



DRY AND WET ICE BLASTING TECHNOLOGY

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WELLQUIP ENERGY SERVICES LIMITED

2019

New Technology on Blasting Ice

Wellquip Energy Services Limited as a facility management company enjoys partnership agreement with reputable OEMs/technical partners in the industry and hereby through technical alliance brings you an exciting technology that changes the way we clean the world, the New Cleaning technology IceStorm 90 is Industrial cleaning equipment that uses regular crushed ice cubes as a blast media manufactured by Coulson.

The Technology is analogous to grit or sandblasting but using Ice instead of sand, this Ice blasting technology is a **safe and cost effective alternative to sandblasting, abrasive blasting, water blasting etc.**

The equipment is ideal for situations **where high water usage or high levels of airborne or environmental contamination are unacceptable.** This includes cleaning in enclosed spaces, hazardous material removal—such as lead paint or asbestos abatement—and cleaning near environmentally sensitive areas.

How it works

The machine uses all three physical phases of ice to its advantage during blasting a solid phase that knocks off contaminants with maximum impulse and scrubs the surface, a liquid phase that dissolves and washes away ionic compounds and helps to suppress dust, and a vapor phase that evaporates, leaving behind minimal residue.

Most of the ice will melt on impact and become a mist, making the blasted off particle damp and heavy, dragging them to the ground and leaving low levels of airborne contaminants, while also allowing for an easier clean up.

Ice crystals scrub away surface contaminants. Melted ice flushes away debris, minimizing airborne contaminants levels and liquid waste, while creating a critically clean, damage-free surface with Low operating costs, Simple to operate and Low maintenance.

The machine weights about 400 pounds and is 40 inches long, 26 inches wide, and 45 inches tall. The machine includes a hopper that holds approximately 90 pounds of ice cubes or ice blocks, a crusher mechanisms that breaks the ice into smaller particles, a rotary feeder that transfers the ice from atmospheric pressure into the high pressure airstream, a high pressure air hose system that conveys the ice, and a nozzle that accelerates the air and the ice to high speed.

Ice blasting is much more gentle than grit or sandblasting. Because of this, it can be used to clean normally sensitive areas, like wires, pneumatic control lines, fittings and glass, without damaging them.

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Environmental Impact

Blasting using grits, sand, plastic beads, or other media poses higher environmental impacts as there are additional materials to be disposed in landfills. Ice blasting system is a **sustainable and environmentally responsible alternative** to other blasting technologies.

Employee Safety

In the industrial cleaning sector, airborne contaminants are a prime concern when performing any cleaning/blasting task. Protective clothing and respiratory aid is necessary when using abrasive cleaning technology. Ice blasting is **the only real dustless blasting method available on the market today**.

Lead based paint abatement, which includes one of the most harmful substances to remove (lead) and consequently the most regulated, has the requirement for masks at an airborne exposure of 0.05 milligrams of lead per cubic meter of air. In product testing, the maximum outdoor airborne lead contamination using Ice Blast was less than 1/10th of the required maximum for unprotected work. Ice Blast is extremely effective in trapping airborne contaminants.

To effectively enhance the cleaning process, IceStorm 90 Blast uses no chemicals, thus worker health risks are eliminated and there is no contaminated water to be disposed of.

Why choose Ice?

- Using Ice will significantly reduce your operating costs.
- Ice reduces airborne contaminate levels compared to other blasting technologies
- Ice is a non-hazardous material unlike dry ice and all other blasting medias.
- Ice is a superior cleaning media
- Ice is the only media that exists in all three phases - (Solid/Liquid/Gas)
- Ice is the only media with three cleaning mechanisms (Bulk removal/Scrubbing/Final Rinse)
- Using Ice produces negligible airborne contaminates (0.003 MG/m3)
- Blasting with ice creates very little residual water waste – 95% less water waste than a high pressure water blaster.
- 24 / 7 onsite Ice manufacturing
- Anti-Fouling paint removal



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Benefits

- Zero blast media waste
- Salt / Chloride removal
- Non-Abrasive media - Expose existing anchor profile
- Low Pressure - No kickback
- On-Site manufacture of Ice Material
- Reduced encapsulation and clean up
- Maximum up-time, minimum disruption - ONLINE blasting of live assets
- 30-50% savings in blasting costs
- 50% increase in productivity
- Improved operator safety - No damage to ropes
- Minimize damage to surrounding equipment
- Minimal damage to delicate substrates
- Reduce carbon footprint

Applications

IceStorm90 can be used for oil and gas industries to clean large refinery tanks, flow stations/production facility, platforms, pipes all grades rigs refurbishment ,equipment, tools, and wellheads as well as large marinas to blast the barnacles off boats and other water vessels.

OTHER ICE BLASTING CLEANING APPLICATIONS

- Turbines, Generators & Compressors
- all sizes of process lines piping
- Pipes connectors & Manifolds
- Hydrocarbons deposits in Tanks
- Motors & Pumps
- Boiler shells & tubes
- Rust removal to SP-10 standard
- Convection Section from Combustion Ashes
- Removes asphalt from steel panels
- OCTG de-greasing
- Stationary and Mobile Equipment Cleaning
- Furnaces, Fireboxes, cladding & stacks
- Transmission devices like switch gear, circuit breakers & transformers
- Isolators & bushings without any damage to the material or equipment
- Relays, protection & safety equipment & batteries
- Polymer Tanks Cleaning
- Hose Connectors and Manifold
- Insulation Jacketing
- Post Spill Antioxidants Cleaning
- Conveyor Belt
- Asbestos Removal