

TROUBLESHOOTING GUIDE

10 MIN READ

Arena Footing Troubleshooting Guide

Diagnose common problems symptom by symptom.
Causes, checks, and solutions — from quick fixes
to long-term system corrections.

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How to know the problem is deeper than the surface

Something's wrong with your arena and you're not sure why. This guide walks through the most common footing problems symptom by symptom — what's causing it, what you can do about it, and when you need professional help. Most footing problems are symptoms of a deeper system issue: sand spec, base condition, moisture management, or maintenance pattern.

01 Dust During Riding

WHAT YOU'RE SEEING

Visible dust clouds during work, dust settling on horses and tack, dust carrying into the barn if the arena is attached.

Common Causes

Insufficient moisture retention — sand dries out too fast between waterings (LOCK deficiency).

Excessive fines in the sand — small particles become airborne when dry.

Over-grooming — dragging too deep breaks up surface cohesion and releases fines.

No dust-control additive in the blend.

What to Check

How long does your surface stay moist after watering? If less than 24 hours, LOCK is insufficient.

When was the last time you had your sand tested? High fines content (>15% passing #200 sieve) is a dust generator.

How deep are you grooming? Dragging deeper than 2 inches in most footing types creates more problems than it solves.

What to Do

SHORT-TERM

Adjust watering frequency and reduce grooming depth.

MEDIUM-TERM

Add **LOCK** to your footing blend for integrated moisture retention. Consider **DustHalt™** as a surface treatment.

LONG-TERM

Get an **ArenaSpec™** assessment to diagnose whether your sand itself is the problem.

02 Hard or Compacted Surface

WHAT YOU'RE SEEING

Jarring ride feel, horses shortening stride, reduced shock absorption, surface feels like concrete — especially after rain or heavy use.

Common Causes

- Insufficient cushion additive (FLEX deficiency).
- Sand too fine or too uniform — creates a surface that locks together under load.
- Footing depth too shallow — less than 2 inches over a hard base.
- Over-watering compresses the footing.
- Not enough grooming — compaction builds up without regular surface disruption.

What to Check

- Measure actual footing depth in multiple locations (center, rail, corners, gate area).
- Do the rake test: pull a rake through the surface. It shouldn't resist a standard garden rake.
- Check grooming frequency: daily-use arenas need grooming after every 3–4 rides minimum.

What to Do

SHORT-TERM

Groom more frequently, check depth, and reduce watering if over-saturated.

MEDIUM-TERM

Add **FLEX** to improve cushion and energy return.

LONG-TERM

ArenaSpec™ assessment — compaction is often a sand problem, not just an additive problem.

03 Inconsistent Depth

WHAT YOU'RE SEEING

Shallow spots and deep spots, uneven ride feel across the arena, footing migrating to edges or corners, ruts in traffic patterns.

Common Causes

- Arena drag pattern not covering the full surface evenly.
- Wrong drag type for your footing — some drags push material rather than level it.
- Footing migrating to rail and corners from riding patterns — normal, but needs regular redistribution.
- Insufficient FIBR — footing lacks the fiber structure to hold position under traffic.
- Base not level — undulations in the sub-base telegraph through the footing.

What to Check

- Measure depth in 8–10 spots: center, both rails, all four corners, gate area, and known problem areas.
- Check your drag pattern — are you alternating directions? Same pattern every time pushes material one way.
- Look at the base: scrape footing aside in a shallow spot. Is the base hard and level, or uneven?

What to Do

SHORT-TERM

Manually redistribute footing from deep areas to shallow areas and vary your drag pattern.

MEDIUM-TERM

Add **FIBR** to improve surface binding and reduce migration. Review your **arena groomer** setup.

LONG-TERM

If the base is uneven, no amount of footing management will fix it — the base needs releveling.

04 Slipping or Shifting Surface

WHAT YOU'RE SEEING

Horses losing traction on turns, sand sliding under load, surface feels like it's moving rather than holding.

Common Causes

Sand too round — round particles roll like ball bearings. Arena sand needs sub-angular particles that interlock.

Insufficient FIBR — not enough fiber to create surface structure.

Footing too deep — excess depth creates an unstable layer that shifts under load.

Footing too dry — dry sand has less internal friction than slightly moist sand.

What to Check

Sand shape: look at a handful under a magnifying glass. Round, polished grains = wrong sand.

Depth: measure in problem areas. More than 4 inches is too deep for most disciplines.

Moisture: surface should feel slightly damp when squeezed. If it runs through your fingers like dry beach sand, moisture is too low.

What to Do

SHORT-TERM

Reduce depth if over 4 inches and increase watering slightly.

MEDIUM-TERM

Add **FIBR** for structural binding.

LONG-TERM

If sand is fundamentally round, it may need replacing. An **ArenaSpec™** sieve analysis will confirm.

05 Hoof Prints Won't Close

WHAT YOU'RE SEEING

Tracks stay open after passes, the surface doesn't self-heal, uneven surface builds up quickly during a ride.

Common Causes

Insufficient moisture — dry footing has no cohesion to fill tracks.

Insufficient LOCK or FIBR — footing lacks the binding agents to self-level.

Sand too coarse — large particles don't flow back into depressions.

Footing too deep — deeper footing holds track shapes longer.

SYMPTOM 05 CONTINUED

What to Check

Moisture level (squeeze test).

Grooming frequency — you may need to groom mid-session for heavy-use days.

Sand gradation — if most particles are above #35 mesh, the sand is coarser than ideal.

What to Do

SHORT-TERM

Water more frequently and groom between rides.

MEDIUM-TERM

Add **LOCK** for moisture retention and **FIBR** for cohesion.

LONG-TERM

ArenaSpec™ assessment to evaluate sand gradation.

06 Standing Water / Drainage

WHAT YOU'RE SEEING

Puddles after rain, surface stays saturated for days, water pools in low spots.

Common Causes

Base grading — the most common cause. The base isn't sloped to drain.

No drainage layer — no gravel or geocell layer between the base and footing.

Compacted sub-base — clay or heavily compacted soil that won't percolate.

Footing too fine — fine sand with high silt/clay content becomes a moisture trap.

What to Check

After rain, where does water pool? If always the same spots, the base is uneven.

How long does standing water take to drain? More than 24 hours = base drainage issue.

Is there a geotextile or gravel layer under your footing? No drainage layer = likely root cause.

What to Do

SHORT-TERM

There's no quick fix for drainage — this is a construction issue.

MEDIUM-TERM

For minor pooling, adding **BaseCore™** geocell to low areas can improve drainage pathways.

LONG-TERM

Proper base reconstruction with drainage. This is a **Build** problem, not a footing problem.

When to Call a Professional

If you've tried the short-term fixes and the problem persists, the issue is usually deeper than the footing surface — it's the sand, the base, or both. An **ArenaSpec™ assessment** diagnoses the full system: surface, base, drainage, sand, and maintenance patterns.

KEY INSIGHT

Most problems that feel like footing problems are actually **sand problems** or **base problems** wearing a footing disguise. If the base is the issue, our arena building services team can evaluate and recommend reconstruction options.

Not every arena needs a full rebuild — sometimes targeted drainage improvements or base releveling is enough. The assessment tells you exactly what you need and what you don't.

Quick Reference: Which Component Fixes What

FIBR

Structural Fiber

Fixes: Slipping · Shifting · Inconsistent depth · Hoof prints won't close

FLEX

Bio-Based Cushion

Fixes: Hard / compacted surface · Jarring ride · Reduced shock absorption

LOCK

Liquid Dust Control

Fixes: Dust during riding · Hoof prints won't close · Surface dries too fast

Base & Drainage Issues

BaseCore™ Geocell

Standing water, base instability, drainage pathways

Geotextile

Layer separation, sub-base stabilization

Arena Building Services

Full base reconstruction, grading, drainage design

CAN'T FIGURE OUT WHAT'S WRONG?

Share a Few Photos We'll Diagnose It Free

No obligation. We'll review your arena and tell you exactly what's going on — and what to do about it.

Get Your ArenaSpec™

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