



Importance of Safety Striping

Many factory and warehouse managers view floor safety striping to simply be paint on floors. Safety striping provides a much greater purpose – ensuring the safety of your workers! When they see those yellow lines, they know not to cross them, or they may fall prey to a serious accident which can result in:

- Workers Compensation claims
- OSHA Audits and resulting fines.
- Lost productivity
- Reputational risk

Safety floor markings are required by OSHA and are an absolute necessity. However, it has been difficult for companies to find a durable safety floor marking that lasts more than a year. Our Safety Flooring product line is warranted for 3 years, and lasts over 5 years when properly installed and maintained.

Choosing the Right Product for Your Needs

Our product line includes several types of floor striping, each with their own unique characteristics and purpose. For safety striping to last, products need to be chosen appropriately for the specific area's needs. Further, preparation work must be carefully carried out, to ensure durability.

WorldProof's Safety Flooring product line offers several durable solutions:

- Safety Striping – Glue-down available in sizes from 4 inches to 12 feet wide
- Safety Striping – Peel-and-stick available in sizes from 4 inches to 7 feet wide
- Safety Flooring for walkways available in sizes from 4 feet to 12 feet wide
- Safety Flooring for restrooms and other areas prone to slips and falls

Problem: Choosing the Right Solution that Fits Your Needs

There are a multitude of different criteria to consider when determining the appropriate solution. It isn't as easy as choosing between painting lines or using a peel-and-stick option.

Options to be considered are:

- Location
- Access

- Timing restrictions
- Budgets
- Rolling equipment needs

Solution:

When you have an area where safety needs to be addressed, WorldProof's Safety Flooring products team will review your requirements and usage needs. We can then discuss access, budgets and other restrictions and propose an appropriate solution.

Problem: Ensuring Proper Floor Preparation

Ensuring Proper Floor Preparation

Surface preparation is key to durability. If you are operating in a very busy facility or moving items that are heavy, you will need to focus on floor preparation as a part of your Safety Flooring installation.

There are several application options to consider, and recommendations depend on traffic:

- Heavy Traffic areas - Embedded
- High traffic areas – Grinded or Shot-Blasted
- General and low-level traffic – Direct Application

Floor marking projects often require considerable access and downtime for areas being worked. Floor marking may require restrictions and the loss of valuable floor space for a period of time.

Solution:

To be certain your safety lines will adhere well and will last, we particularly emphasize concrete preparation. We carefully describe the concrete preparation so you can discuss requirements in depth with your building owners. With the right approach and the correct information, most building owners will understand and provide necessary approvals.

Our installation teams operate under your guidance, however, they also maintain maximum flexibility and decision making as they may encounter difficulties with:

- substrate
- coating systems
- equipment
- operational requirements

They must think and react quickly, making the right decision and committing to it.

Any changes which happen along the way will be reported to the appropriate client department who may need to evaluate and update the schedule accordingly. This is imperative when dealing with a 7,000 Lin/ft or 70,000 Lin/ft project.

Our installation teams are fully trained and insured to work on all customer sites. Our teams travel to you because our teams are the best and our customers expect the best.

Problem: Selecting Appropriate Floor Preparation

Surface preparation is key to durability. If you are operating in a very busy facility or moving items that are heavy, you will need to focus on floor preparation as a part of your FiberFlex® Safety Flooring installation.

There are several options to consider:

Heavy Traffic areas – consider Embedded

High traffic – Grinded or Shot Blasted

General or low-level traffic. It may be possible to install Worldproof Safety Flooring directly on a cleaned surface using PSA. This is the most cost-effective preparation.

Problem: Selecting the Appropriate Solution

Embedded Striping

Our premium solution is embedded striping. To install WorldProof's Embedded Striping, we create a channel in the concrete floor surface, removing around 1/8 inch – 4 inches. Our installation teams then fill this channel with a high build epoxy compound to create the most durable form of warehouse striping available today.

The advanced equipment we use is fitted with rows of diamond cutting blades for high precision preparation. This process is not widely known; we are the only company using this process in the USA.

This level of preparation prevents material handling equipment from striking the edges of the striping. Paint and tapes are usually applied to the surface and forklift trucks hit the edge and ride up onto the line. Forces exerted are far too great for paint or tapes to withstand the pressure, which is why painted floor striping and floor tapes wear and/or fail. Placing the paint below the surface prevents this, as forklift trucks ride onto the line without applying any shear force.

Why should I consider Embedded Striping?

Embedded floor striping is the most durable method of warehouse striping. It is more expensive for two reasons:

1. there is a lot more preparation work needed
2. machinery needed to perform embedded striping is very expensive

The positive consideration is that more durability means less re-working later, so the investment pays off.

It takes longer to apply Embedded Striping than any other method and while it does cost more initially, it is an investment that will last. Once complete, you do not have to recoat every year, so you save money on ongoing maintenance.

Consider this option for areas with the highest traffic, which results in a cost-effective but high-performance installation.

Direct Application Using 2-Part Adhesive

If there is heavy foot traffic but no heavy machinery being driven, we may recommend using a 2-part adhesive to glue FiberFlex® to the floor. This will ensure a longer-lasting solution.

Direct Application Using Peel-and-Stick WorldProof Safety Flooring

If the floor is properly and thoroughly cleaned and there is no heavy machinery being driven on the floor, WorldProof Safety Flooring can be applied using a factory applied peel-and-stick adhesive.

Shot Blast Floor Striping

Another application to consider is Shot blasting. This is a resurfacing process that uses metal beads “shot” out of a machine to “blast” away tough debris and contaminants.

Forklift impact is massively reduced by shot blast floor striping method. Our Safety Flooring also forms a far greater adhesion with the prepared surface, making the bond incredibly tough.

Why Should I Consider Shot Blast Floor Striping?

Shot blasting removes the top layer of concrete. Then, our Safety Flooring is applied. This is the most cost-effective high-performance striping solution available.

With shot blasting, we can remove very precise amounts of concrete floor, to specific widths. Shot blast floor striping prevents the floor from being left unsealed, since the blast face is the same width as the coating applied.

Accuracy and control are key in shot blasting, which is why we spend time and money on the best equipment, training and people to provide the high-quality preparation you expect.

Our shot blast machine fires control shots at the concrete within a captive system. On impact, the concrete surface breaks away in fine parts, revealing a fresh and roughened surface beneath. This process is clean and controlled by a vacuum system, preventing dust and debris on your surfaces.

WorldProof’s Safety Flooring is then roller applied, creating one of the most durable floor striping systems available.

Forklift impact is massively reduced thanks to the low profile of the shot blast floor striping method. Our Safety Flooring also forms a far greater adhesion with the prepared surface, making the bond incredibly tough. The system is not indestructible, however, customers typically contact WorldProof in 4 - 5 years for a new application.

Installation

With any floor striping installation, you must clean the floor thoroughly. This is also the case with shot blasted floor striping as we often use adhesive tape to mask areas of the floor prior to applying the paint system.

All our floor striping projects are treated with the same meticulous attention to detail. We provide floor layout maps showing areas to be completed per day, which can be prioritized in conjunction with stock movements and requirements.

Our project and installation teams work as one to ensure the installation maintains continued progress. There are occasions where customers are unable to allow access for one reason or another, which is why we focus on a flexible planning approach.

OSHA Floor Striping Standards

The Occupational Safety and Health Administration (OSHA) provides guidelines on how organizations can help improve the health and safety in warehouse and distribution centers. Floor striping allows companies to mark and identify aisles and passageways to be kept clear for safe operational workings and in the event of an emergency. WorldProof Safety Flooring products installers work with you, closely following the OSHA guidelines, to create the necessary markings.

OSHA's specifications for Material Handling and Storage follow.

Aisles and Passageways

When using aisles and passageways to move materials mechanically, workers must allow sufficient clearance for aisles at loading docks, through doorways, wherever turns must be made, and in other parts of the workplace. Providing sufficient clearance for mechanically-moved materials will prevent workers from being pinned between the equipment and fixtures in the workplace, such as walls, racks, posts, or other machines. Sufficient clearance also will prevent the load from striking an obstruction and falling on an employee.

Employers must ensure that all passageways that workers use remain clear of obstructions and tripping hazards. Workers should not store more materials than are needed for immediate operations in aisles or passageways, and employers must mark permanent aisles and passageways appropriately.

Material Handling and Storage, OSHA 2236, 2002 (Revised), Pg 17.

Color Requirements

1910.144(a)(3)

Yellow. Yellow shall be the basic color for designating caution and for marking physical hazards such as: Striking against, stumbling, falling, tripping, and "caught in between."

[39 FR 23502, June 27, 1974, as amended at 43 FR 49748, Oct. 24, 1978; 49 FR 5322, Feb. 10, 1984; 61 FR 9227, March 7, 1996; 72 FR 71069, Dec. 14, 2007]

1910.145(f) App A

While the standard does not specifically mandate colors to be used on accident prevention tags, the following color scheme is recommended by OSHA for meeting the requirements of this section:

- "DANGER" – Red, or predominantly red, with lettering or symbols in a contrasting color.
- "CAUTION" – Yellow, or predominantly yellow, with lettering or symbols in a contrasting color.
- "WARNING" – Orange, or predominantly orange, with lettering or symbols in a contrasting color.
- "BIOLOGICAL HAZARD" – Fluorescent orange or orange-red, or predominantly so, with lettering or symbols in a contrasting color.

OSHA does not provide guidance on aisle and passageway widths to be used, which leaves the overall design and final layouts to the expertise of warehouse and distribution center operators' expertise

because you know your industry and facilities the best. You also know the necessary work flows to ensure efficiency without causing safety risks. WorldProof Safety Flooring products will provide advice and suggestions from our project archive and practices.

There are various floor striping layouts which could be categorized under the OSHA guidelines. These are the specifications for the most common designs:

- Pedestrian passageway – Typically created using tramlines or as a solid coating. Standard widths are 4ft.
- Pedestrian stencils – These identify passageways and are particularly useful when a passageway runs alongside a forklift aisle.
- Hatch areas – Generally colored red, these present a non-storage zone where access is required, typically around exits and access points.
- Fire exits – 5ft square markings with hatches, diagonal stripes and/or solid blocks help to portray the importance of keeping these areas clear. They also help operatives identify exit routes. These are generally red in color.
- Dock bays – Dock plates which create steps are dangerous to workers. Typically, customers request that a 1ft wide stripe be placed around the edge to highlight this hazard, usually in yellow.

Staging lanes, numbering, and storage lanes improve storage efficiency and are typically based on pallet sizes, truck sizes and forklift truck sizes.

Most work carried out by WorldProof Safety Flooring is done with yellow and/or white. Occasionally we will be asked to use red, green, blue and grey. If in doubt, ask what we can provide. Any pantone color code can be matched.