

## ABOUT CYCLONE SURFACE CLEANING

Cyclone Surface Cleaning is recognized worldwide for the quality of our products and services. We provide sustainable contract cleaning services for airport runway rubber and paint line removal, as well as ramp area and parking structure surface cleaning.

We offer our customers propriety high – pressure and ultra – high pressure cleaning services that are economical and environmentally friendly using our patented Cyclone Cleaning technology.

The patented Cyclone cleaning technology offers customers the highest levels of sustainable outdoor surface cleaning available in the marketplace today. Cyclone's contract surface cleaning team of highly-trained and experienced operators use this equipment to provide unmatched airport runway and ramp area maintenance. Compared to other runway cleaning methods that use harmful chemicals or machines that can damage the runway surface, Cyclone machines use only high pressure water and high velocity air movement to safely and effectively clean the surface. In addition, the unique Cyclone head provides instant recovery of waste and water with no runoff or discharge to the environment. The surface is left clean without standing water – ready for immediate use.

We have provided the busiest airports in the world with runway rubber removal and paint line removal while providing exceptional customer service for over 20 years!



## CONTACT US

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Tempe, AZ | San Diego, CA | Ruston, LA | Detroit, MI | Philadelphia, PA

**Cyclone**  
SURFACE CLEANING

A GLOBAL CONTRACT SERVICES COMPANY

## SURFACE MAINTENANCE FOR AIRPORTS

The future of airport surfaces maintenance is the adoption of a “tool box” approach to the various scopes of work necessary at today’s airports. Managers and maintenance crews will need a variety of equipment to keep pavement surfaces in the safest and best conditions to meet the demanding standards of the 21st century.

Cyclone Surface Cleaning is a leading global company with regards to surface maintenance. We have an extensive range of tools for maintaining and cleaning airport runways and ramps.

Our services include:

- Removal of Excessive Rubber from Runways
- Gate Cleaning
- Removal of/ or Cleaning of Lines
- Improvement of Grip by Increasing the Surface Friction
- Improvement of Light Reflection
- Reduction of Vibrations and Noise Levels During Take Off and Landing
- Decorative Indoor and Outdoor Surfaces
- Strip Measurement
- Runway pre and post friction testing
- Retro Reflectometer paint testing
- Cure removal



## GREEN TECHNOLOGIES

All of our technologies are purely mechanical and therefore very clean. None of our technologies create air pollution or use chemical substances. Our patented technology uses only ultra high pressure water and high velocity air movement, with 50% less water usage than traditional ultra high pressure machines. Our unique system provides instant recovery of waste water with no run-off or discharge into the environment. Recovered waste is pumped to an on-board tank that separates the solids from the liquids for easy and environmentally responsible disposal.

## FRICTION IMPROVEMENTS

The condition of the runway surface is important when you are looking to improve airfield safety. There are many elements which can affect the surface such as structure, materials used, surface type, snow, ice, water and contamination from various sources (especially from rubber deposits).

Regardless of the pavement type, runway friction characteristics will change over time depending on the type and frequency of aircraft activity and weather conditions. In addition to ordinary mechanical wear from aircraft tires, containments can collect on the runway surfaces which decreases their friction properties.

It is essential to maintain the airport runways at the highest possible standard and to ensure adequate surface drainage and grip, especially in areas of take off and landing. Cleaning the surface using Ultra-High-Pressure technology has been repeatedly demonstrated to be an important key for successful friction improvements.

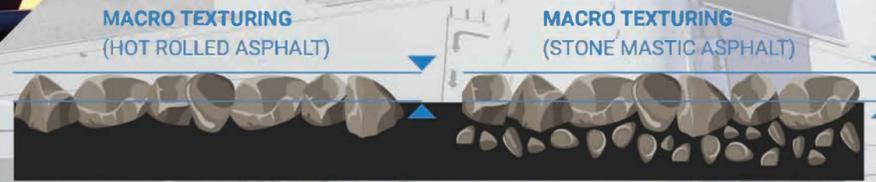
### HYDROTIMER ([WWW.HYDROTIMER.COM](http://WWW.HYDROTIMER.COM))

The HYDROTIMER is a self contained outflow meter. It is a hands-off operation which produces consistently accurate results regardless of the operator as long as the tests are performed in accordance with instructions. The HYDROTIMER is a precision instrument calibrated to meet the ASTM International E 2380-05 Standard.



## MACRO-TEXTURING

Macro texture is the space or voids between the aggregate particles. The texture depth of an asphalt pavement surface will normally be between 1.0 mm to 1.5 mm. It is this macro texture which allows the water to drain away from the surface and greatly contributes to skid resistance in wet conditions.



Ultra-High-Pressure water is a very cost effective, environmentally friendly and high performance technology for reducing the danger of runways with low friction readings. It will remove rubber deposits and will bring the surface macro texture back to that of the aggregates ability.

## RUBBER REMOVAL

As aircraft landings take place, the traffic wears down macro-texture as contaminants build up on the runway pavement. This build-up of rubber will decrease water drainage and friction to the point where safety may be compromised. Removal of excessive rubber from the runway is critical to maintaining safe operations.

A very efficient and cost effective method of removing rubber deposits from a runway is with Ultra-High-Pressure water. Because pavement quality varies, it is important to choose equipment that enables variable pressure settings to avoid surface damage.



## TEXTURING (SKIDABRADER)

Skidabrader provides bi-directional pavement re-texturing technology that eliminates shading and promotes surface drainage by exposing new points of aggregate in the existing pavement. Skidabrader machines are able to operate in freezing temperatures and are built specifically for large production work on highways and runways

### RUBBER DEPOSIT REMOVAL FREQUENCY CHART

AIRCRAFT LANDINGS PER DAY	RUBBER REMOVAL FREQUENCY
LESS THAN 15	1 YEAR
16 TO 30	6 MONTHS
31 TO 90	3 MONTHS
91 TO 150	1 MONTHS
151 TO 210	2 WEEKS
GREATER THAN 210	EACH RUNWAY SHOULD BE EVALUATED SEARATELY

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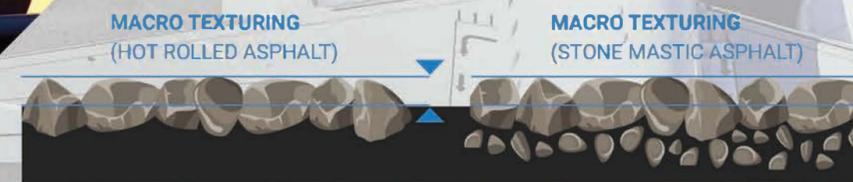
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