



Dry Ice Blasting



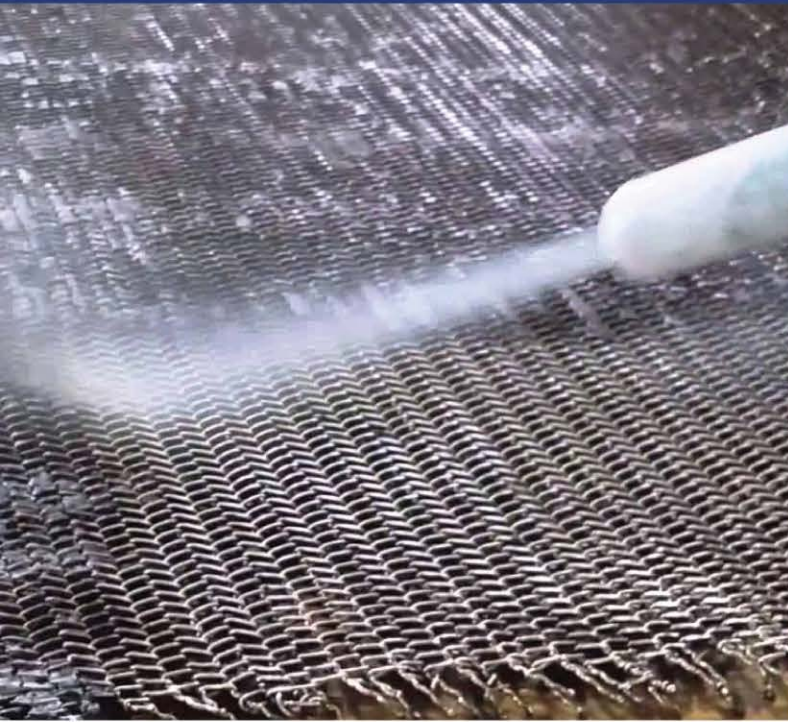
About us



IFB Agro, incorporated in 1982, manufactures and distributes Grain Alcohol, DDGS, CO₂, Organic Manure, Alcoholic Beverages, Aqua Feed and Processed Frozen Shrimps for domestic and export markets.

IFB Agro is the only manufacturer of Dry Ice in Eastern India.

What is dry ice blasting?



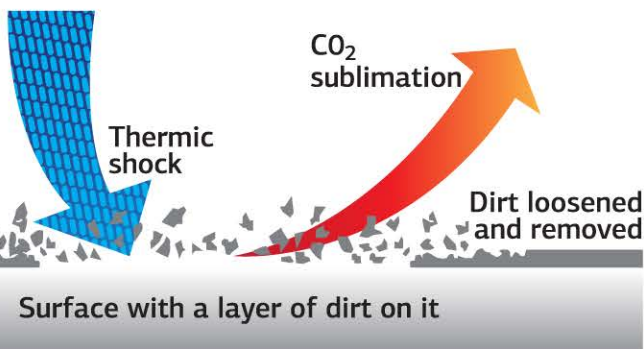
WHAT IS DRY ICE?

Dry Ice is carbon dioxide that has been solidified at -78.5°C . It is primarily used as a cooling agent for preserving frozen food.

Dry Ice is produced at our manufacturing facility at Noorpur, West Bengal and is marketed under the brand 'Polarice'.

WHAT IS DRY ICE BLASTING?

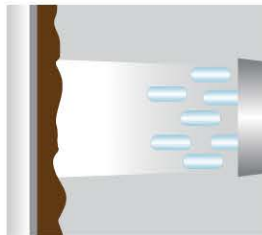
Dry Ice Blasting is a form of carbon dioxide cleaning in which Dry Ice particles are projected at 6–10 bar air pressure at a surface in order to clean it.



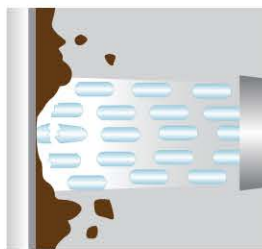
DRY ICE BLASTING MACHINE

The process uses a Dry Ice Blasting machine, which crushes 3 mm dry ice pellets into fine particles and projects the pellets at 6–10 bar air pressure to the surface to be cleaned.

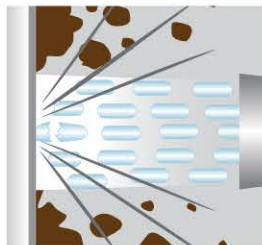
HOW DRY ICE BLASTING WORKS



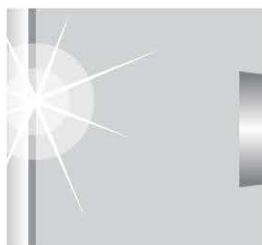
Small rice size pellets of Dry Ice are shot out of a jet nozzle using compressed air, similar to sandblasting, high pressure water or steam blasting, but with superior results.



Dry Ice frigid temperature is -78.5°C . When blasted against the material to be removed, it causes it to shrink and lose adhesion from its sub-surface. Additionally, when some of the Dry Ice penetrates through the material, it comes in contact with the underlying surface.



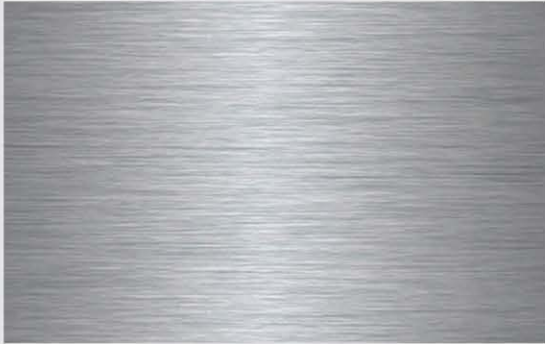
The warmer sub surface causes the Dry Ice to convert back into CO₂ gas. The gas has 700 times greater volume and expands behind the material, causing it to speed up its removal.



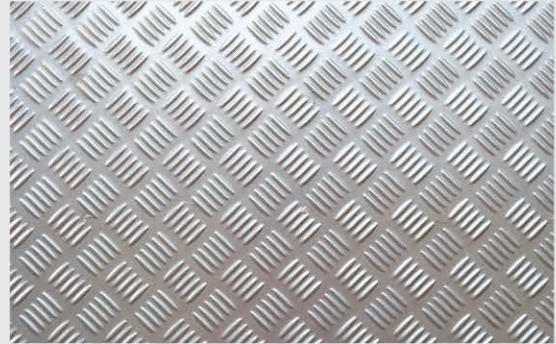
After Dry Ice Blasting, the surface is clean and completely intact. The removed material must be disposed of while the Dry Ice sublimates into the atmosphere.

What surfaces can be cleaned?

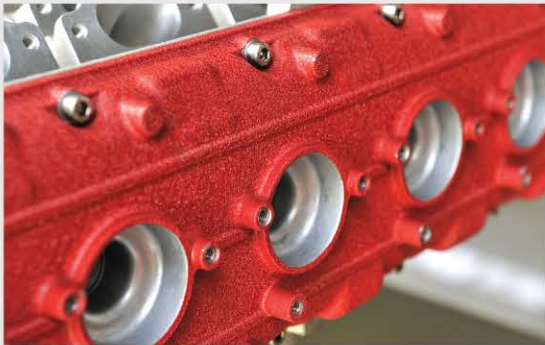
TYPES OF SURFACES THAT CAN BE CLEANED BY DRY ICE BLASTING



STAINLESS STEEL



ALUMINIUM



POWDER COATED SURFACES



PAINTED SURFACES



TYRES



PLASTIC



WOOD



CONCRETE

Benefits of Dry Ice Blasting



Non-abrasive

Since surfaces are treated extremely gently, wear and tear resulting from the use of steel brushes or other blasting media is avoided.



Superior Cleaning

The process provides better cleaning, much faster than scrubbing with abrasive pads or wire brushes.



Reduction of Plant Downtime

Thorough cleaning-in-place, no labour is required to disassemble and transport the equipment to and from the designated cleaning area.



Elimination of Equipment Damage

Dry Ice is non-abrasive and does not change or erode a surface's structure.



No Waste Disposal

The pellets vaporise upon contact. This results in reduced waste disposal and cost reduction.



Non-hazardous

Dry Ice Blasting pellets are non-toxic and safe for employees, equipment and end products. They replace traditional hazardous materials such as solvents and chemicals.



Sanitises the Surface

Because of its ultra-low temperature of -78.5°C , Dry Ice Blasting has a sanitising effect. Allergen contamination is removed and surfaces are sterilised while mould and bacterial growths are inhibited.



Cost-effective

Significantly reduces cost by saving on plant downtime, processes and labour.



Environmentally Safe

We use CO_2 that would otherwise be vented into the atmosphere. This does not cause any additional CO_2 emission. In essence, our process uses a recycled waste product and then converts it into a usable phase.



Supports Sustainability

Eliminates use of harmful chemicals and water.

What equipment can be cleaned?

TYPES OF EQUIPMENT DRY ICE BLASTING CAN CLEAN



FOOD PROCESSING PLANT



CONVEYORS AND CHAINS



GRILLES



HEAT EXCHANGERS



BOILERS



TURBINE ROTORS



OVENS



TRANSFORMERS



TYRE INDUSTRY



PRINTERS



SWITCHBOARDS



DUCTS

Why is dry ice blasting better?



MATERIAL DRY ICE BLASTING REMOVES

Mould, Algae, Dirt/Dust, Soot/Carbon, Paint, Milk Products, Fats/Grease, Chewing Gum, Fruit/Vegetables, Sugars/Syrups, Ink, Flour/Grains, Pathogens/Bacteria, Hydrocarbons, Adhesives/Resins, Manufacturing Residue, Cement/Blaster, Rust and Scale/Stains Tar and Bitumen, Expanded Foam

CONVENTIONAL CLEANING METHODS vs DRY ICE BLASTING

ISSUE	CONVENTIONAL	DRY ICE BLASTING
Equipment Downtime	Cleaned in dedicated cleaning area; disassembly/reassembly and drying time required	Equipment can be cleaned in its place; dry process means equipment can be restarted immediately after cleaning
Hazardous Waste	Cleaning agent becomes additional hazardous waste	Dramatically reduced; CO ₂ is non-poisonous and non-hazardous
Quality Cleaning	Poor to average	Excellent
Equipment Damage	Grit abrasions; grit contamination; movement of equipment to and from cleaning area	No equipment damage; preventive maintenance, very realistic as labour hours are significantly reduced
Safety	Health threats from solvents; water-based cleaning poses electrical hazards around equipment	Standard safety precautions; dry process so safe around electrical equipment
Cost	Expensive solvents; additional labour costs; added cost of disposing hazardous waste	Minimal; just the cost of the Dry Ice

DRY ICE BLASTING vs OTHER INDUSTRIAL CLEANING METHODS

CLEANING METHOD	SECONDARY WASTE	ELECTRICALLY CONDUCTIVE	ABRASIVE	TOXIC	EFFECTIVENESS
Dry Ice Blasting	No	No	No	No	Excellent
Sand Blasting	Yes	No	Yes	*	Good
Soda Blasting	Yes	No	Yes	*	Good
Water Blasting	Yes	Yes	No	*	OK
Solvents Chemicals	Yes	NA	No	Yes	Limited
Power Tools	No	NA	Yes	NA	Limited
Hand Tools	No	NA	Yes	NA	Limited

*Upon contact, traditional blasting materials become contaminated when used to clean hazardous substances and objects. These blasting materials are also then classified as toxic waste and require appropriate safe disposal.

What equipment can be cleaned?



IFB AGRO DRY ICE BLASTING SERVICES

- Industrial Cleaning through Dry Ice Blasting
 - 1 Pre-cleaning inspection
 - 2 Demonstration
 - 3 Work-cost estimation
 - 4 Blasting execution, before/after analysis
 - 5 Post-cleaning inspection
- Periodic maintenance contract

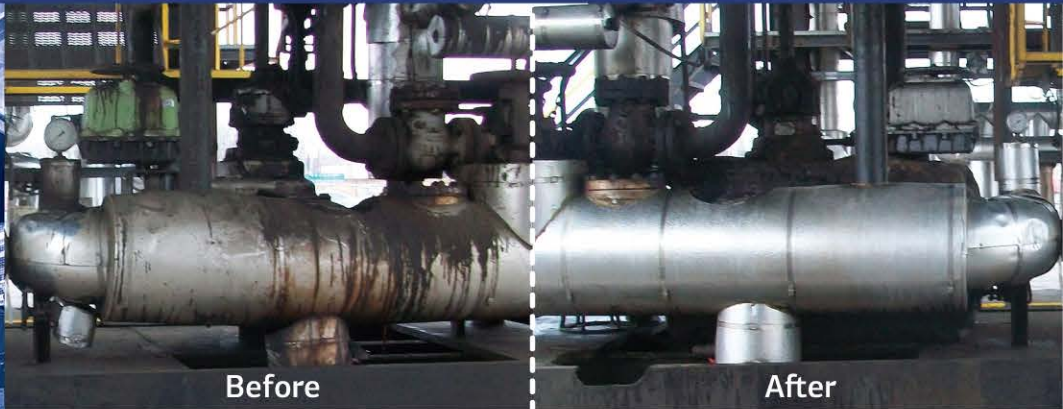
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INDUSTRIES THAT FREQUENTLY EMPLOY DRY ICE BLASTING



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