

ENGINEERING THE PERFECT RIDE



# Footing and Arena Surface Guide

# Meet the Premier Equestrians

These are some of the top-level equestrians training on Premier Equestrian footing and using our products.



Laura Graves
Olympic Bronze Medalist, Dressage
Custom Blend and Premier Pro Groomer



Steffen Peters
Olympic Bronze Medalist, Dressage
OTTO-PerforatedMats, Premier ProTex, ArenaAid, and
Premier Pro Groomer



Olympian, Dressage
OTTO-PerforatedMats, ArenaAid, and Athletex,
Premier Pro Groomer



Kim Severson
Olympic Silver Medalist, Eventing



**Gina Miles**Olympic Silver Medalist, Eventing
ArenaAid



Tamra Smith
CCI\*\*\*\* Event Rider
ArenaAid

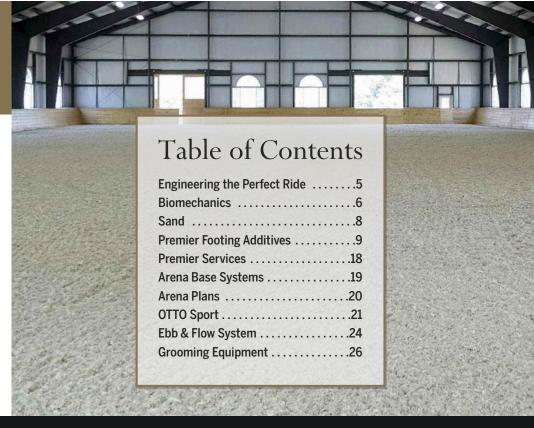
# Proper Arena Footing –

#### The Key to Your Horse's Safety & Optimal Performance

It's extremely important that horses are comfortable on an arena surface. Poor arena footing can decrease performance, decrease confidence, and increase injury. Soundness, quality of performance, and safety are motivators for creating a proper arena surface.

Premier Equestrian can construct or rehabilitate your riding arenas, round pens, turnouts, and paddocks. We'll work with you and your builder, or we can recommend a qualified builder, or you may choose to do your own installation.

Our products are formulated to give you the very best in safety, injury prevention and optimum performance. Many competitors and arena builders will only prescribe what they sell and not what you need. We will design what's best for you and your horse.



Good footing is safer for your horse and can boost its confidence and performance, while minimizing injury.

## We Are Horse People

We understand horses and how important it is to keep your equine partner safe and sound. Premier Equestrian is dedicated to promoting a safe and enjoyable riding experience for you and your horse. For the last 15 years we've been studying how arena surfaces interact with horses' biomechanics. Our experience and knowledge about horses is what separates us from competitors. Do you want horse people designing your arena surface or an excavator?

Premier Equestrian offers free sand analysis and consultation to help you make an informed and educated decision on what footing is right for you.

Call 800-611-6109

to speak with a footing specialist.

www.PremierEquestrian.com



## Five Factors That Create a Great Surface

Building an arena correctly is one of the best investments you can make for you and your horses. It's relatively simple to improve your arena surface when you understand the components involved. Here's an introduction to the pieces that will make a great arena surface.

#### 1. A Solid Base

The base and sub-base provide drainage and create a consistent, solid foundation for your footing layer. Premier Equestrian offers three base construction techniques, depending on your needs and budget.

#### 2. Understanding Your Sand

Sand is the key ingredient for a good arena surface. Choosing the wrong sand for riding arenas can create problems and be very expensive over time. We'll help you source the best sand and footing product for your arena needs.

#### 3. The Right Footing Additive

Textiles, fibers, and crumb rubber can be added to resolve compaction, bind looseness, improve drainage, reduce dust, and more! Premier Equestrian will create a custom blend of material for your arena needs, discipline, and traffic.



#### 4. Moisture Content

Water creates a molecular bond between sand particles, preventing them from rolling under the foot. Water also reduces dust and improves cushion and stability.

#### **5. Grooming and Maintenance**

Daily, weekly, and monthly grooming are mandatory to maintain a great surface. Premier Groomers enable you to maintain a consistent riding surface, avoid irregularities, and condition your sand and footing additives.

#### What makes Premier Equestrian a great solution for you?

Premier Equestrian takes the guess work out of formulating an arena surface. Our footing specialists will walk you through the steps to improve an existing surface or build new. Weather, climate, discipline, and budget are just a few of the items to consider when creating your arena surface. As a Premier Customer, a number of free services are available to help you obtain the highest quality footing at an extremely affordable price.

#### Free Services Include:

Sand Gradation Report • Consultation • Access to Sand Quarry Library • Maintenance & Grooming Education • Installation Instructions

## ENGINEERING THE PERFECT RIDE

Engineering the perfect arena requires a lot more science than just adding a footing product. Premier Equestrian uses scientific data to formulate a footing blend that enables horses to perform at their best. These are just a few of the areas we evaluate when determining the optimal footing formula:

- Geology sand and aggregates
- Surface qualities of sand and footing products
- Deflection Test Quantifies cushion and rebound
- Gradation and Compaction Tests the particle size tells us the degree a surface will compact
- Shear Test Quantifies the amount of grip
- Horse Biomechanics how arena surfaces affect the whole movement of the horse



Sand qualities



**Cushion & Rebound** 



Stability & Grip



**Gradation Tests** 

## How Arena Surfaces Affect Horse Biomechanics

## **Breaking Down The Horse's Footfall Phases**

#### **Landing Phase**

The hoof touches the ground and comes to a stop. As the hoof stops, sliding forward and downward into the surface, bones in the leg collide. Concussion can cause shock waves and vibrations to be distributed throughout the ground and leg.



#### **Loading Phase**

The whole hoof is in contact with the ground, carrying the full weight of the horse and rider. The fetlock, flexor tendons, and suspensory create a shock absorbing effect. Pressure under the frog stimulates blood circulation through the hoof.

The loaded weight increases depending on movements, such as collection, landing from a jump, and galloping.



#### Rollover/Push-Off Phase

The heel rotates off the ground, rolling over the toe for push off into the next stride.



#### **Surface Characteristics**

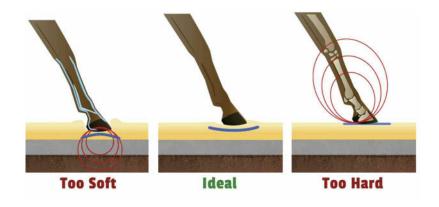
An ideal arena surface allows horses to move efficiently through the three phases. Damage to joints, soft tissue, muscles, hooves, and the respiratory and vascular system is greatly increased in poor footing.

The surface should minimize concussion, absorb shock, provide support, and return energy back to the horse. To accomplish this the surface should have a combination of firmness, cushioning, cupping, rebound, and grip.

Achieving the ideal characteristics from you arena surface can be done through proper construction, choice of materials, proper watering, and maintenance. Most existing arenas can be cost-effectively rehabilitated to develop an optimum riding surface.

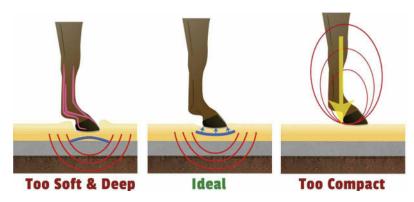
#### **Firmness**

The firmness or hardness of the surface affects the amount of support and how shock wave forces are distributed during the landing phase. A surface with ideal firmness offers support with minimal concussion to the bones and joints, and is soft enough to aid in absorbing shock.



#### Cushioning

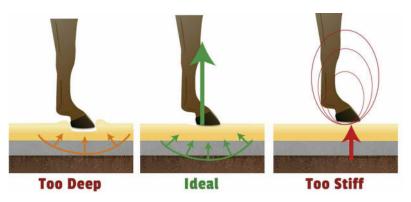
Cushioning refers to how the arena layers dampen shock during the loading phase. An ideal amount of cushion should distribute shock through the arena layers, and provide enough resistance under the hoof for the horse to balance and move into the rollover-push off phase.



#### Rebound

Closely related to cushioning is responsiveness and rebound. This refers to the resiliency of the surface to return to its original form, returning energy after the weight of the horse is applied.

An active and springy surface with ideal rebound returns energy to the horse at the same rate it was applied. This reduces the horse's need to use it's own additional energy for momentum. Rebound time is dependent on how the surface is used, for example, dressage vs. jumping.



#### Cupping

During the loading phase the hoof capsule expands. Pressure under the frog and digital cushion aid in supplying blood to the structures in the hoof capsule. As the weight is released the hoof contracts, pumping blood up the leg and through the body. This process is called hoof mechanism.

To benefit from hoof mechanism, the surface should cup into the sole and collateral grooves of the frog. Resistance in the surface supports the

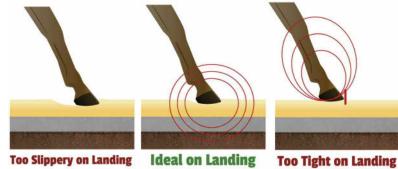
weight and force placed under the foot, while the pressure under the frog and digital cushion encourage blood flow through the hoof capsule.



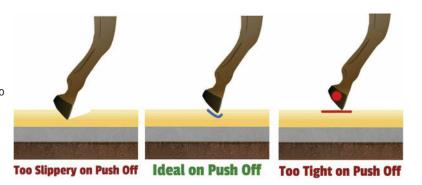
#### Grip

The tightness of the surface affects grip. Grip aids in absorbing shock during the landing phase, and provides support and traction during push off and on turns. The amount of grip is dependent on how the surface will be used.

During push-off and on turns, the tightness of the surface must provide stability for the horse without causing concussion or sliding.



During landing and stopping, the hoof must be allowed to slide enough for the ground to absorb impact forces.



# Why the correct **Sand?**

Sand is the key ingredient in all good arena footing. Choosing the wrong sand creates problems and is very expensive over time. Over 10,000 different types of sand used in the U.S. alone makes it very important to understand the sand's qualities and not go with just a name. Geologists and soil engineers are employed for large projects like damns, highways and buildings. Our own soil engineer determines the quality and compatibility of our customers' sand.

## A Premier Footing specialist can help trouble shoot the pitfalls of getting the wrong sand.

#### Particle Size Classification



Super Fine Silt/Clav less than 0.074 mm Sieve smaller than #200



Fine Sand 0.074 mm to 0.42 mm Sieve #200 to #40



**Medium Sand** 0.42 mm to 2.0 mm Sieve #40 to #10



Coarse Sand 2.0 mm to 4.76 mm Sieve #10 to #4

#### **Particle Gradation**

Sand gradation is the most important aspect of a sand for equestrian arenas. Gradation is a representation of different sized particles and the percentage of each size within a sand.

**A.** When particles are the same size, sand will remain loose and feel deep.

**B.** Sands with a large and a small particle will separate, becoming packed on the base and loose on top.

**C.** A wide range of medium to small particles will help keep your footing firm, but not compacted.



B. Gap Grading

C. Good Grading

**Particle Shape** affects how the grains nest together, which affects stability underfoot.

Round particles create voids and offer cushioning. However, they can roll like ball bearings, decreasing stability and traction.

Angular particles have sharp edges and fit together tightly. This provides stability and traction, but angular particles can compact and become hard.



Angular



Sub-Angular

**Sub-angular particles** have the sharp edges worn off. They will nest while still allowing some movement. This lessens compaction and provides traction.

#### Improve your existing sand, or talk to us before you buy new

Many of our products can improve existing sand whether it's too hard, compacted, dull, dusty, unstable, doesn't hold moisture, and more.

If you're buying new sand, we'll guide you so you know exactly what to ask your local quarry.

#### **Free Sand Report**

We offer a complimentary\* sand analysis report and phone consultation to help you narrow down the issues you may be having with your arena surface and get you started in the right direction.

This report is designed to see how the quality, characteristics, and compatibility of your sand will work with Premier footing additives.

- 1. Submit a Sand Sample Form online at PremierEquestrian.com/sand-report
- 2. Collect 2 cups of sand from your arena. We need a good representation of all the particle sizes. Small sand particles tend to settle while larger particles tend to be on the top. Be careful to not go through your base.

Put the sand sample in a durable plastic bag with your name and phone number.



3. Print your form and mail with your sand sample to: Premier Equestrian Sand Lab, 8915 S. 700 E. #102, Sandy, UT 84070

\* We offer one free sand report to our customers. Additional reports are \$45 each.

Premier footing additives are designed to enhance and compliment different qualities of existing and new arena sand. Premier footing additives will make a superior equestrian arena surface when mixed with compatible sand.

# Our Footing Additives

## What does a footing additive do?



#### **Textiles & Fibers**

Textiles and fiber addutuves retain moisture and stabilize sand by binding loose particles. Fibers mimic the effects of the rooting system found in a grass surface. The horses hooves ride on top of the surface rather than in it. These materials require a specific blend of sand, as well as water and specific grooming equipment.



#### Rubber

Rubber additives will enhance sands that compact very hard. The rubber creates a void, thus reducing the ability to compact fully, improving cushion and drainage. It's great for well-graded, angular sands that are prone to compaction. Rubber is ideal when you don't have access to water as it isn't required to bind to sand particles.





#### **Custom Blends**

A custom blend of textile, fiber and rubber, will greatly improve a silt/clay type soil. This type of soil can get very hard and when wet become very slippery. The custom blend of Premier additives can turn this dangerous sand surface into a spectacular footing.

The following pages will explain each additive in detail.

Surface qualities we strive to achieve for each of our customers include: Optimal Biomechanics • Cushion • Rebound • Grip • Stabilization



## Try It Out

Touch and feel our footing additives with a footing sample kit, test a strip in your arena, or learn more about building an arena surface.

#### FOOTING SAMPLE KIT

Includes our footing information booklet, the USDF Underfoot book, and a sample of each of our footing additives.

11-001 Footing Sample Kit \$25\* 11-001.1 Kit & Underfoot book \$35 Free shipping Contiguous US

#### **FOOTING TEST STRIP**

Determine if the footing product you want will work in your arena by testing a 50 or 100 sq. ft. area. Consider it an insurance policy before you make the commitment to purchase a full load.

\$99/ea. Free shipping Contiguous US

#### **UNDERFOOT BOOK**

The USDF has produced this guide, with help from Premier Equestrian, because a proper footing surface is imperative in the training and performance of horses. This book describes the construction process in detail.

13-089 \$12.95 Free shipping Contiguous US

Purchase at PremierEquestrian.com or call 800-611-6109



# Footing Additives Overview

Product	Benefits	Material	Base Requirements	Sand Requirements	Moisture Requirements	Moisture Retention	Maintenance	Traffic Usage	Reduce Dust	Grooming Equipment	Life Expectancy
ProTex	<ul><li> High-performance material</li><li> Superior stability</li><li> Adds cushion, rebound, grip</li></ul>	Polyester textile & fiber	Professionally constructed stone base, free-draining base, or mat base and Ebb& Flow	Fine	High	Moderate to High	High	High	Very Well	Specific	Long
ArenaAid	Works with a variety of sands     Excellent stability     Adds cushion, rebound, grip     Reduces compaction	Nylon and polyester fibers	Professionally constructed stone base, free-draining base, or mat base and Ebb& Flow	Fine to medium sand	High	Very High	High	Moderate to High	Very Well	Specific	Moderately Long
Athletex	Helps hard, dead, compacted surfaces     Provides cushion, rebound, grip     Reduces compaction	Pre-consumer recycled athletic shoes	Professional or natural base	Coarse to fine sand	Moderate	Moderate	Moderate	Moderate	Well	Wide range	Medium
ProStride	Helps hard-packed surfaces     Good for surfaces in need of extra cushion and rebound     Reduces compaction	Recycled truck tires, sized specifically for horse arenas	Professional or natural base	Coarse, angular, and clay sands	Low	Low	Low	High	None	Wide range	Long

Premier Equestrian is dedicated to promoting a safe and enjoyable riding experience for you and your horse. Call 800-611-6109 for a free consultation.

**Note:** Premier Equestrian uses only new pre-consumer materials in our proprietary footing additives. When comparing other footing additives to ours, be aware that many competing products may contain post consumer waste. These waste products may contain mold, bacteria, and residue that may be harmful to you and your horse.



# Custom Footing Blends





## Premier footing additives are formulated for your specific discipline and needs.

Just as one saddle does not fit all horses, the same rings true for your arena footing. Type of discipline, volume of traffic, climate, type of sand in your area, watering options, grooming and maintenance will all play a critical role in how your arena functions.

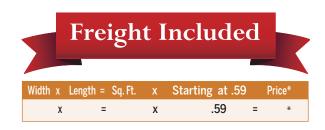


Our expert staff can formulate a custom footing blend to meet the specific needs of your facility.

Get started by calling us at 800-611-6109 to talk to a Premier footing expert.

"I've ridden on many footing surfaces all over the world. Some venues will create a very stiff, tightly-bound surface. You then have horses with sore feet. Other surfaces may be too deep, which can cause soft tissue injuries. I love my surface from Premier Equestrian. It's a happy-medium of softness with rebound, but it's incredibly stable."

Laura Graves, Olympic Dressage Bronze Medalist



\* This is an average delivered price which includes freight & delivery.

\*Price is subject to change based on your location, sq. footage, sand depth & sand type.

Consultation suggested



## Textiles & Fibers



- Carefully-chosen textile fabrics and fibers
- Superior stability
- · Adds cushion, rebound, and grip
- Retains moisture & reduces dust
- Durability for long life
- Safe for you and your horse
- · Ideal for horse shows and high-traffic arenas
- Good for high-level dressage, jumping, and vaulting

#### **SAND SPECIFICATIONS**

A fine silica sand with sub-angular particles is best. Particle size will be the most important factor in sand requirement.

#### REQUIRED SAND PARTICLE SIZE

Medium Fine - Fine, 0.30 mm to 0.075 mm (#50 - #200)



.59

\* This is an average delivered price which includes freight & delivery.

\*Price is subject to change based on your location,
sq. footage, sand depth & sand type

\*Consultation suggested\*



Olympian Adrienne Lyle riding Wizard



#### Footing that protects your horse

Premier ProTex is a premium arena footing additive that is mixed with sand to mimic a sod surface by providing a rooting system. Premier ProTex is made from a consistent blend of carefully-chosen, non-woven textile fabrics and fibers. We then add cushioning components to prevent over compaction of the surface. Premier ProTex is specifically formulated for optimal biomechanics. When mixed with the proper sand, it provides professional-level surface characteristics. Excellent firmness and shear support, cupping, rebound, grip, and traction are achieved with this high-performance footing.

Premier ProTex requires a specific sand gradation, the ability to water, and the correct grooming equipment. Call your Premier Equestrian footing expert today to get the details on these requirements and to answer any other questions you may have about Premier ProTex.

"I can't believe how much life Premier Equestrian was able to put back into our footing. The ProTex stabilized our surface, minimized the dust, it now retains more moisture thus reducing the need to water, and kept the surface from compacting. What a huge improvement. The cost was a fraction of a complete redo." You guys are simply the best!! Thank you from all of us at River Grove!"

Adrienne Lyle - Olympian & International Dressage Competitor





- Nylon and polyester fibers
- Stabilizes a wide range of sand particles
- · Ideal for mixing with existing sand
- Provides good stability, cushion, rebound, and grip
- Retains moisture and reduces dust
- · Moderate to high traffic usage
- Good for dressage, jumping, all purpose, pleasure, and vaulting
- Great when arena is used for turnouts & lunging

#### SAND SPECIFICATIONS

A fine to medium sand with sub-angular particles is best. Particle size will be the most important factor in sand requirement.

#### REQUIRED SAND PARTICLE SIZE

Medium - Fine, 0.60 mm to 0.105 mm (#30 - #140)



\* This is an average delivered price which includes freight & delivery.

\*Price is subject to change based on your location,
sq. footage, sand depth & sand type

\*Consultation suggested\*



ArenaAid has become one of our most popular footing additives. The combination of nylon and polyester fibers stabilizes a wide variety of sands; new or existing. The unique formula of fibers gives sand structure by trapping loose, rolling particles. This results in increased stability and grip, cushion, cupping, rebound, and reduced shear. As an added benefit, the nylon fibers hold moisture in your arena surface.

ArenaAid is a perfect solution if you want the performance of a fiber-textile arena surface without the cost of replacing all the sand. ArenaAid is easy to install and very affordable. It is a neutral, non-toxic, non-allergenic material that will not affect humans or animals. ArenaAid is environmentally safe and made in America.

"We installed ArenaAid into our arena and could not be more thrilled. It has the attributes of the footing we had at our last farm without the negatives. That prior footing, while fantastic for competition, could be a bit firm for every day riding. ArenaAid has given us high performance footing suitable for daily training at an unbelievably competitive price."

- Gina Miles Olympic Silver Medalist, Eventing





## Rubbers & Fibers



- Mixture of recycled rubber and textile
- Helps hard, compacted, dead surfaces
- · Blends with an assortment of sands
- Low maintenance
- Moderate to low traffic
- Good for lower-level dressage, jumping, all purpose, & vaulting
- Great when arena is used for lunging & turnout
- Excellent resistance to compaction
- Provides cushion, rebound, and grip

#### SAND SPECIFICATIONS

A coarse to fine sand with angular to sub-angular particles.

#### **REQUIRED SAND PARTICLE SIZE**

Coarse – Fine, 4.75 mm to 0.075 mm (#4 – #200)

# Freight Included

Width x Len	gth = Sq. Ft.	Х	Starting at .37	Price*
Х	=	Х	.37	=

\* This is an average delivered price which includes freight & delivery.

\*Price is subject to change based on your location,
sq. footage, sand depth & sand type

Consultation suggested



Athletex is a blend of textile and rubber made from recycled athletic shoes. Athletex will help with hard, compacted, and dead surfaces by introducing voids to increase cushion and rebound. Rubber enhances cushioning, while textiles increase stability and help retain moisture.

Athletex has the advantage of working well with a wide range of sand sizes. It can stabilize coarse sand or perform great in fine sand. Little maintenance is required and most types of grooming equipment will work. The qualities offered by Athletex make this an excellent multi-purpose type footing additive suited for dressage, jumping, western pleasure, vaulting, and other types of disciplines.



"I was thrilled to work with Premier Equestrian on our new jumping arena. The Athletex provided stability and cushioning, and required minimal maintenance."

> - Kim Severson Olympic Silver Medalist, Eventing





- Recycled tires sized specifically for horse arenas
- · Clean, dust-free, and metal-free
- · Suitable for most types of sand
- Low maintenance
- Excellent for casual riding in any discipline
- · Great when arena is used for turnouts & lunging
- Prevents over-compaction
- Excellent shock and energy --- rebound

#### SAND SPECIFICATIONS

A sharp and angular particle shape and the ability to compact will be the most important factor in sand requirement

#### REQUIRED SAND PARTICLE SIZE

Coarse - Fine, 4.75 mm to 0.075 mm (#4 - #200)

## Freight Included

Width x	Length = S	Sq. Ft. x	Starting at .39	Price*
Х	=	Х	.39	=

\*This is an average delivered price which includes freight & delivery.

\*Price is subject to change based on your location,
sq. footage, sand depth & sand type

\*Consultation suggested\*

# PROSTRIDE

ProStride crumb rubber is an affordable answer for an arena that is hard packed; contains large, angulated particles; and is in need of extra cushion and rebound. Adding cushion and rebound to your arena keeps your horse healthy by minimizing bone and joint concussion and tendon strain.

ProStride is made from recycled tires and is sized specifically to be mixed with sand for horse arenas. ProStride rubber undergoes several more recycling processes than competing rubber products. This results in a cleaner, more consistent and uniform material with no dust, metal or residue.

ProStride will last for many years, requires minimal maintenance, and works with most types of grooming equipment. We ship from many points around the country to minimize shipping costs.

"I called Heidi and Mark at Premier Equestrian and found them both knowledgeable and very pleasant to deal with. I had them ship me a sample of their rubber and was very impressed. Another dressage enthusiast in my town had gone with the rubber with the filaments still in it. On seeing her ring with all the filaments raised to the surface, and the quality of Premier's footing I knew which one to pick. Thank you."

Peggy Halpin





## **Dust Control**





#### WATER RETENTION ADDITIVE

- Retains water in your arena
- Reduce watering intervals
- Helps reduce dust
- Used indoors and outdoors
- · Lasts up to three years, depending on usage
- Non-toxic and safe for horses

#### SAND SPECIFICATIONS

This will work with any type of sand and is great to use with any of our other additives for enhanced moisture retention.

#### **PRICING**

**\$449** (.065¢ per sq. ft.) Sold in 55 lb. bags. Each bag covers 7,000 s.f.

FREE shipping in contiguous US.

Prices subject to change.

Width	X	Length		Sq. Ft.
	χ		=	



Arena Hydrator Premier Hydro-Keep is a safe, non-toxic chemical crystal that can reduce your arena watering by 50 percent! The crystal expands when wet, absorbing and retaining water. Over time as the soil dries, the crystal contracts, gradually releasing water and hydrating the surrounding area. As an added benefit, this continuous expansion and contraction reduces soil compaction.

Research shows that Hydro-Keep super absorbent polymers can release up to 95% of the water absorbed, making it available for your surface. One pound of Hydro-Keep can absorb 40 gallons of tap water and 31 gallons of rain water.

With an essentially neutral pH, Hydro-Keep will break down into nitrogen, carbon dioxide and water with no residual toxicity.

Hydro-Keep can be added to any of our other additives for enhanced moisture retention.



"My dressage arena gets used constantly - and for everything, not just dressage. We jump, play and ride in there with several horses every day. I used to have to water it twice a day and even then it was dusty after a couple of hours with the dry Colorado air. Since mixing in Hydro-Keep, I water it every 3 - 4 days. That is just amazing to me. It is economical to use and it's saving me a lot in tractor/equipment use and valuable water supplies."

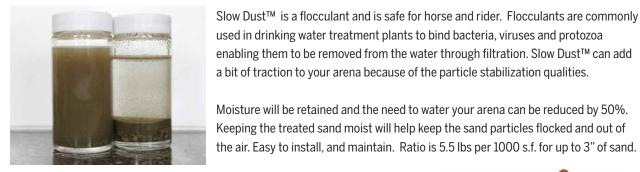
– Linda Parelli, Parelli Natural Horsemanship



Moisture will be retained and the need to water your arena can be reduced by 50%. Keeping the treated sand moist will help keep the sand particles flocked and out of

## **Slow Dust™ Reduces Dust and Watering**

Slow Dust™ is a dust control product that reduces watering and improves the performance of your footing. Slow Dust™ uses a flocculation polymer to bind microscopic dust particles back together. The dust particles floating in your arena are charged to a negative state. Water connects the polymer and dust particles in a network, making them heavy and no longer airborne.



Left: Water, footing, and Slow Dust

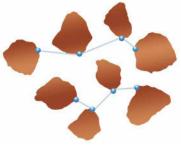


Water

Slow Dust Polymer network (Positively charged)



Dust particles (Negatively charged)



Flocculation: Dust particles become connected through a polymer network, making particles heavier so they don't become airborne.

- Simple and easy to apply
- Reduces operational and maintenance costs
- Use in arenas, round pens, corrals, paddocks, and race tracks
- Can be used if Magnesium or Calcium Chloride has been used in the past
- Can last up to 16 months between treatments
- · Environmentally & animal safe
- Biodegradable

#### **WORKS WITH MOST FOOTINGS, LIKE:**

Crumb rubber Silica sand

Cotton-added Screened/washed sand Geotextile\* Clay/sand mixture

\*We noticed a 50% reduction in water when used with geotextile footing.

#### **PRICING**

\$599 (.06¢ per sq. ft.) Sold in 55 lb. bags.

Each bag covers 10,000 s.f.

#### FREE shipping in contiguous US.

Prices subject to change.

Width	χ	Length	=	Sq. Ft.
	χ		=	



## Our Services

Our building and installation services have helped thousands of customers obtain an ideal riding surface. We can accommodate projects from do-it-yourself to full construction. We will guide you, a contractor of your choice, or one of our Preferred Premier Builders.

Planning • Construction • Installation • Maintenance

Services Included	Do It Yourself  Premier will guide you.  Great for those who like hands-on projects with financial savings.	Your Builder We'll work with you and your builder using our products to achieve the ideal arena surface.	Premier Builder  Complete arena construction and footing installation by a Preferred Premier Builder.
Free phone consultation	$\checkmark$	<b>√</b>	$\checkmark$
Free sand report	$\checkmark$	$\checkmark$	$\checkmark$
Sand & footing recommendations for climate & discipline	$\checkmark$	$\checkmark$	$\checkmark$
Sand sourcing from Premier's sand quarry library	$\checkmark$	$\checkmark$	$\checkmark$
Base materials & components sourcing			$\checkmark$
Builder recommendations			$\checkmark$
Footing installation instructions	$\checkmark$	$\checkmark$	$\checkmark$
Arena construction and footing installation			$\checkmark$
Grooming and maintenance instructions	$\checkmark$	$\checkmark$	$\checkmark$
On-going arena consultant support	$\checkmark$	✓	$\checkmark$
On-site consultation, installation oversight, grooming & maintenance training	Additional	Additional	$\checkmark$
Engineered arena construction plans, blueprints, and scope of work bid packets	Additional	Additional	Additional

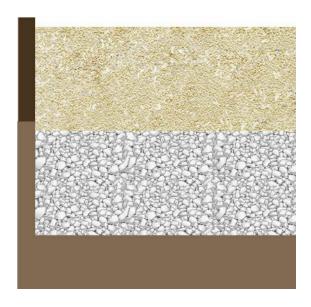
#### Let's get started...

We can guide you over the phone, consult with you and your contractor on-site, or employ a team of builders to construct and install your arena surface. Whether you're adding to your existing arena or building a new arena, talk to one of the arena experts at Premier Equestrian.

Call 800.611.6109 or visit us at www.PremierEquestrian.com

The base and sub-base provide drainage and create a consistent, solid foundation for your footing layer. Premier Equestrian offers three base construction techniques, depending on your needs and budget.

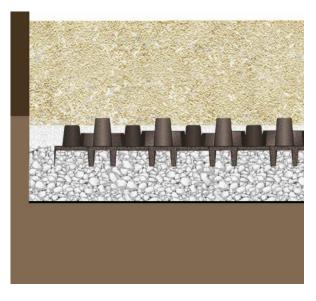
## Arena Base Systems



#### **Compacted Stone Base**

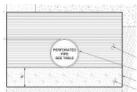
- Basic solid foundation
- Provides drainage
- May have to be re-compacted every few years

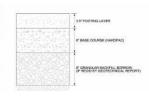


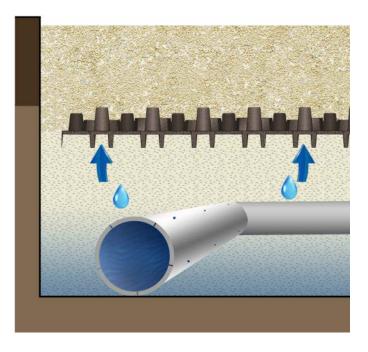


#### **OTTO Sport Perforated Mat System**

- · Consistent & level surface
- Concussion absorption
- Rebound Skid resistance due to traction knobs
- Excellent drainage
- Water storage to keep the surface consistently moist
- Clean separation of layers hooves can't dig into the base
- Excellent longevity







#### **Ebb&Flow with OTTO-PerforatedMats**

- Consistent & level surface
- Clean separation of layers hooves can't dig into the base
- Superior drainage through underground pipe system
- Waters the footing from below
- Automatically maintains desired water level
- Concussion absorption, rebound, and skid resistance due to traction knobs Excellent longevity needs and budget.

## NEW! Arena Surface Construction Plans





Dressage Arena 20 x 60 meters (12,915 s.f.). Available in 3 types of arena base systems.



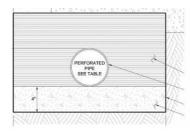
All Purpose Arena 100' x 200' feet (20,000 s.f.) Available in 3 types of arena base systems.

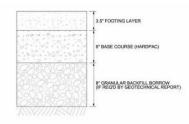
#### **NEW!**

#### **Arena Surface Construction Plans**

We've taken the guess work out of building an equestrian arena surface. Our plans are civil engineered and include technical drawings and building plans. You'll get illustrated information about grading, compaction, test requirements, and a materials list, specifically related to building a professional equestrian arena surface.

Our Equestrian Surface Construction Plans will give a clear picture to any licensed contractor, excavator or arena builder for building an equestrian arena from the ground up. This enables you to get competitive bids and ensures your contractor is following protocol, using the correct materials, and doing the job right. Plans are stamped and approved, ready to submit for building permits.





#### Complete Equestrian Surface Construction Plans \$995

#### Package Includes:

5 Stamped sets of blueprints

Materials and Aggregate list

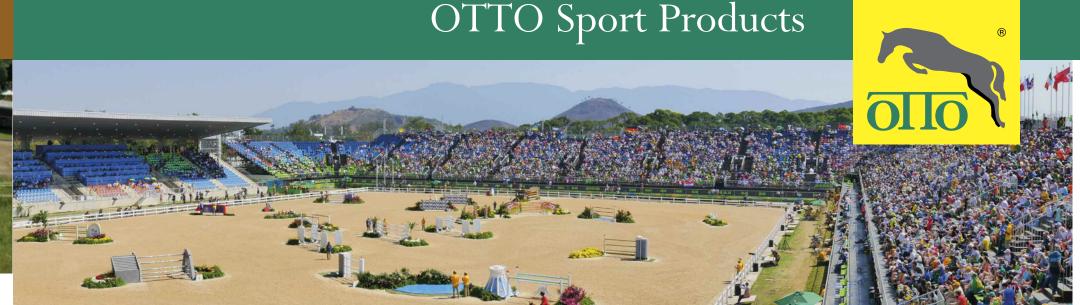
3 Bid packets

Access to source materials library

#### Three Types of Base Systems Available:

Compacted Stone Base
OTTO Sport Base Mat System
Ebb & Flow Arena System

To order call 1-800-611-6109, or visit PremierEquestrian.com for more plan styles and sizes



OTTO Sport International is known as one of the leading experts in its field, with almost 30 years of experience and over 6,000 installed arenas worldwide. Professional equestrians, as well as amateurs, trust in OTTO Sport's products. OTTO Sport provided the arena surfaces for the 2016 Rio Games



Olympic Games 2016, Rio De Janeiro, Brazil

OTTO Sport Arena Systems can be seen at competition facilities and farms all over the world.

Olympic Games 2016, Rio De Janeiro, Brazil • Alltech FEI World Equestrian Games 2010, Lexington KY FEI World Equestrian Games Aachen 2006 • FEI World Equestrian Games Rome 1998

Bill Towmey • Steffen and Shannon Peters • Klaus Balkenhol • John Whitaker

Premier Equestrian is the official North American distributor for OTTO Sport

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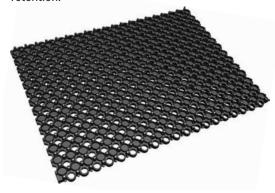


# OTTO-PerforatedMats Base System

#### THE OTTO-PERFORATEDMAT

is a product made of resilient material, specially designed for equestrian sports. It is used in equestrian arenas and paddocks, set underneath the footing to provide maximum drainage, water conservation, concussion mitigation and stability for horse and rider.

This arena system provides all the benefits of firmness, cushioning, cupping, rebound, and grip, combined with a long lifespan and ideal moisture retention.



#### **PRICING**

7-026 OTTO-PerforatedMat **\$28/ea.**Each mat is 46" x 33.50" (1 sq. meter or 10.7 sq. ft.)
Price per square foot is **\$2.62**Installation, aggregates & freight additional
Prices are subject to change

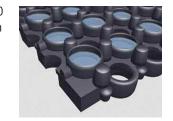
#### Why is the OTTO-PerforatedMat system best in class?

The OTTO - PerforatedMat is an arena base system that offers drainage, stability, shock absorption, and arena longevity. The system creates a true all-weather arena that many trainers need to keep up hectic training schedules. Clearly the world's best arena base system, OTTO Sport has chosen Premier Equestrian to represent the product exclusively in North America. Here are the reasons OTTO Sport is the best in class:



**DRAINAGE** — Holes in the mats provide immediate drainage of excess water, making the arena useable immediately after heavy rain. Traditional arena bases are designed for water to flow over them, slowing down drainage. OTTO Arena Systems are designed to allow water to flow through the layer under the mats, creating a pathway for high-volume water flow.

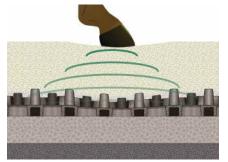
**MOISTURE RETENTION** — Each mat holds up to one gallon. That equals 1,200 gallons for a standard 20 x 60 dressage court! The entire surface maintains even hydration for a more consistent footing.

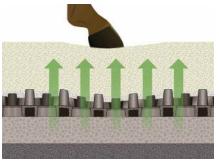


**STABILITY & SKID RESISTANCE** — Traction-knobs of varying height on the upper side of the mats maximize stability. This guarantees a secure surface, preventing horses from slipping — a clear advantage during sharp turns. The mat provides this grip while allowing some movement of the hoof, minimizing concussion and hyper-flexion of tendons and ligaments during each phase of movement.

**CONCUSSION ABSORPTION & REBOUND** — OTTO-PerforatedMats absorb up to 40% of the energy caused by the hoof fall. The German Association for Technical Inspection (TÜV) confirmed the mat minimizes shock and concussion on impact. The nature of the mat provides rebound. Cushion and rebound protect horses' musculoskeletal system and soft tissues. The top surface layer requires less additives for stabilization.







Knobs of varying heights create skid resistance. Mats absorb more than 40% of the force applied on the surface, and provide the horses' legs with the optimal amount of rebound.

Textile & Sand Footing

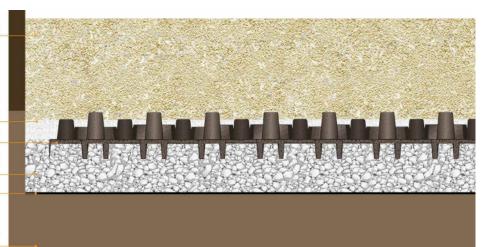
Fill Layer Fine crushed stone, grain size: 1/8" - 1/4"

OTTO-PerforatedMat

Drain/Base Layer Crushed stone, grain size 3/8" - 5/8"

Liner

Native Soil/Sub base Layer





**LOCKING-RINGS** — Locking rings on the bottom side of the mat prevent lateral shifting. Rocks cannot migrate up to the substructure, nor will sand and footing travel down under the mats. This ensures a proper and durable separation of footing and drainage layer.

**EXPANSION JOINT** — Mat systems without expansion joints will bulge when warming and contract when cooling. Sand can trickle down in the emerging cavities, forcing the mat up and dislodging it from its initial position.

OTTO-PerforatedMats are installed with a gap of approximately 1.5 inches between each mat to accommodate expansion. The structure of the bottom side and weight

locks the mats into place, eliminating bulging and shifting of the surface.

**LONGEVITY OF SURFACE** — The proper and durable separation between the footing and the substructure increases the lifespan of the arena that remains consistent from installation into the future.

**DURABILITY AND WARRANTY**— OTTO - PerforatedMats have been installed on more than 6,000 equestrian facilities throughout the world and have impressively proven maximum performance and durability. OTTO Sport gives a 20-year warranty on the mats when installed according to specifications.

**PROVEN ENVIRONMENTAL PROTECTION** — OTTO Sport actively contributes to environmental protection and sustainable development by using recycled synthetic materials. Quality management includes regular screenings by the German Association for Technical Inspection (TÜV) that approve compliance with statutory regulations for soil and groundwater protection. According to this, the OTTO-PerforatedMats comply with all standards set by the German Federal Soil and Groundwater Protection Order.

Premier Equestrian is the official North American distributor for OTTO Sport

CALL US AT 800-611-6109



Mats are laid over a drainage layer



A fill layer goes over the Mats



Footing layer over the Mats

"We were introduced to OTTO Sport in 2006 before the World Equestrian Games and we've always thought it's just the best surface that you can have. Now we finally have one, which we're so so excited about."



Shannon & Steffen Peters Olympic Dressage Rider (Steffen), California, USA

## Ebb&Flow with OTTO-PerforatedMats

# Consistent moisture for your footing

The Ebb&Flow System eliminates the need for sprinklers and manual watering of your arena. It also provides high capacity drainage during rain events.

The system assures accurate and consistent hydration of the arena surface by automatically controlling the water level within the arena base-substrate. The surface is watered from below where the water wicks up through the sand to keep the surface at an optimum hydration.

It is the most efficient and easy method to keep your arena surface in shape for training and competition.



The water level is monitored constantly and regulated automatically through a pipe array that runs underneath the footing layer. The pipe array is connected to the automated water source and set within an impervious liner. The liner is filled with sand and the OTTO-PerforatedMats are set on top. The OTTO-PerforatedMats add shock absorption and cushioning, preventing the surface from becoming compacted and stiff. The top footing layer is then placed on top of the mats giving you an ideal performance surface.

The system includes an arena pan liner, pipe array, electronic controls, OTTO-Perforated Mats, and footing textile. The system calls for specific grading and construction. We will work with your contractor to assure a successful installation.



Automated water source

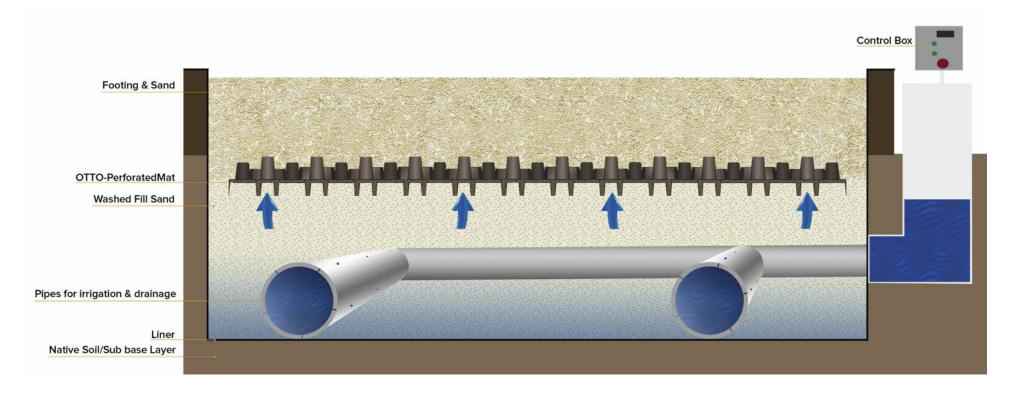


**Electronic controls** 



Using the Ebb&Flow System with OTTO-Perforated Mats and Premier Footing provides the highest quality surface, convenience, and considerably higher comfort for horses.

Call a Premier Specialist for a free consultation at 800-611-6109



# Arena Grooming & Maintenance

Grooming and maintenance are key factors in achieving quality arena footing. Grooming enables you to maintain a consistent riding surface for your equine athlete, avoid footing irregularities, and condition your sand and footing additives. Regularly mixing and leveling footing prevents problems. A professional-type groomer can overturn and redistribute the varying sand particle sizes and keep additives mixed thoroughly.

Premier groomers contain all the features you'll ever need for mixing, maintaining and perfecting your arena surface including: front and rear rollers, adjustable S-Tines and Coil Tines. Perfect for all types of footing and is safe for the base, landscape liners, and base mats.

#### **Hitch Systems**

**3-Point Hitch:** The Pro Groomer and Pro Light have a 3-Point Swivel Hitch which allows the groomer to track and swivel behind the tractor, helping to eliminate sand piling into the corners.

**Single-Point Hitch:** Tow the Mini Pro groomer behind a utility vehicle. A tongue & ratchet jack is available with the Premier Standard Groomer.

#### S-Tines & Coil Tines

Adjust the depth and angle of S-Tines and Coil Tines. S-Tines dig, lift, mix, fluff, and level the arena surface. Coil Tines create a vibrating action to blend, smooth, finish, fill in grooves, and pack down the surface.

To order call 1-800-611-6109, or visit PremierEquestrian.com for more about features.



#### Rollers stabilize and compact

The rollers keep the groomer stable, eliminating the chance of tines digging too deep into the surface. Rollers also aid in extra compaction when needed.

#### **Smoothing Bar levels and compacts**

The smoothing bar can be rotated 45 degrees to change the angle of the plate, or adjust the height to affect the compaction of the surface. Smoothing Bar available on Premier Pro and Standard Groomers



# Premier Equestrian Groomers

Groomer	Features	Groomer Size	Groomer Weight	Minimum Vehicle Power	Vehicle Wheel Width	Item#	Price
Premier Pro	2 S-Tine & 2 Coil Tine Bars Rotating Tine Bars	6' wide x 75" long	1,050 lbs.		62"	5-515	\$7,995
	Front & Back Rollers Leveling Bar	7' wide x 75" long	1,150 lbs.	- 40 HP tractor	74"	5-516	\$8,795
	3-Point Swivel Hitch Large, professionally-run facility	8' wide x 75" long	1,250 lbs	50 HP tractor	86"	5-517	\$9,595
Premier Pro Lite	2 S-Tine & 2 Coil Tine Bars Rotating Tine Bars Front & Back Rollers 3-Point Swivel Hitch	6' wide x 68" long	750 lbs.	24 HP tractor	62"	5-521	\$7,350
Premier Mini Pro	<b>2</b> S-Tine <b>&amp; 2</b> Coil Tine Bars Rotating Tine Bars Front <b>&amp;</b> Back Rollers Tow-Behind Hitch	5' wide x 68" long	600 lbs.	700cc UTV/ATV or 18HP tractor	50"	5-510	\$5,395
		6' wide x 68" long	650 lbs.	700cc UTV/ATV or 24HP tractor	62"	5-511	\$6,150
Premier Standard	2 S-Tine OR 2 Coil Tine Bars* Back Roller, Leveling Bar	5' wide x 52" long	300 lbs.	500cc UTV/ATCV or 18-24 HP tractor	50"	5-500	\$2,295
	3-Point Hitch  *Adjustable depth; upgrade to rotating bars	6' wide x 52" long	350 lbs.	500cc UTV/ATCV or 20-30 HP tractor	62"	5-501	\$2,415
	Standard Groomer Upgrades: Edger	Tool \$155   Rotating	Tine Bars \$495	Tongue & Ratchet	Jack for tow-be	ehind hitch	າ \$335

