

Report

Surface Treatment



Water as a tool
for a clean environment

The cleaning of large-scale constructions, such as facades, traffic areas or airport runways, is an essential preposition for successful maintenance and for guaranteed safe operation.

WOMA's high-pressure waterjet systems are successfully used in these areas since decades. The technique is suitable for the following applications:

- ▶ Cleaning of brick, concrete, plaster, plastics, metal and rock surfaces.
- ▶ Removal of paint and worn protective coatings.
- ▶ Removal of rubber from airport runways.
- ▶ Removal of road markings.
- ▶ Cleaning and decontamination of industrial floors.
- ▶ Roughening of smooth asphalt and concrete surfaces.
- ▶ Internal and external cleaning of large storage tanks.
- ▶ Emission-free surface treatment.
- ▶ Cleaning of facades, pile plankings, etc.
- ▶ Removal of asphalt, bitumen and concrete.

Why High-Pressure Water Jets?

- ▶ Very wide range of tools and accessories.
- ▶ Small tool dimensions and low weight.
- ▶ Small reaction forces; cleaning tools can be run automatically or remotely controlled.
- ▶ Minimum vibrations and body sound.
- ▶ Avoidance of any gas and slag.
- ▶ Very sensitive and selective removal of coatings, impurities and deposits without damaging the base materials.

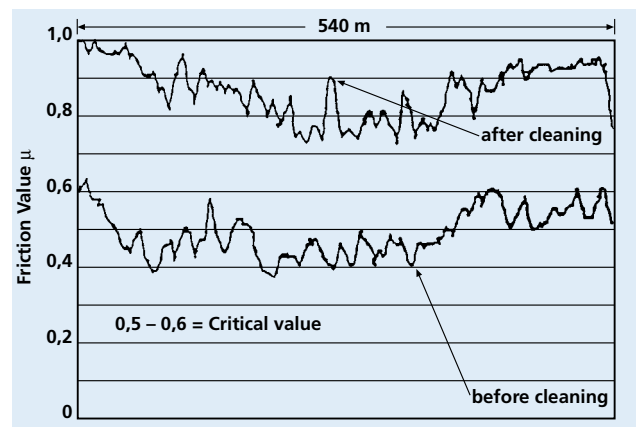


Runway Cleaner for the removal of rubber deposits from airport runways.

Friction values for runways before and after waterjet treatment (Measurement: SAAB Surface Friction Tester)



Rubber removal from airport runways
upper: after cleaning
lower: uncleaned
(Efficiency up to 1,500 m²/h)



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- ▶ No influence on the mechanical and structural properties of the base materials.
- ▶ Applications possible during active production.
- ▶ Avoidance of chemical or abrasive additives; reduced disposal amount.
- ▶ High cleaning quality and high degree of decontamination.
- ▶ Possibility of emission-free treatment due to special tools.

The Material Range

Using high-pressure water jets, the following materials can reliably and environmentally-friendly be removed: Bitumen, coating systems, paint systems and plasters, protective coatings, deposits, linings, oils, parting agents, resin, rubber, rust, soil, soot, stripings.

The Technique

WOMA offers stationary and mobile high- and ultra-high pressure water

jetting systems with operating pressures up to 3,000 bar and water flow rates up to 1,679 l/min, consisting of electric or combustion drive, high-pressure plunger pump, guiding and control devices, water tools, and high-pressure accessory. If required, vacuuming devices and water treatment systems are available. The systems can be run mechanically or automatically. For the rubber removal from airport runways, Runway-Cleaners have been developed. The high-pressure hot water systems Ecotherm® with an operating pressure of 800 bar and a water temperature of 98° C are ideally suited for cleaning oily and sooty surfaces.

The special high-pressure program for surface treatment also includes the following components:

- ▶ High-pressure guns in modular design for efficient surface treatment.

- ▶ High pressure tools for hot water applications.
- ▶ Water tools for emission-free treatment of vertical and horizontal surfaces.
- ▶ Self propelling nozzle carriers for cleaning applications.
- ▶ Pneumatically driven rotating nozzle carriers for selective material removal.
- ▶ Hydraulically driven nozzle carriers for heavy removal tasks.
- ▶ Vacuuming units for water and solid particles.
- ▶ Modular water treatment systems for the jetting water.
- ▶ Multiple consumer systems based on valves or in Twin Jet-design.
- ▶ Flexible high-pressure hoses.
- ▶ Round and fan jet nozzles.



Lizard with remote control for emissions-free large-scale surface preparation

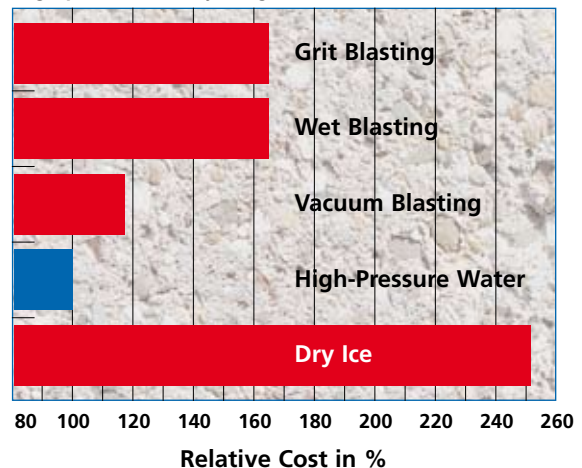


Emission-free cleaning of industrial floors by the Vacu Jet



Brick facade, cleaned by waterjetting

High-pressure waterjetting = 100 %



Cost of competing concrete cleaning methods (German-French Institute of Environmental Science, Karlsruhe)