

# Report

## Surface Treatment



Water as a tool

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.

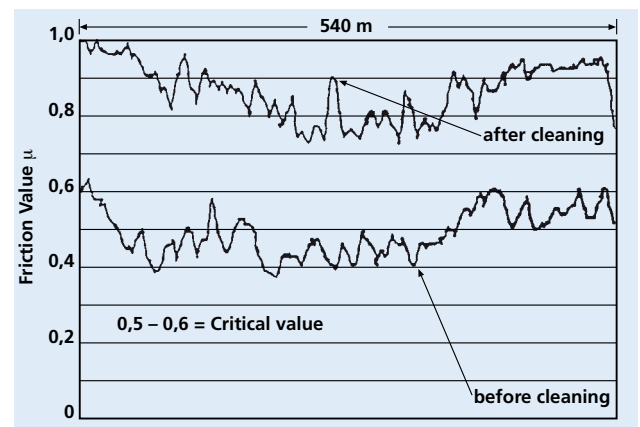


**Runway Cleaner for the removal of rubber deposits from airport runways.**

**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 m<sup>2</sup>/h)



### WOMA GmbH

Werthaus Str. 77-79 · D-47226 Duisburg  
P.O. Box 14 18 20 · D-47208 Duisburg  
Phone +49(0)2065/304-0 · Fax +49(0)2065/304-200  
Internet: [www.woma.de](http://www.woma.de)  
E-mail: [info@woma.de](mailto:info@woma.de)

- ▶ 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

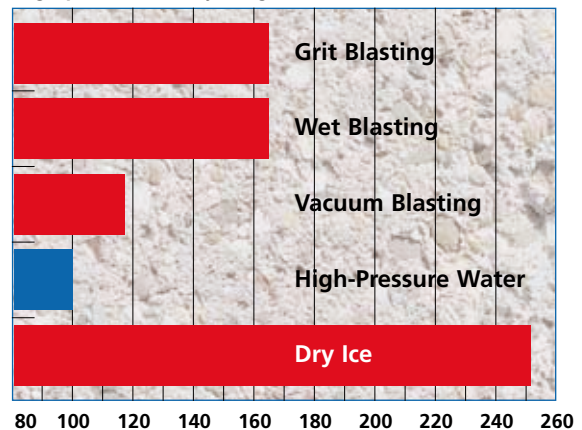


Emission-free cleaning of industrial floors by the Vacu Jet



Brick facade, cleaned by waterjetting

High-pressure waterjetting = 100 %



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