



From the Field: Paint Like a Pro

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Welcome to From the Field - A Guide to Athletic Field Safety and Care.

Throughout this series, we will focus on a sometimes overlooked but critical component affecting the safety and performance for athletes of all ages – the playing surface.

Our goal is to provide you with simple, helpful tips about playing conditions that maximize both safety and performance.

Anyone who has painted a football field knows that it is not a simple, quick task. Proper field markings are not only a necessary component of the playing surface, but a well-lined field can also be a source of pride for team members and your organization.

With planning and the right equipment, painting a field doesn't need to be a daunting chore. Before you get started, it is a good idea to develop a painting schedule for the season and coordinate volunteers if needed.

The first step to painting a field is the lay out. The following tools are needed to properly layout a field:

Field Layout Tools

- Accurate field dimensions
- Several 300 ft. or longer tape measures
- Spools of string – 2 sideline-length sets, 3 yard line-length sets (mason's string works well)
- String winder for each string
- 6-10" nails or large pins (at least 6) - paint with bright color to avoid losing them on the field
- Stencils – numbers and logos if desired
- Aerosol field marking paint

At the beginning of the season, install "benchmarks" at the corners of the field and do all measuring off of those benchmarks. Large nails or pins work well.

A permanent benchmark solution is to drive metal stakes into the ground at the corners so that they are flush with the ground. They won't interfere with mowing or be a safety hazard when driven deep enough. Each year they can be found with a metal detector.

“Marking whiskers” can also be used as permanent benchmarks.

Once you have your benchmarks set, outline all four sides of the field with string, making sure to tightly stretch each string. Next, stretch the tape measure along the sideline and mark off each 5-yard line with a dot of aerosol paint. Repeat the procedure on the other sideline.

After removing the tape measures, paint the sidelines and end lines and then remove the strings and allow the paint to dry – it will dry quickly on a bright, sunny day.

Next, stretch the strings across the field for the 5-yard lines. Stringing two or three lines at a time works well. This allows two helpers moving the strings to stay several lines ahead of the person painting, which allows the painter to continue painting without delays.

Finally, paint any numbers, hash marks, and logos.

There is no need to re-measure each time you paint unless you cannot see the old lines. However, it is recommended to paint the lines using string each time.

Painting Equipment

There are two types of painters that can be used to paint a field – one dispenses aerosol paint and the other applies latex paint.

Aerosol painters are common on recreational fields. According to Tru Mark Athletic Field Marker, a company that specializes in field marking supplies, 30 to 40 cans of paint are needed to paint a full size football field.

Using an estimate of \$60 per case of 12 cans, the cost of paint to mark one football field is about \$180.

Compressor-driven or “airless” painters use latex paint typically sold in 5-gallon buckets. The paint is diluted with water prior to use at rates such as 1, 2, or 3 parts water to 1 part paint.

On average, it will take about 15 gallons of diluted latex paint to mark a full size football field. So, depending on your dilution rate, you will need 5 to 8 gallons of concentrated paint.

Although compressor-driven or “airless” painters are considerably more expensive than those used with aerosol paint, the cost of paint needed to mark a field is roughly half the cost of aerosol paint.

Compressor-driven or “airless” painters generally cost \$1,000 to \$3,000 while painters that apply aerosol paint cost about \$100. However, if multiple fields require painting on a regular basis, it may be more economical to invest in a painter that uses latex paint.

Lines painted with compressor-driven or “airless” painters have an overall better quality and last longer than those painted with aerosol paints.

For a more detailed explanation on the types of painters available, see http://grounds-mag.com/equipment/grounds_maintenance_earning_stripes/.

Painting Tips

- A minimum of 3 people is required to efficiently paint a field – 2 people moving strings and 1 person painting
- Use string to paint lines every time – it may take longer to paint a field but straight lines give your field a professional look
- To help your paint last longer, mow the field before painting, try to avoid painting in wet conditions, and monitor weather conditions to ensure the paint has time to dry before any precipitation.
- Paint down the side of the string instead of down the middle – it is easier to line up the edge of your paint stream on the string than trying to get the middle of the stream on the string (be sure to account for painting on the side of the string when measuring out the field)
- Use stencils for numbers and logos – stencils can be purchased or you can make your own
- When painting a logo with multiple colors, paint a white base coat first to help the colors stand out
- Only use enough paint to adequately cover the turf – excessive amounts can damage the grass and increase costs
- Keep a bucket of warm water and towel close by to help remove oversprays and mistakes
- Store aerosol paint upside down – this allows the mixing marble to break loose easier
- Be sure to pick up all of nails after the job is complete

Tips for Compressor-driven and “Airless” Painters

- Be sure to use the appropriate paint for your field – there are different types of latex paints specific for natural and synthetic turf
- When diluting paint, mix one part water with one part paint for the first application of the season and then switch to two or three parts water with one part paint
- When mixing latex paint, strain the paint prior to use to avoid clogging and be sure to thoroughly mix each bucket of paint using a drill with a mixing attachment

- Mix paint with hot water when painting in cold weather
- Clean all compressor-driven or “airless” painters after each use according to the manufacturer’s instructions
- The addition of a plant growth regulator, such as Primo Maxx, to paint reduces the rate of turf growth and subsequently can increase the amount of time before repainting is needed – be sure to read the plant growth regulator label for instructions

If you have questions on any of the topics covered in this addition of From the Field, please contact Penn State’s Center for Sports Surface research – ssrc.psu.edu.