

A Simple Guide to Internal Line Marking



When it comes to choosing the right internal line marking solution many customers are bewildered and bemused at the information they get. To start with the key elements that impact on the choice of line marking are:

- Money
- Time
- Disruption to operation
- Durability



However it still is not as simple as that and a lot of the time customers have to make a compromise between these elements. For instance sometime it is just too busy for you to wait for the materials to cure. The compromise may be the speed of completing the job versus the durability of the solution.

There is no right or wrong way but unless you have all the information you cannot make an informed decision. The key is for the supplier to provide the customer with the options available and the only way to do that is answer and prompt the many questions that are asked. i.e.

1. How long will it last?
2. Will it smell?
3. What paint do you use?
4. Will it affect food?
5. How much will it cost?
6. Will I be able to move it later?
7. How long will it take to cure?



Types of line marking preparation

To the customer, it is just painting a line, almost like it is done on the road. Where internal line marking is concerned you need to consider first what type of preparation is going to be suitable for your operation and budget as well as what the condition of the floor is like.

Types of Preparations:

- Unprepared
- Acid Etching
- Scabbling
- Floor grinding
- Vacuum shot blasting
- Diamond Shaving



Types of Preparations

This is applied onto a bare concrete floor that has been cleaned prior to the application. This solution can never be guaranteed to last long particularly within a high fork lift usage area. Can be the right application on wood decked mezzanine floors or pedestrian areas.





Acid Etching

This preparation is rarely used due to its harmful effects on the environment and potential health & safety implications to people. A diluted acid is brushed onto the floor where the markings are intended, then removed by power washing and left to dry. This method does not remove much of the top coating of the concrete, although it will get the floor pristine clean. It does not therefore give you a good surface for the paint to key to which means it is not particularly durable.



Scabbling

Scabbling machines are very aggressive using a tungsten tipped wheels which bounce off and smash the concrete surface. Because of how aggressive they are they leave grooves in the floor and leave an untidy finish. This also does not remove the entire surface completely which can leave the finish less adequate. They are however good to use to remove previous coatings or adhesives from previous work.

Floor Grinding

Used as much as vacuum shot blasting which requires a generator the floor grinder uses a diamond head that spins on the concrete to remove the top surface of the floor. It is not as aggressive as shot blasting but is easier to paint. However dust does remain on the prepared surface.



Vacuum Shot Blasting

This is the most common preparation. These machines are difficult to run in a straight line and give a “fuzzy” or uneven edge. The edge is therefore only partially prepared. This causes paint flake or bleed issues on the edge, depending on the application type. Using a 2 part epoxy shot blasting is a good economic solution and is the most common preparation which depending on usage and impact by mechanical handling equipment will last from 1-3 years.

Diamond Floor Shaving

This is the most consistent form of preparation for line marking (not solid walkways) providing the best finish achievable for this type of floor marking. These shavers create an extremely straight line that give an excellent standard of prepared surface for a high build epoxy resin to be applied to.



A floor shaver removes 1mm -2mm from the surface which exposes fresh concrete. It is the most aesthetically pleasing preparation and will last three times as long as shot blasting preparations.

Types of Materials used with the preparation

With all these preparations a paint material is required to finish off the solution. The choice of material is important for durability but also in respect to curing times and its impact on the operation.

One Part floor paint/Aerosols

These are solvent based products and when drying the solvents evaporate leaving as little as 50% of material. This makes the finished product less durable.





One part Acrylic is particularly good when marking unprepared concrete. It has good key characteristics believed to be because the solvent attacks the concrete when laid. This paint is an ideal solution for application by roller on unprepared floors. It can also be used on shot blasted lines.

Due to the solvent content in normal conditions, its drying time can be 2-6 hours. Careful consideration should be given to times of the year when temperatures may drop as the solvent will evaporate more slowly, making the installation slower than usual. This is also not suitable in stores where food is open to the environment, as the solvent evaporates it taints the food.

UV Floor Coatings

UV Floor Coatings are a high performance, instant cure coating systems for concrete floors and used with either shot blast or diamond ground preparations.

Performance benefits include:

- Instant curing available for immediate use.
- Skid and tire mark resistant - marks wipe clean.
- No odour - allowing personnel to remain in the area during application.
- Near-zero VOC, no solvents, and 100% solids.
- Can be applied in cold temperatures.
- NSF Certified—safe to be used within the food industry.



2 Part High Build Solvent Free Epoxy Resin

An excellent material for internal line marking on a prepared floor surface either shot blasted, diamond ground or diamond shaved.

The product cures to 100% solid i.e. all that is applied remains on the floor, nothing evaporates. It is possible to use 2 part epoxy that has solvents but this is not advised as there is potential harm can occur from evaporating chemicals and it is less durable as less materials remain.

Curing time is longer and generally 24 hours at 15 degrees C. The longer the curing time the less chance the paint finish will mark.



High Build Polyaspartic Coating

High-build Polyaspartics are fast-cure line marking coatings based on advanced materials, designed to provide coloured tough and durable gloss floor finishes in a range of thicknesses. These coatings light stable with very good chemical resistance and can be applied to a variety of finishes and surfaces. Additional slip resistance can be created by incorporating suitable aggregates. In addition they are extremely low on VOC content so suitable for food environments.

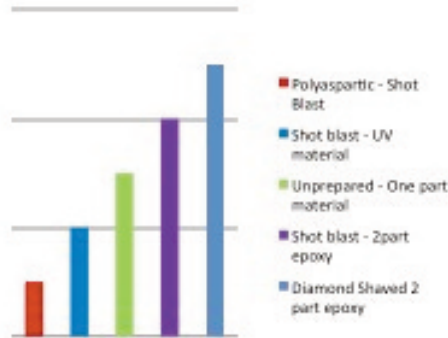


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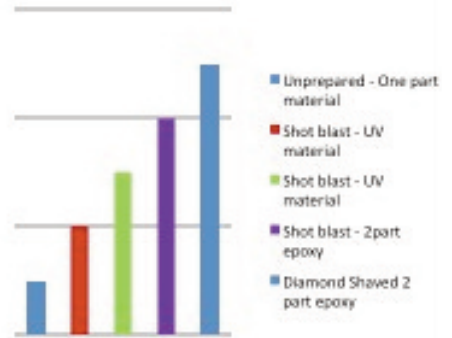




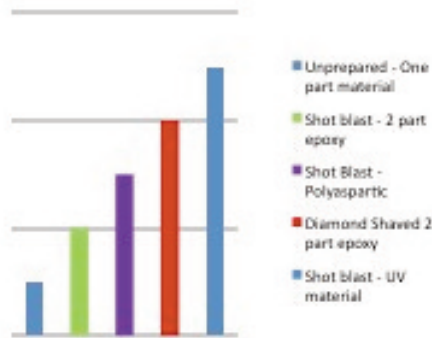
Time to install - Curing Time



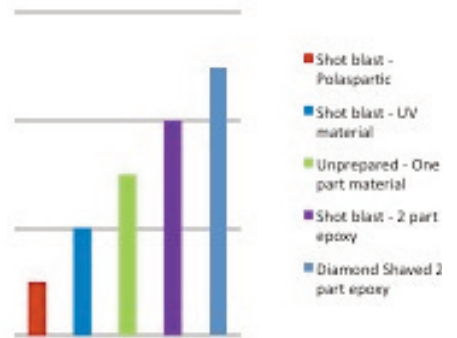
Durability - Prep & Coating



Cost



Impact on Operation



Conclusion

As you can see from the above graphs the key to choosing an appropriate line marking solution is to understand that there are various ones available and that there is always a compromise to be had between choosing the right one for you operation.

A 24/7 operation with heavy mechanical handling equipment may need the most durable preapration but if you cannot stop the operation, when is a company going to be able to carry out the work. In making your decision consider the charts and take advice from a company that offers all the solutions and will give best advice.

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