



Surfaces cleaning system.

IS IT:

Product

Technology

Equipment

APPLICABLE FOR:

Restoration

Rehabilitation

New Construction

APPLICABLE ON:

1. Foundations and underground structures

2. Vertical structures

3. Horizontal structures and vertical connections

4. Roof and terraces

5. Façade and building envelope

6. Finishes and completion elements

7. Integrated services

8. General strategies for building recovery

Related companies: Dry Ice

DESCRIPTION

One of the major uses of dry ice, not as a refrigerant, is in blast cleaning of surfaces. Dry ice cleaning is used in many industries: electromechanics, food, polyurethane and plastics, printing, restoration, and other industries. It is an alternative to traditional production equipment cleaning methods for fast and efficient blasting.

Dry ice is used to clean façades from the following pollutants: dirt, oil, fatty accumulations, petrol, resin, tar; toxic waste, soot, slag; Glue, impregnation mixtures, powder; heavy metals; welding slag; oil of cast molds; ink; varnish, paint; algae, mucous, mollusks.

WHY TO USE

- Restoration and reconditioning works
- Paint/Surface protection systems
- Fire after-effects
- Production lines/equipment
- Forms and patterns
- Adhesive/Stickers/Labels
- Corrosion/Rust
- Electrical appliances/equipment
- Molds removal

HOW TO USE AND APPLY

The principle of dry ice blasting is simple but ingenious – compressed air mixes with dry ice granules and heads towards the surface with a speed of sound. Granules, bouncing and at the same time exploding, crush and separate the solids on the surface. Low temperature (-79°C) increases the fragility of the solids, thus increases cleaning effectiveness.

The work is carried out by using a universal dry ice blasting machine.

TECHNICAL CHARACTERISTICS

Dry ice or solid carbon dioxide is tasteless, odorless and has several times the cooling capacity of ice. Dry ice is made from liquid carbon dioxide. Under reduced pressure and rapid evaporation of liquid carbon dioxide at -78.5 °C, snow is formed which is compressed into blocks or

pellets. The density of dry ice is up to 1600 kg / m³, and the production of cold is about 600 kJ / kg.

RECOMMENDATIONS AND OTHER INFORMATION

Key benefits of dry ice blasting:

- Environmentally friendly and safe.
- Cleaned surface stays dry and clean.
- Is not aggressive, can be performed on soft materials such as iron, nickel, chromium, aluminum, plastic, wood etc.
- Is not electrically conductive, can be performed on operating equipment, electrical appliances on the spot, without dismantling.
- Cleaning itself does not create additional waste.
- Dry ice blasting significantly reduces maintenance time required to perform periodic cleaning as cleaning is done quickly and efficiently.
- Can clean objects that are difficult to reach.
- Dry Ice Blasting meets hygiene requirements and standards of the Ministry of Republic of Lithuania, and is therefore indispensable in the food, medical, pharmaceutical, and other industries.

Dry ice cleaning does not require the use of any chemicals and does not generate additional waste. Upon contact with the cleaning surface, the dry ice immediately evaporates in the air, leaving only the dirt separated from the cleaning surface.

When working with dry ice, the amount of carbon dioxide increases in the environment (the carbonic acid changes its solid state into vapor). High concentration of carbon dioxide can cause a headache, respiratory disorders, vomiting and even a loss of consciousness, therefore, the room should be well ventilated. In order to avoid cryogenic frostbites, it is important not to take dry ice with bare hands, i.e., it is necessary to wear gloves. In order to avoid health risks, it is recommended to download the material safety data sheet and observe provided instructions.

EXAMPLES



Fig.1: Wooden wall cleaning.

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Dry ice cleaning is the most potential and future-oriented cleaning method. Surface cleaning at extremely low dry ice temperatures (-79 ° C) kills all germs and bacteria at the same time, for this reason it becomes very important for the care and preservation of wooden houses.

REFERENCES / SOURCES AND LITERATURE

<http://srautaservis.lt/dry-ice-blasting/>

<https://sausasledas.lt/sausas-ledas/>

<https://abtech.lt/paslaugos/valymas-sausu-ledu/#1511445480825-b9f8be95-5217>

<https://www.gaschema.lt/en/english-dry-ice/>

WEBSITE OF THE COMPANY

<https://www.gaschema.lt>



IMAGES AND CAPTIONS



Fig.2-3: Wooden wall cleaning before and after. ©<http://sausasisledas.lt/valymas-sausuoju-ledu/>



Fig.3-4: Flat cleaning from inside after the fire before and after. ©<http://sausasisledas.lt/valymas-sausuoju-ledu/>

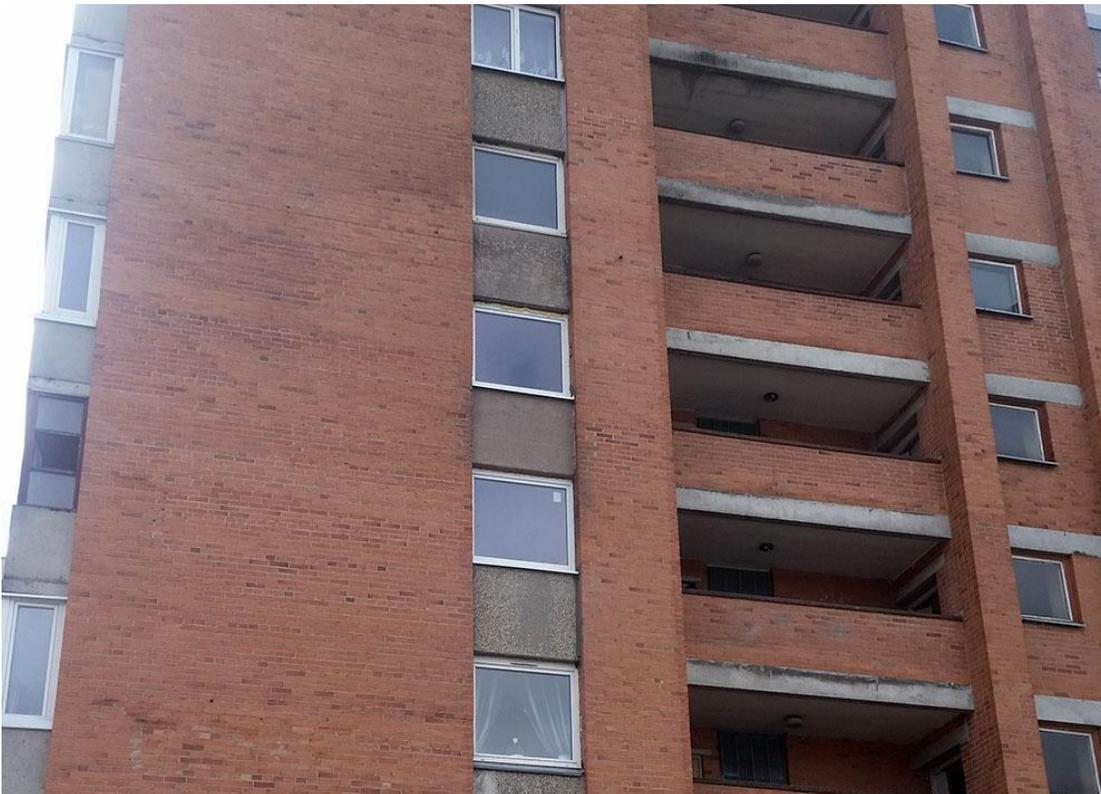
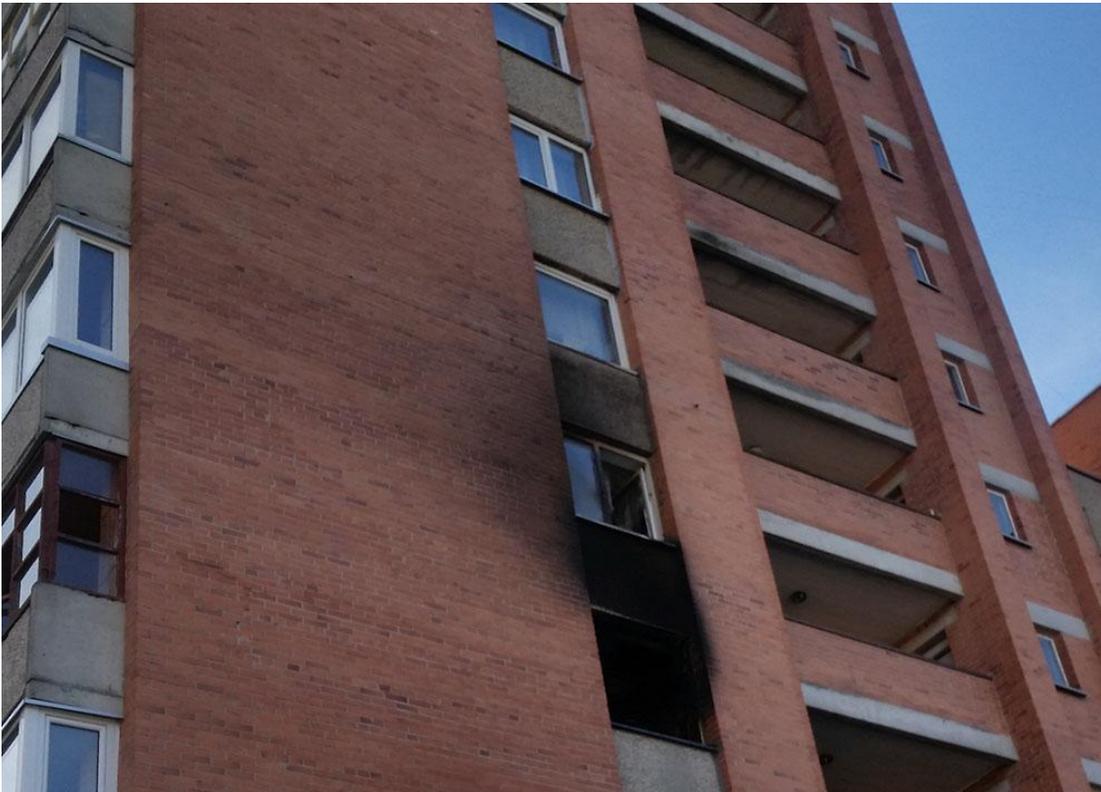


Fig.5-6: Flat cleaning from outside after the fire before and after. ©<http://sausasisledas.lt/valymas-sausuoju-ledu/>