

Safe Footing for Barn Aisles

When building a new barn or upgrading an old one, you have a range of choices for this high-traffic area.

By Elizabeth Liff

THE BUSY BARN AISLE: IT'S the horses' thoroughfare between their stalls and the barn's exterior as well as (sometimes) the wash stall and the indoor arena. In many barns it's also the area where grooming and tacking up take place. And in addition to handling foot (or hoof) traffic, it withstands the passage of various equipment, from wheelbarrows to tractors.

Because of the aisle's many functions, there are several factors to consider when planning barn improvements or a new barn:

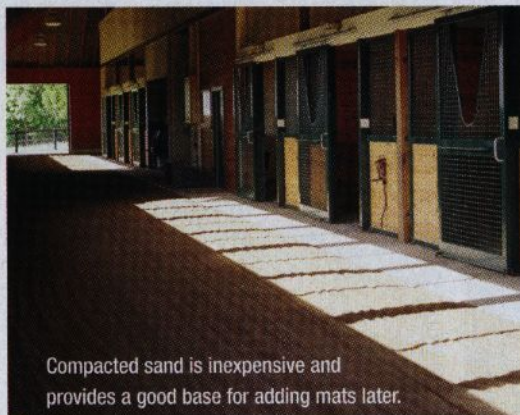
- safe, resilient traction for your horse and you,
- the ability to minimize concussive stress on his body and
- durability.

And whatever type of flooring you choose, it needs to be designed and built so water does not accumulate.

We'll describe the types of aisle flooring from the simplest and least expensive to the most costly, and explain the pros and cons—and special requirements—of each.

Compacted Sand, Gravel or Stone Dust

These are the simplest and most affordable options, especially for a small barn. To install these types of materials, the aisle floor area is dug out to a depth of 8 to 12 inches and the subsoil is leveled and compacted before the addition of enough tamped sand, gravel or stone dust to bring the floor up to grade. The resulting surface drains well, has excellent traction and absorbs concussion. Its major drawback is that flooring material will cling to footwear and equipment, especially when damp. However, this type of floor is also an excellent base for rubber mats or pavers (see page 88), which can be added as your budget allows. Prices

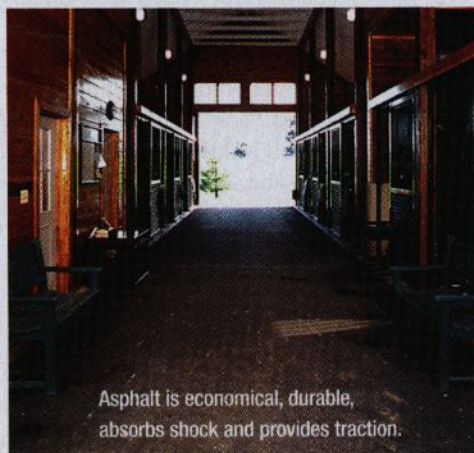


Compacted sand is inexpensive and provides a good base for adding mats later.

vary widely depending on your location and whether the materials are produced nearby or trucked from a distance.

Asphalt

At an average cost of \$2 per square foot, asphalt is a durable and economical flooring material with good shock absorption and traction. It is highly porous, so it dries quickly. Ask your contractor for a larger-aggregate/fewer-fines mix, called "popcorn" asphalt. It has a textured, slip-resistant surface and drains exceptionally well. Some contractors may increase the price if they are unfamiliar with this material or its installation procedure. (Asphalt plants may



Asphalt is economical, durable, absorbs shock and provides traction.

also charge a premium if the "popcorn" mix is not their typical mix or if the quantity you request is small.) In northern climates, asphalt may be unavailable during the winter when plants shut down due to the drop in road and parking lot construction jobs.

Asphalt's drawbacks are its rough texture, which tends to trap dirt and debris unless it is power-washed or hosed frequently, and its appearance—some barn owners dislike its coarse, black surface.

Concrete

Durable, long lasting, smooth and easy to clean, concrete is a great floor from every perspective *except* the horse's. Even with a textured surface (a variety of brushing and grooving techniques are available), its extreme hardness makes it dangerously slippery and it stresses legs and feet over time. Depending on where you live, poured concrete can also be one of the pricier flooring options, costing from \$3.50 to \$6.50 per square foot.

A concrete aisle floor might still be reasonable and/or necessary if, for example, you live in a region with a high water table or prevalent frost heaves. In those circumstances, a correctly installed concrete floor can ensure that your aisle remains level and dry. (Consult a soils engineer about your specific site.) Concrete in traffic areas should always be covered with a cushioned, nonslip material (more on these later). Make this "runway" wide enough for horses to pass each other and turn around—at least 6 feet.

Your contractor may also recommend using concrete as a border to provide a solid base for stall doors, drains, and so on. Even these small areas can cause dangerous slips if your

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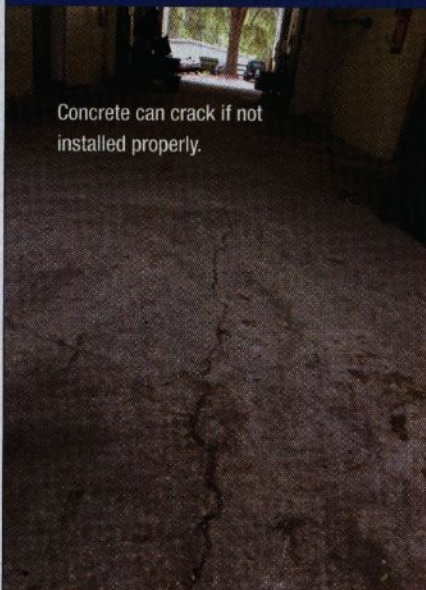


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Concrete and Asphalt Fast Facts

- Install over a gravel base; specifications differ with soil and moisture conditions.
- Only install when temperature will be *at least* 40 degrees for 48 hours or more
- Plan on a slab 3–4 inches thick in small barns, 4–6 inches for aisles that must withstand heavy equipment (e.g., tractor) traffic
- Asphalt may crack and heave due to frost but "heals" itself when conditions improve. Cracks in concrete (from frost heaves or from shrinkage while curing) are there to stay.



Concrete can crack if not installed properly.

horse steps on them, so ask your contractor to coat the concrete with a cementitious textured material.

Mats and Pavers

Safe and effective, recycled-rubber mats and pavers are now available in a wide variety of styles, thicknesses and prices. They can be used over concrete, asphalt or a compacted and leveled sand, stone dust or gravel base. They can cover the entire width of the aisle, create a runner down the center or just cushion your grooming area. Most of the thicker mats and pavers can withstand the weight of tractors and other heavy vehicles. If your budget is tight, you can start with just a few mats or pavers in the most critical areas and add more over time.

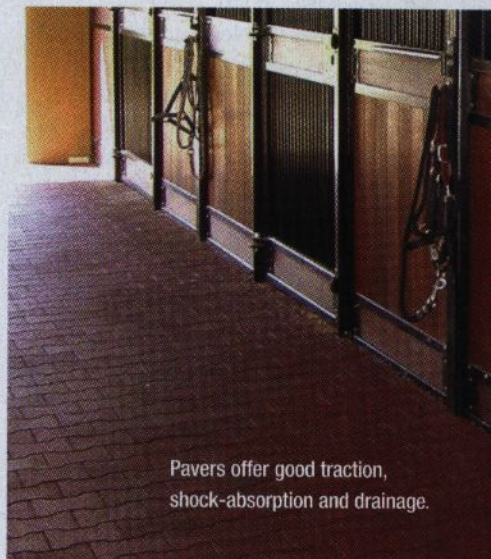
The traction and shock-absorbing qualities of mats and pavers depend on their thickness as well as their softness. If you use them over concrete, products as thin as ½ inch are adequate. Over a

compacted soil base, a thickness of more than an inch is ideal. Generally, the harder the mat or paver material, the more slippery and less shock-absorbing it will be. Rubber mats tend to be harder and more slippery than pavers, although they are available in a variety of surface textures.

Mats are also less porous, so water will puddle on their surface, whereas it seeps through and between the pavers fairly quickly. It's important to have a good drainage system under both types of product. If your base is concrete, drainage can range from simple center drains, strip drains or solid-waste drains in larger barns to a mild floor slope (¼ inch per foot) in smaller barns. (A base of asphalt or tamped gravel, sand or stone dust is porous and will self-drain.)

Mats and pavers are relatively easy to cut with a band saw. Some manufacturers also offer to pre-cut their products to fit your barn's specific dimensions. Many flooring dealers offer beveled-edged styles of both mats and pavers to reduce the "trip factor" as the horse steps onto the surface.

Both mats and pavers can be power-washed or hosed down; pavers can be somewhat more difficult to sweep. Manufacturers estimate that both can last as



Pavers offer good traction, shock-absorption and drainage.

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