

# Suitable Spaces for Indoor Horse Activities

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Many horse owners need indoor arenas in which to work horses regardless of weather. These facilities might be at home or at a community location shared by many riders. This publication highlights some common characteristics and requirements of indoor arenas and details the minimum requirements. Many disciplines and activities may require additional investment in facilities, such as larger dimensions, more lighting, special footing, etc.

## Dimensions

The minimum dimensions of indoor arenas should allow horses to perform normal motions without risk of injury to the horses or their riders (Table 1). The length of the arena allows the horses to progress in speed and the rider perform certain riding patterns. The width allows for the appropriate turning radius. The height is necessary for riding and potentially jumping. Recommended dimensions for an arena will vary with riding discipline, as Table 2 illustrates. The basic dimensions suggested for an indoor arena are:

- Minimal width: 50 to 60 feet
- Minimal length: 100 feet
- Minimal height: 16 feet to the lowest part of the ceiling or equipment hanging from a truss

## Lights

Weather and time of day will limit the available sunlight, so artificial lighting is necessary to make the arena useable at all times. The objective is to have 30 to 40 foot candles (325-430 lux) at five feet above the arena floor. The light should be uniform and designed to ensure that there are no shadows or bright areas.

## Footing

Footing consists of at least two layers. The base is a well-compacted, stable material that has been leveled. If the base cannot be developed out of the existing

**Table 1.** Suggested unobstructed dimensions for non-competitive indoor arena

Activity	Dimensions (preferred minimum, feet)		
	Width	Length	Height
Exercise, training, riding	50-60	100-130	14
Exercise, training, driving	60-100	100-130	14
Group riding	80	100-130	14
Jumping	80	100-130	16

Source: Wheeler et al. *Horse Facilities Handbook*

**Table 2.** Suggested arena dimensions for competitive indoor use

Activity	Dimensions (feet)
Barrel racing	150 x 200
Roping	150 x 300
Dressage (small arena) <sup>1</sup>	66 x 132
Dressage (standard arena) <sup>1</sup>	66 x 198
Show (standard) <sup>2</sup>	120 x 240
Show (small) <sup>2</sup>	110 x 220

Source: Wheeler et al. *Horse Facilities Handbook*

<sup>1</sup> United States Dressage Federation regulation size

<sup>2</sup> USEF suggested size

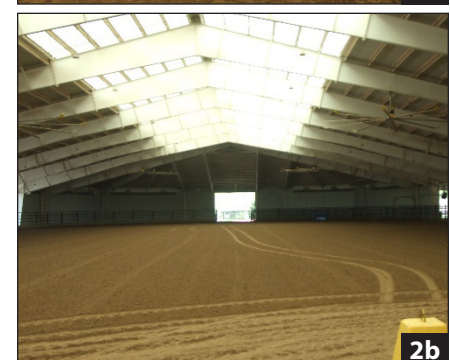
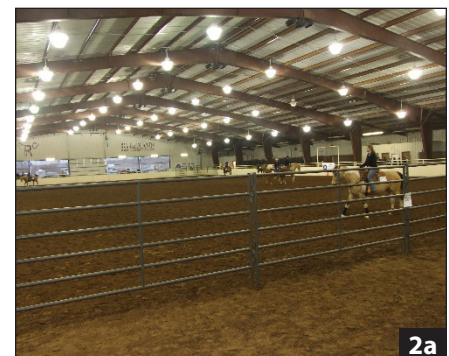


**Figure 1.** Uniform lighting in an indoor arena

subsoil, the added material should be at least six inches thick to handle the impact of the horses' hooves. The riding surface should be at least four inches thick to allow for traction and shock absorption.

## Footing Maintenance

Footing will compact, break down, and move toward the outside of the arena over time. Choosing the proper implement, such as a drag, to maintain the footing depth, consistency, and integrity is critical. The operator of the drag must be trained to control depth and speed to create a level surface. Water or other additives are often applied for dust control. Proper equipment for appropriate distribution of water (adequate volume and consistency of application) should also be considered.



**Figure 2.** Footing in indoor arenas

## Structure

Arenas must have access points for horses, humans, and equipment. Doors should be easily opened and properly placed to enhance accessibility to the building and the riding surface. The doors should be sized to accommodate any necessary equipment.

A wall or partial wall inside the roof support posts, fencing, or a knee wall





3a



3b

**Figure 3.** Drag (a) and water distribution system (b)

around the riding surface will keep horses contained to the appropriate area within the arena. It will also protect the posts. If the arena is designed to accommodate observers or non-horse related activities, it may also contain a separate area with a different surface than the footing described above.

Depending on the overall dimensions, the structure can be built out with either a wood or metal frame. Narrower arenas (60 feet wide or less) are usually built with wood framing; wider (greater than 80 feet wide) areas tend to be constructed with metal frames.

## Ventilation

Good ventilation will provide a more comfortable environment for riding by moderating temperature and enhancing air quality. Openings along the peak of the roof will provide a way for stale air to exit. Sidewall openings, such as windows and doors, allow for air exchange. Fans can be included to improve air distribution and remove stagnant areas; however, unless the fan is placed in a wall or roofline, it will not enhance ventilation.

Meeting the minimum standards of size, lighting, and footing will allow you to design a space suitable for working with horses indoors when the weather is inclement.



4a



4b



4c



4d



4e

**Figure 4.** End wall door for equipment access to the indoor arena (a); knee wall around the indoor riding arena (b); wall separating the riding space and observation area (c); a wood framed indoor arena (d); and a steel framed indoor arena (e)



5a



5b



5c

**Figure 5.** Ventilating through a roof peak (a); large end wall openings for ventilation (b); and side wall windows for ventilation and high-volume low-speed fan for air movement (c)

**For more information,** see Wheeler et al. (2005), MWPS-60: Horse Facilities Handbook (Midwest Plan Service, Iowa State University, [www.mwps.org](http://www.mwps.org)).

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Lexington, KY 40506 Revised 04-2024



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