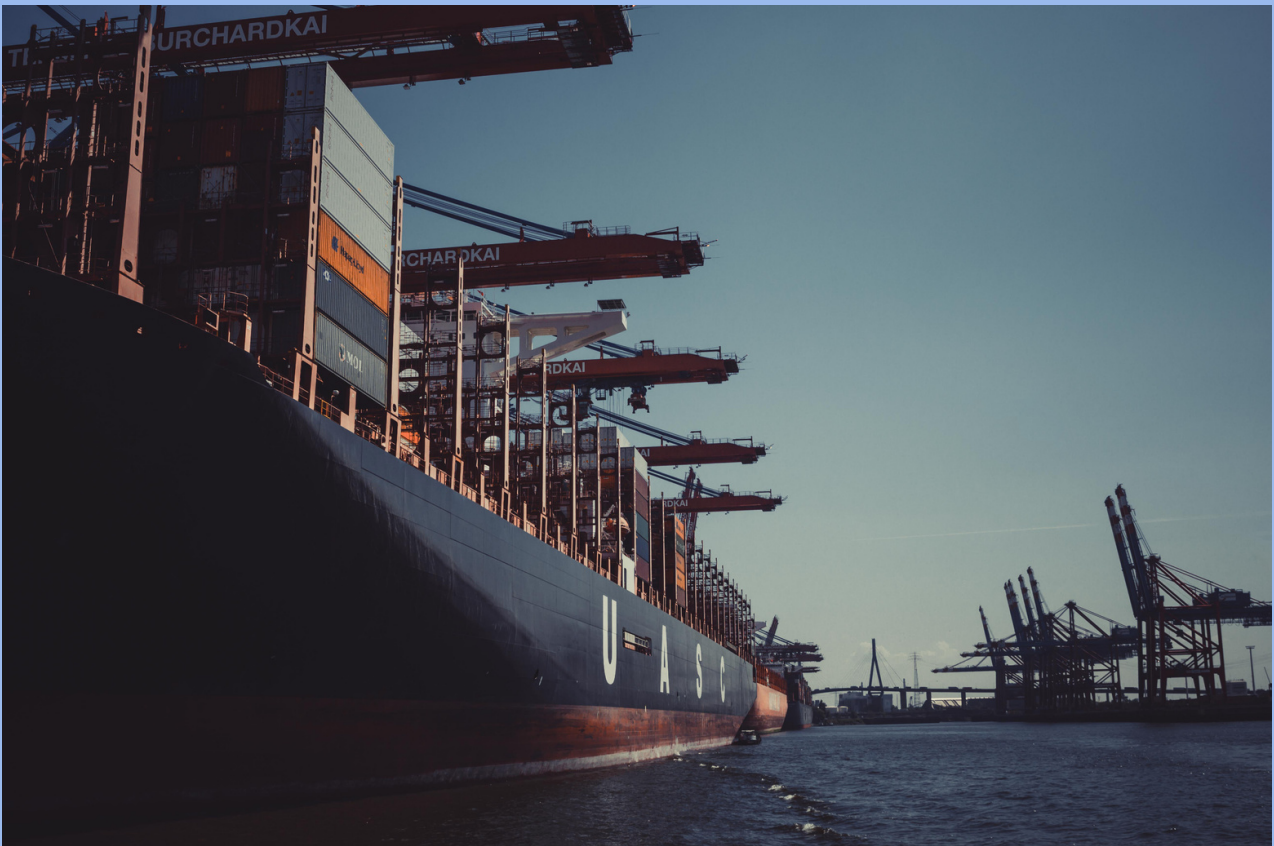
# Maritime Sector

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### Dry Ice Blasting in the Maritime sector:

Welcome to the BBS Information pack explaining our innovative cleaning solutions for the marine and boating sector. With years of experience and a team of highly skilled professionals, we are dedicated to delivering exceptional dry ice blasting services tailored to meet the unique needs of the maritime industry. Our comprehensive range of services is designed to ensure optimal cleanliness, efficiency, and safety in your operations.



# What is it?

Dry ice blasting, also known as dry ice cleaning or CO<sub>2</sub> blasting, is a non-abrasive and environmentally friendly cleaning process that uses high-velocity streams of dry ice pellets accelerated by compressed air to remove contaminants from surfaces. The process combines thermal shock, kinetic energy, and gas expansion to effectively remove dirt, grime, grease, paint, adhesives, and other substances without leaving residues or damaging the surface. The benefits of dry ice blasting include its non-toxic and non-abrasive nature, reduced cleaning time and equipment disassembly, improved worker safety, minimal environmental impact, and versatility across various industries and applications.

*Kinetic Effect: When dry ice pellets strike the surface, they transfer kinetic energy, causing the contaminants to crack and loosen.*

*Thermal Effect: The extremely cold temperature of dry ice (-78.5°C or -109.3°F) causes the contaminants to contract and become brittle, making them easier to remove.*

*Sublimation Effect: Dry ice pellets convert into CO<sub>2</sub> gas upon impact, rapidly expanding and creating tiny explosions, lifting the contaminants away from the surface.*

# Benefits of Dry Ice Blasting in the Maritime Sector

**Effective Contaminant Removal:** Dry ice blasting effectively removes various contaminants, including oil, grease, dirt, and scale, from equipment, pipelines, and surfaces. The high-velocity impact of dry ice pellets breaks the bond between the contaminants and the surface, allowing for easy removal without causing damage or leaving residue behind.

**Non-Destructive Cleaning:** Dry ice cleaning is a non-destructive method that preserves the integrity of equipment and infrastructure. It does not erode or wear down the surfaces being cleaned, minimising the risk of damage or the need for costly repairs or replacements.

**Chemical-Free and Environmentally Friendly:** Dry ice blasting is a chemical-free cleaning process that utilizes solid CO<sub>2</sub> pellets. It eliminates the need for harsh chemicals or solvents, reducing the environmental impact of cleaning operations. The dry ice pellets sublime upon impact, converting from solid to gas, and leaving no secondary waste behind.

**Non-Conductive and Non-Sparking:** Dry ice cleaning is a non-conductive and non-sparking process, making it safe for use in oil and gas industry environments where flammable materials or electrical conductivity is a concern. It allows for cleaning tasks to be performed without the risk of electrical hazards or igniting fires or explosions.

**Reduced Downtime:** Dry ice cleaning is a fast and efficient cleaning method that helps reduce downtime in the oil and gas industry. It eliminates the need for disassembly of equipment, as cleaning can be performed in place, saving valuable time and minimising production disruptions.

**Versatile Application:** Dry ice cleaning is versatile and can be used on a wide range of surfaces, including metal, concrete, rubber, and plastics. It can be applied to equipment, pipelines, tanks, heat exchangers, valves, and other components, making it suitable for various cleaning and maintenance applications in the oil and gas industry.

**Improved Safety and Compliance:** Dry ice cleaning promotes a safer work environment by reducing the exposure of workers to hazardous chemicals, minimizing the risk of accidents, and ensuring compliance with safety regulations. It provides a thorough and effective cleaning solution while prioritising the personnel safety

# What can we do for you?

**Efficient Marine Fouling Removal:** Dry ice blasting is highly effective in removing marine fouling, including barnacles, algae, mussels, and other organisms that accumulate on ship hulls and underwater surfaces. By restoring the smoothness of the hull, the vessel's hydrodynamic efficiency is improved, reducing drag and fuel consumption.

**Gentle and Non-Damaging Cleaning:** Dry ice blasting is a non-abrasive cleaning method, making it ideal for delicate marine surfaces and equipment. It can clean sensitive areas, such as propellers, without causing damage or altering the underlying structures, ensuring optimal performance and longevity.

**Removal of Paint and Corrosion:** Dry ice blasting can efficiently remove old paint, rust, and corrosion from metal surfaces, preparing them for repainting or maintenance. This process helps prevent further corrosion and ensures the application of new coatings adheres properly.

**In Situ Cleaning:** Dry ice blasting can be performed in situ, without the need to dismantle equipment or structures. This reduces downtime during cleaning and maintenance operations, allowing ships and marine infrastructure to quickly return to service.

**Environmental Responsibility:** As a non-toxic and eco-friendly cleaning method, dry ice blasting aligns with the maritime sector's growing emphasis on sustainability and environmental responsibility. It eliminates the use of harmful chemicals, minimizes waste generation, and reduces the overall environmental impact of cleaning operations.

**Safe and Worker-Friendly:** Dry ice blasting reduces worker exposure to hazardous materials and harmful fumes, enhancing workplace safety. Additionally, it minimizes the need for manual labor-intensive cleaning methods, reducing the risk of accidents and injuries.

**Enhanced Energy Efficiency:** By removing marine fouling and contaminants, dry ice blasting restores the hydrodynamic efficiency of ships, leading to improved energy efficiency and lower fuel consumption. This benefit translates into significant cost savings for the maritime industry.

**Effective Heat Exchanger Cleaning:** Dry ice blasting efficiently cleans marine heat exchangers, which are critical components for cooling systems on ships. Removing scale, fouling, and debris from heat exchangers improves their performance and extends their service life.

# Our process

**Assessment and Consultation:** The company starts by figuring out what the client needs in terms of cleaning. Once we gain a thorough understanding of your specific requirements, we then proceed to identify the surfaces and equipment that need attention. Additionally, we conduct a meticulous assessment of any safety or environmental factors that may impact the project. We discuss thoroughly with the customer to find out what they specifically want, find out what surfaces or tools they want to clean, and consider any safety or environmental issues.

**Planning and Preparation:** BBS makes a thorough plan for the cleaning process based on the assessment. This includes choosing the right dry ice blasting equipment, choosing the right type and size of dry ice pellets, and thinking about any extra safety measures or equipment that might be needed for the job.

**Surface Preparation:** Before using dry ice to clean, we make sure that the surfaces or equipment that needs to be cleaned are prepped and precautions have been taken to insure everyone's safety. This could mean cleaning up any loose trash, covering up sensitive areas, and taking any other steps needed to protect nearby parts or buildings.

**Dry Ice Blasting:** Setting up the dry ice blasting tools is the first step in the dry ice cleaning process. The equipment is run by trained employees of the company. It consists of a blasting gun linked to a high-pressure air supply and a dry ice pellet feeder. The technicians aim the stream of compressed air and dry ice pellets at the surfaces they want to clean. The mix of kinetic energy and thermal shock effectively removes contaminants.

**Quality Control and Inspection:** A priority of BBS is quality control all the way through the dry ice cleaning process. We check the cleaned surfaces to make sure that all the dirt has been removed and that the level of cleanliness wanted has been reached. Any touch-ups or extra cleaning steps that are needed are done as required.

**Waste Management:** The waste from the dry ice cleaning process is taken care of by us by following the right waste management steps. When dry ice pellets hit something, they turn into carbon dioxide gas and the waste they remove is left behind. The company makes sure that this trash is collected, stored, and thrown away in a safe way that follows environmental laws and rules.

**Project Completion and Documentation:** Once the dry ice cleaning process is done, we provide a summary of the work done, which will include pictures and videos of the before and after. We also suggest ways to keep up with maintenance cleaning in the future.

By following these operational processes, we can make sure that cleaning in many different industries is fast, effective, and safe. Throughout the whole process, we put customer happiness first, keep quality standards high, and follow all environmental and safety rules.

# Summary

Dry ice blasting has several advantages for the maritime industry, making it a game changer in marine cleaning and maintenance. Dry ice blasting efficiently eliminates marine fouling, such as barnacles and algae, from ship hulls and undersea surfaces due to its eco-friendly and non-abrasive nature. This improves hydrodynamic efficiency, reduces drag, and increases fuel economy, eventually saving money and boosting sustainability.

Dry ice blasting is ideal for sensitive naval equipment, propellers, and heat exchangers because of its gentle and non-damaging features. It successfully eliminates rust, paint, and corrosion from surfaces, preparing them for repainting and maintenance operations while extending the life of critical components. Furthermore, dry ice blasting may be done in place, reducing downtime and allowing ships and maritime infrastructure to return to operation as soon as possible.

Dry ice blasting displays environmental responsibility by avoiding the use of dangerous chemicals and minimising waste formation, harmonising with the marine sector's commitment to ecological preservation. Additionally, the procedure improves workplace safety by decreasing worker exposure to dangerous chemicals and guaranteeing a safer working environment.

Overall, the efficiency, cost-effectiveness, and environmental friendliness of dry ice blasting make it an excellent choice for the marine sector. It improves vessel performance, increases equipment life, and contributes to a cleaner and greener marine industry, exemplifying the numerous benefits it provides to the cleaning and maintenance practises of the maritime sector.

Request a Quote today

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