SKIDABRADER

PAVEMENT AND SURFACE TECHNOLOGIES

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MAKING OUR NATIONS ROADS & RUNWAYS SAFER

USA / CANADA / MEXICO

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SKIDABRADER
PAVEMENT AND SURFACE TECHNOLOGIES

Get to know us:

“What we do matters.” We believe in it, work hard at it and go home at night knowing we made a difference.

SKIDABRADER GROUP has a collection of unique technologies for the road and runway markets. Based in California, the Group was formed in 2019 by Bard Global Holdings by combining unique proprietary technologies with a proven, industry experienced management team.

Skidabrader is the founder of a proprietary technology called high velocity bi-directional impact abrasion we call Skidabrading. Our unique method for improving friction is a one-of-a-kind global problem solver for the safety of roads and runways with low friction numbers.

Our collection of technologies also utilizes Ultra High-Pressure Water using Cyclone Technology® and high performance Shot-blasting. Skidabrader also utilizes fully automated high friction surface applicator trucks, and is one of a few select companies that can work in all 48 states.

Skidabrader Group operates under a philosophy that is built on technology, experience and exceeding your expectations in challenging applications. "Safety and Saving Lives Matter" is a statement that we build our team culture around.

Why Skidabrader

Pavement engineers choose the most technologically advanced equipment. Skidabrader provides high velocity bi-directional pavement re-texturing technology. The unique patented bi-directional design eliminates shading and promotes surface drainage by exposing new points of aggregate in the existing pavement.

Skidabrader machines are infinitely variable to achieve any specification or desired result that is needed. The machines use extremely powerful, self-contained vacuums making way for a completely dustless process. The work is laser-guided for a straight, professional appearance, and markings can be left intact, if desired.

EXPERIENCE AND STANDARDS

The Skidabrader team of operators have hundreds of years of combined experience on roads and runways to improve micro and macro texture, surface removal and preparation. We operate to the industries highest standards for safety and testing requirements. We pride ourselves on training and certifying every professional before they are put on any job executing any function. When the Skidabrader Group is on the job, an industry expert is also on the job which includes Skidabraders 25+ years of references. We will get it done correctly to specification, safely, and on time.

EXCEEDING YOUR EXPECTATIONS

From NASA runways to the nation's roads and bridges, from major airports to automobile racetracks, Skidabrader Group will meet and exceed your expectations. The equipment within all of our technologies is specialized, designed, built and operated to serve this effort. Our entire staff pledges their complete support in providing this industry with the best services possible.

We have a world class reference list of longtime customers who count on Skidabrader Group to exceed their expectations.

Bridges & Tunnels

Elevated roadways present a unique challenge because the surface is susceptible to freezing. Without adding material, Skidabrader increases the micro and macro texture. This provides drainage and friction simultaneously without increasing the dead weight load limits and with minimal traffic disruption.

THE SKIDABRADER SOLUTION

- No damage to joints or drainage outlets
- No contaminated runoff
- 12 foot wide lanes textured in one pass
- No airborne contaminates
- Truck-mounted vacuum for off-site material disposal
- Can be done with almost no traffic disruption

Roads & Highways

Worn and polished highway surfaces become slick in wet weather and contribute to hundreds of thousands of injury crashes, and many deaths yearly. Skidabrader has the remedy for slick pavement with its high velocity bi-directional surface abrading process. It promotes surface drainage that allows tires to make contact with new points of aggregate on the existing pavement. The new surface allows water to escape in every direction, creating improved friction results. Skidabrader also utilizes automated high friction surface treatment trucks. These specialized vehicles can apply HFST at rates up to 6000 sq. yd/shift and ensure even and high quality application with PLC reports.

THE SKIDABRADER SOLUTION

- Texturing
- Curing Removal
- Asphalt And Concrete
- Bitumen Removal
- Surface Preparation
- High Friction Surface Treatment

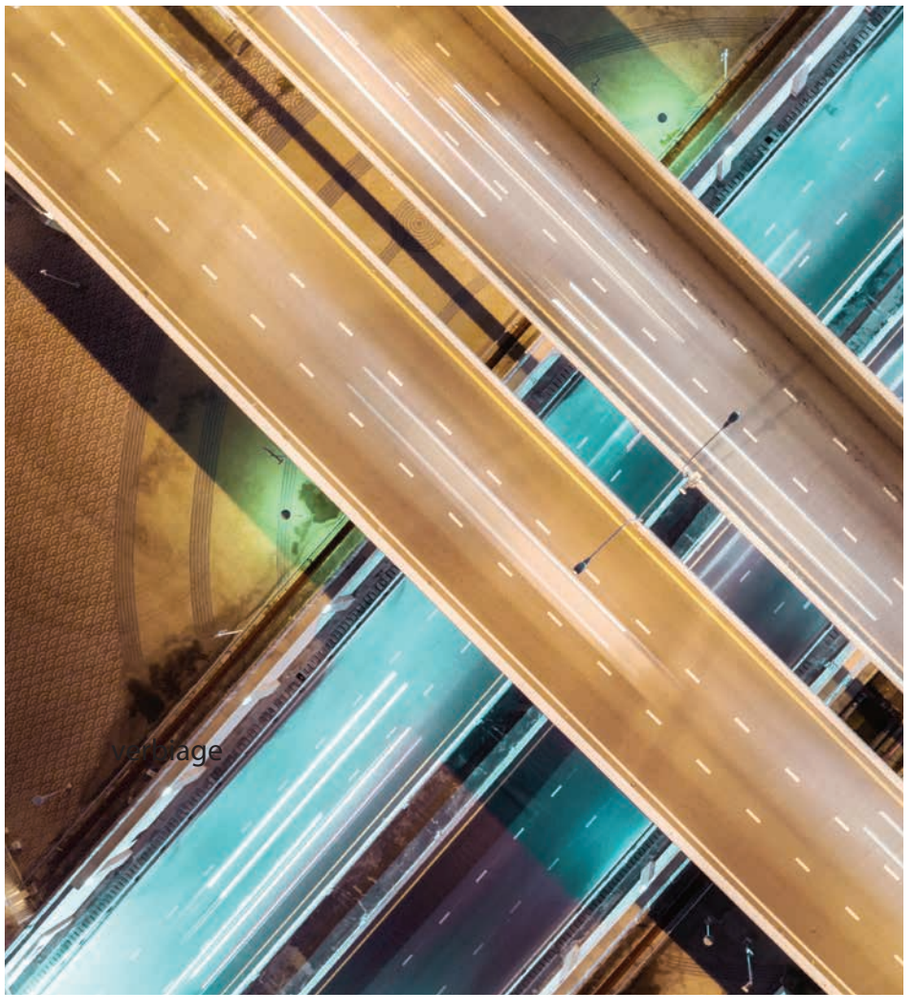
Runways

Major airports in the U.S. and Canadian airports specify the Skidabrader technology exclusively to restore runway texture to FAA compliance. Airports report that Skidabrading can return high levels of macro-texture to smooth substrates quickly and effectively. NASA researched widely for surface modification for its Florida shuttle landing runway.

The goal? A surface modification that would allow the $2 billion shuttle to land safely in a 20-knot crosswind. Skidabrader, with its bi-directional surface modification, outperformed all major technologies at a fraction of the cost and it continues to perform to NASA expectations today.

THE SKIDABRADER SOLUTION

- Clean, dry operation.
- No foreign object debris (FOD).
- Truck-mounted electro-magnets are used on all airport projects.
- Excellent friction numbers with reduced tire wear and rubber build-up.
- In emergencies we can evacuate the work site in less than three minutes.
- Only technology that's able to remove rubber and re-texture in sub-freezing temperatures.

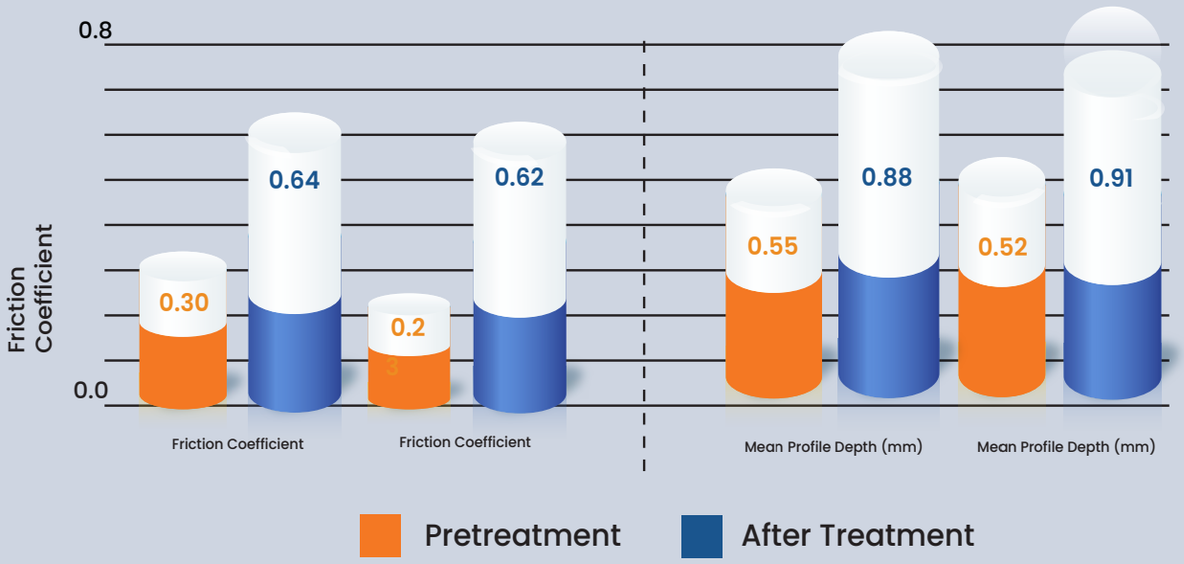


Quantifiable Results

SKIDABRADING SAVES LIVES

For any on-road vehicle, be it a large transportation truck, aircraft or a small commuter car, friction is an extremely important factor in road safety. The moment a tire loses grip and starts skidding over the road, both the passenger and other motorists are struck with fear. In 1997, over 53,000 accidents were caused by slippery roads in the US out of an estimated 4,000,000 accidents (nearly 1.3 per cent). In 2021, there are nearly 276 million vehicles registered here in the US, which bumps these numbers up proportionately. Even a small reduction in road texture can have a drastic effect on surface friction. To put things in perspective, the dusting of wet snow on the road increases the accident rate by almost 1000 percent. Road agencies have few approaches to increasing road texture, such as creating a convex camber to provide better mechanical grip and sufficient drainage for wet roads or installing storm drains at regular intervals. But these options can only be implemented during the initial construction of the road and does little to overcome skidding due to rain-related hydroplaning. To this end, a superior abrading process shines through as a clear solution— Skidabrading, by the Skidabrader Group.

Before and After Skidabrasion



In 2019, Skidabrader had the opportunity to texture 8 sections of the National Center for Asphalt Technology Test Track (NCAT). A common issue agencies are faced within their roadway network is maintaining adequate surface friction characteristics of pavement. The main attribute to frictional properties of a pavement surface is the quality of aggregate used in the pavement. In areas where less than desirable aggregates are available it can be costly to the agency to use higher quality aggregates. These agencies are faced with a bit of a balancing act with pavement mix designs specifying the right percentage of lower and higher quality aggregates to yield the best results from a frictional and cost stand point. This study focuses on pavement surfaces which have a higher percentage of lower quality aggregates and the utilization of The Skidabrader Texturing process to restore the frictional properties of these pavements.

National Center for Asphalt Technology
NCAT
at AUBURN UNIVERSITY

Macro/ Micro Texture Matter

The abrasion process targets and alters the macrotexture of the desired pavement. Macrotexture is the primary pavement characteristic associated with the micro-texture. Macrotexture is effectively the average depth of the gaps or voids between the coarse aggregate particles in the surface.

Skidabrader Technologies

1. SKIDABRADING:

SKIDABRADERS patented high velocity, bi-directional impact method uses multiple blast wheels propelling steel abrasive at the surface in a proprietary head design. These 1000 horsepower units can texture 360 degrees around the aggregate to provide improved micro and macro texture. Skidabrading is the fastest and most economical method to address friction requirements and re-texturing on roads and runways with infinite variables to achieve any specification results needed.

Every vehicle in a Skidabrader operation is capable of highway mobilization at the legal speed limit on its own wheels, eliminating the need for loading and unloading equipment. This capability allows a rolling safety zone configuration among the trucks, creating the least impact on traffic in adjacent lanes. Breakdowns are virtually non-existent due to quality construction and rigid maintenance of the machines, and the operators in charge have years of both on and off the job training before they are authorized to take on the controls. The machines also leverage wireless communications, laser-guided alignment, and closed-circuit TV systems to ensure that the longitudinal passes of the abrasions run parallel to the structures themselves. The Skidabrader trucks can be in full operation within three minutes of arriving on the job and exit the job site just as quickly in case of an emergency when the full use of the road, bridge or runway is required. As a result, the process expedites the speed of operations and lowers overall monetary expenditure.

Effective on all pavements, Skidabrading also reduces groove steering, removes ghost striping, and eliminates road glare, while leaving paint, and stripes, and reflectors intact. Skidabraders' are Laser guided for a straight professional appearance.

2. HIGH FRICTION SURFACE TREATMENT

- **FULLY AUTOMATED**
- **COST EFFECTIVE**
- **ENVIROMENTALLY SOUND**

FULLY AUTOMATED BENEFITS

The applicator truck is continuously mixed, metered, and monitored when applying the resin binder and high friction aggregate in one continuous application pass. The automated applicator will have continuous pumping and portioning devices that blend the epoxy resin binder within a controlled system ensuring a 1:1 mixing ratio.

The vertical placement of the Calcined Bauxite eliminates the possibility of displacement of the epoxy resin, providing a uniform, aesthetically accepted and smooth finished ride on the roadway surface. Our machines can install up to 14′ full lanes widths at 26 linear ft. per minute and installs up to 3000 sq. yards per hour before requiring to be refilled.

WHERE TO USE HFST

- High traffic volume areas
- On and Off Ramp transition lanes
- Dangerous curves
- Moisture ponded areas on the roadway surface
- Areas with poor water runoff/ hydroplaning prevention
- Interstate and State Route Lane Reduction Zones

3 .SHOTBLASTING

SHOTBLASTING TECHNOLOGY - An extremely powerful and productive machine that can tackle the largest surface and coating preparations. The technology of our Blastrac® Shotblasters are an environmentally sound choice for high productivity in surface preparation.

Skidabrader Group operates the largest shot blasters available in the market today for Surface preparation and coating removal. These machines range from 16” to 48” wide and from 50 horsepower to more than 300 horsepower. Operating centrifugal and paddle wheel designs, these machines are ideal for removal of up to 1/4” of the surface and surface preparation for water proofing and coatings on bridges, decks and more.

4. ULTRA HIGH-WATER PRESSURE

- HARD SURFACE CLEANING
- PAINT AND RUBBER REMOVAL
- PERVIOUS CONCRETE CLEANING
- SPORT TRACK CLEANING

Our UHWP technology is a patented unique system from Cyclone Technology® that uses only ultra-high-pressure water and cyclonic high velocity air movement systems. This allows us to use 50% less water usage than traditional high-pressure machines. Our system provides instant recovery of water with no run-off or discharge, separating the solids from liquid for easy environmentally sound disposal.

FASTER Our Cyclone machines can run up to 44, 000 psi and are equipped with both a rubber and paint removal head for quick change over. Skidabrader operates several high production trucks in various designs specific to the cleaning need of the customer.

GREENER Solid waste is recovered and separated out for proper treatment or recycling. This process allows for a much more efficient recovery of water from the surface being cleaned than other systems.
Our machines use 50% less water, less fuel and are smaller and safer than typical high-pressure equipment.

CLEANER Skidabraders use of Cyclone Technology® means that this ensures 95% of the water is recovered and wastewater run-off is eliminated. The results are a clean surface without standing water. Our equipment can be used for recovery of Glycol as well.

Our equipment is rated #1 by an Army Corps of Engineers Field Evaluation that tested friction values after rubber removal.

Testing Services And Products

FULL COMPLIANCE WITH FAA AND ICAO STANDARD

- Pre and Post Friction Testing
- Identify Paint Reflectivity with the Stripe Master Retro Reflectometer
- Test problem areas to check for good water drainage with the Hydro Timer®
- Our Operators are each Certified on the equipment they run as per FAA / ICAO guidelines

HYDROTIMER ®

Measures Pavement Drainage Capability ASTM E-2380-05

The HydroTimer® is self-contained outflow meter to evaluate surface drainage on concrete and asphalt pavements. The purpose of this device is to measure the ability of the pavement to relieve water pressure at the tire footprint, thus giving an excellent indication of vehicular skidding and hydroplaning potential under wet weather conditions.

REFLECTOMETER

Measures Pavement Marking Reflectiveness

Agencies have always recognized the important correlation between pavement marking visibility and roadway safety. As automated and autonomous vehicles become more prolific, good markings become even more critical for continued safe operation on mixed-use roads. These agencies are embarking on the challenge of assessing and managing the pavement markings of their entire roadway system.

SKID FRICTION TESTER

Measuring the Friction on Pavement

Airplanes and Automobiles depend on tire friction between runways, roadways, aging infrastructure and contaminants. The most common and persistent contaminant problem is the deposits of rubber from tires.

Job References

ROADS

KENTUCKY TRANSPORTATION CABINET

34,000 SQUARE YARDS

COMPLETED IN 3 WORKING SHIFTS.

Skidabrader was called in on an emergency contract to Skidabrade a section of 1-75 just south of Cincinnati, Ohio. The Kentucky Transportation Cabinet had declared a state of emergency for this section of I-75, a steep grade which leads into a curve. This curve was the site of many hydroplaning accidents primarily with commercial trucks that were hitting the inside barrier wall sending large pieces of concrete into the opposing lane. The Skidabrader process showed a 50%-70% improvement in friction, eliminating accidents and hydroplaning in the process. Skidabrader is now under contract to address all low friction areas throughout the state.

MARYLAND DEPARTMENT OF TRANSPORTATION-SHA

In 2021 Skidabrader crews processed a 20-mile stretch of the Capital Beltway for the Maryland Department of Transportation, including what's become known as "The Big Curve," a portion of 1-495's outer loop near Bethesda. "It's the bane of our existence, it's a thorn in all of our sides", stated AAA Mid-Atlantic's John Thompson to Fox 5 at the time. "It's a source of so many overturned and jackknifed trucks, especially after it rains." But four months later -"The initial results showed a 50 percent increase in friction, which we were extremely pleased with", the State Highway Administration's Michael Little stated. "We haven't had very many if any bad weather crashes," added another official, John Gover. "That was through the snow and the rain."

LOUISIANA STATEWIDE CONTRACT

1.794.662 SQUARE YARDS

COMPLETED IN 41 WORKING DAYS

The large-scale project spanned nine parish districts and consisted of all Interstate highways. Skidabrader textured these roads to lower wet weather accident rates.

BRIDGES

LAKE PONTCHATRAIN CAUSEWAY

782,000 SQUARE YARDS

COMPLETION IN 25 WORKING DAYS

The causeway twin span bridge at 23.85 miles long is the longest bridge over water (continuous) in the world. The Skidabrader resorted its surface to a safe texture and helped complete the project 90 days ahead of schedule.

ATCHAFALAYA BRIDGE

500,684 SQUARE YARDS

COMPLETION IN 12 WORKING DAYS WITH TWO MACHINES

Also known as the Louisiana Airborne Memorial Bridge, this 18.2-mile-long twin span bridge is the second longest in the U.S. Skidabrader was able to texture the entire length with no traffic disruption.

Airports

CALGARY INTERNATIONAL AIRPORT

112,500 SQUARE MILES

COMPLETED IN 12 WORKING SHIFTS

In 2019 The Calgary International Airport employed our group to retexture one of their concrete runways. This runway was placed without adequate transverse grooving and the airport searched for a solution to boost the texture on the runway. It is important to note that the runway was put back into service following each nightly shift with little to no interruption to airport operations.

INDIANAPOLIS INTERNATIONAL

250,200 SQUARE FEET

COMPLETED IN TWO DAYS

WORKING WITH TIGHT RESTRICTION WE COMPLETED THE RUNWAY AHEAD OF SCHEDULE

Major aircraft manufactures use this operating airport for braking tests. Skidabrader textured this runway to a targeted skid number that met FAA specification.

AIRPORTS

Indianapolis International
San Antonio International
Ontario International
Chicago O'Hare International
Sky Harbor International
Tucson International
McCarran International
San Francisco International
Bergstrom International
Toronto-Pearson Intl-Canada
Houston International
Calgary International-Canada
Tucson International
Albuquerque Sun Port
Los Angeles World Airports
Van Nuys Airport
San Francisco International
Sacramento International
John Wayne International
Reno/Tahoe International
Burbank "Bob Hope" International
Palm Springs International
Port of Portland
Salt Lake City International
Santa Rosa CA
Meadows Field, CA
Phoenix Mesa Gateway
San Diego International
St. Louis Lambert Field

MILITARY

Lemoore NAV
Pt. Magu NAV
Beale AFB
Travis AFB
Nellis-Creech AFB
Edwards AFB
Lemoore NAV
Miller/Ripley Army
El Centro NAV
Edwards AFB
FT. Huachuca Army, AZ
National Aeronautics Space Admin (NASA)

ROADS-BRIDGES-TUNNELS

Texas DOT
Caltrans
Nevada DOT
Tennessee DOT
Georgia DOT
Arkansas DOT
Washington DOT
Maryland DOT
Hawaii DOT
South Dakota DOT
Kentucky Transportation Cabinet
Arizona DOT
Ohio DOT
New Jersey DOT
Canada-Ministry of Transportation
Delaware DOT
NY-NJ Port Authority
Seattle DOT
N. Carolina DOT

SAFETY MATTERS

With offices across the U.S., let us evaluate your surface and we will demonstrate through a live demo or online presentation on how we can help extend the life of your substrate.

Skidabrader Group is confident we can improve safety and reduce skid incidents on your highway and roadway.

LIFE SAVING

> **"HFST's coefficient of friction lasts longer and reduces friction-related crashes better than any other pavement treatment."**
>
> **— PennDOT**

> **Compared to conventional pavement maintenance treatments, this seems quite expensive. What must be considered is that HFST is NOT a pavement maintenance treatment, and the costs being saved are the prevention of crashes and fatalities. The alternative to HFST is actually roadway geometric corrections, which are considerably more expensive and time consuming. Looking at the costs saved by reducing total crashes and fatalities, the average 5-yr benefit-cost ratio for HFST on tight curves is 24.5. So, for a typical 1,500-sy application, costing roughly $92,000, the agency could estimate savings of $2.2M over a 5-yr period. The actual service life of HFST can be as long as 10 years.**
>
> **—FloridaDOT**

Please come visit our Global Operations Hub in Fort Worth, TX
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CONTACT US

Contact us for a demonstration and see why Skidabraders technology makes a difference.

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