

# MAKING OUR NATIONS ROADS & RUNWAYS SAFER



Contact me

skidabrader.com 800.342.4174

3390 Carmel Mountain Rd., Ste 110 San Diego, CA 92121





## 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, runway, and concrete 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<sup>®</sup> 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 winning philosophy that is built on technology, experience and exceeding your expectations in challenging applications. Because safety and saving lives matters, the culture of our team revolves around the statement.



### EXPERIENCE AND STANDARDS

The Skidabrader team of operators have 100's 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. Our equipment in all technologies is specialized and is designed, built, and operated, to serve in this effort. Our entire staff pledges their complete support in providing this industry with the best concrete and asphalt surface services possible.

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

## Why Skidabrader

Pavement engineers choose the most technologically advanced equipment. Skidabrader provides high velocity bi-directional pavement re-texturing technology. The unique patented bidirectional 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 self-contained, dustless, and extremely powerful vacuums for a completely self-contained process. The work is laser-guided for a straight, professional appearance, and markings can be left intact, if desired.

## 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



## Roads & Highways



Worn and polished highway surfaces become slick in wet weather and contribute to hundreds of thousands of injury crashes, and too many deaths yearly. The 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 an 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 U.S. and Canadian airport contracts specify the Skidabrader 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'S expectations today.

\*\*\*\*\*\*\*\*

Constant of

### THE SKIDABRADER SOLUTION

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







## Quantifiable Results

### SKIDABRADING SAVES LIVES

For any on-road vehicle, be it a large transportation truck 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 a 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**



A common issue agencies are faced with 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. So 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.



## 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 microtexture. 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 retexturing 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 jobsite 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.

### **3. HIGH FRICTION SURFACE TREATMENT**



- Fully Automated
- Cost Effective
- Environmentally Sound

#### 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

#### Benefits of Fully Automated Application

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.

Installs up to 14' full lanes widths at 26 linear ft./minute. Installs up to 3000 sq. yards per hour before requiring to be refilled.

### **3. SHOTBLASTING**

A'ROL=

SHOTBLASTING TECHNOLOGY - An extremely powerful and productive machine that can tackle the largest surface and coating preparation. Our Blastrac® shot blasters 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 manufactured by Blastrac®. These machines range from 16" to 48" wide. 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.

BLASTRAC 2-4800 DH

### 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 the liquid for easy environmentally sound disposal.

- **FASTER** Our Cyclone machines can run up to 44000 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 cleaned surface 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 the Cyclone Technology<sup>®</sup> means that this ensures that 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<sup>®</sup> is selfа contained outflow meter to test surface drainage on concrete and asphalt pavements. The purpose of this device is to measure the ability of relieve the pavement to water pressure at the tire footprint, thus excellent indication of giving an vehicular skidding and hydroplaning under potential wet weather conditions.





#### REFLECTOMETER

#### **Measures Pavement Marking Reflectiveness**

Agencies have always recognized the important correlation between pavement markings' 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 I-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 I-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.

1

#### 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 Nuvs 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

#### **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

### CONTACT US

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



SKIDABRADER GROUP, LLC 3390 Carmel Mountain Rd Ste 110, San Diego Ca 92121



Ø

www.skidabrader.com

800.342.4174



SKIDABRADER