



Why polish concrete?

Polished concrete has many advantages: it is durable, easy to maintain, cost effective, dust proof, Leed friendly, has increased light reflectivity, and is slip resistant, among other benefits. The life expectancy of a concrete floor will far surpass that of most other flooring surfaces, making it a common choice for warehouses, manufacturing facilities, large stores, schools, hospitals, and government buildings. Polished concrete floors are also becoming more popular in residential homes. Durable enough for heavy machinery, forklift activity, and extensive foot traffic, polished concrete is easy to clean, requiring only occasional mopping. These floors also eliminate the need for special waxes or coatings, as well as the associated labor, time, and expense to apply them. Polished concrete floors are generally no slicker than untreated concrete surfaces and are about 40% less slippery than a hardwood floor, waxed linoleum or polished marble. The high light reflectivity of polished concrete is another important aesthetic benefit, especially for office buildings, hotels, restaurants, and other public facilities that want to project a bright, clean, professional image. Furthermore, polished concrete may be stained, stenciled or engraved to add character and further improve its appearance. The available options for coloring concrete have never been greater, and there is also an endless array of other decorative effects. In short, polished concrete is a popular flooring solution because of its practical advantages, as well as its decorative appeal.

What do I need to get started?

We recommend a complete surface preparation system including: a floor machine(s), vacuum system(s), diamond tooling, chemicals (densifier and sealer) and dyes (optional). It is also important to receive proper training to ensure that your projects are completed in a professional, timely and cost effective manner.

Where can I get trained and certified?

Superabrasive offers 2-day training and certification classes every month at our Hoschton, GA facility. We maintain small class sizes to ensure interactive learning and an in-depth hands-on experience. Our experts teach everything you need to get started in the concrete grinding and polishing industry and become a certified Lavina SPS floor contractor.

Which machine and tooling should I select?

Choosing the proper machine and tooling is critical for the success of the job, and the following questions should be addressed first:

- **How big is your project, and how much time do you have to complete it?** This will determine the size of the machine and vacuum needed, as well as how much tooling will be required. For example, a LAVINA 20[®] PRO is appropriate for small residential projects, like garages or patios, whereas larger residential or commercial projects will require a larger, more powerful machine such as LAVINA 25[®]N PRO or LAVINA 32[®] PRO.
- **How old is the concrete?** Freshly poured concrete floors require at least 28 days to cure. Conversely, older concrete should be inspected for pits and cracks, which may be treated by a product such as Quick Mender[®].
- **What condition is the concrete in?** The condition of the concrete will determine the initial grinding steps needed to prepare the floor for polishing which include coatings or epoxy removal, etc. If the floor is in optimal shape, you may begin with 120 grit plates, but if the floor is uneven and blemished, you should begin with a coarser grit, such as 30.
- **How much aggregate would you like to expose?** If you want to show aggregate, you must grind the concrete more aggressively (longer and deeper) than if you simply want to polish only the cream.
- **How hard is the concrete?** Medium to hard concrete requires soft bond diamond tooling such as metal bond. Conversely, soft concrete requires a harder bond such as terrazzo. All tooling featured in this catalog clearly indicates its appropriate application.
- **How much shine do you want?** If a honed finish with less shine is desired, you may stop polishing after grit 220 or 400. However, a shiny mirror-like finish, will require the complete system up to 3500 or 8500 grit and LAVINA SPS GLOW.
- **Grinding wet or dry?** This will sometimes depend on the job and job site. Most operators prefer the dry process, as it requires less clean up; however, wet grinding is best for some applications. Keep in mind that dry grinding will always require a vacuum for dust removal.

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- **Is your project indoors or outdoors?** This will determine which sealer and dyes are needed. Lavina SPS Glow is appropriate for indoor applications only. Water- and acetone-based dyes are also for indoors only because they are not UV stable. ColorJuice™, however, is UV stable and ideal for concrete porches, patios, driveways, sidewalks and pool decks. Contact us for additional information about your specific job and the appropriate chemicals to use.
- **Do you want to dye the concrete?** Color is entirely optional, and will require the following accessories for application: microfiber mops; air pump sprayers or a special pump sprayer if applying an acetone-based dye; painters tape and masking paper to mask off all areas that should not receive any color. Note: water- and acetone-based dyes are for interior applications only.
- **What are the electrical requirements?** The availability of electrical options can sometimes determine the appropriate machine for your job. Be sure you know the voltage of your machine before plugging it into the circuit. If you have a regular 220V machine, the Lavina Quick 220V system will help you put a 220V 20amp circuit in almost any residential home using 2 separate 110V outlets on different circuits. Never plug a 220V machine into a 480V circuit! A high voltage machine will require a special generator, unless you have access to 480V circuit.

What are the steps for achieving a polished a concrete floor?

Again, the steps for polishing concrete depend on the condition of the existing concrete and the level of shine desired, and can vary greatly from job to job.

Can I skip steps?

No. In order to achieve professional results, it is important not to skip steps.

What is the difference between terrazzo bond and metal bond?

Terrazzo bond tooling is designed for processing soft concrete, while metal bond should be used to grind medium to hard concrete only. It is important to understand the hardness of the concrete before beginning work, as working with the wrong bond will result in short tool life and unsatisfactory results. See page 57 for a selection of hardness testers.

What is the difference between the 3, 4, and 6 button plates? Why are there so many options?

We offer a wide variety of tooling so that operators may customize their equipment for nearly any application. The less buttons on the plate, the more aggressively the machine will grind. Therefore, a three button plate will grind much more aggressively than a six button plate.

How do I decide between grinding dry and grinding wet?

This will often be determined by the location of the job, as some sites are not appropriate for wet grinding. In general, wet grinding is a bit more aggressive than dry, and can be the best option for some jobs that involve coatings removal, etc. Dry grinding requires less clean up, but will always require a vacuum unit for dust removal. In short, the decision to grind wet or dry will be determined by the application, job site location, and preference of the operator.

Why should I densify the floor?

Densifying the floor will prepare the concrete for polishing and is the best preparation for ensuring the best polish possible. Soft concrete floors should always be densified, and in some cases more than one application is necessary.

Why is it so important to clean between steps?

This will remove any residual diamond material from the floor and prevent scratching during the next step.

How many square feet can I process in a day?

This is highly subjective and depends on the condition of the existing concrete and whether you are exposing aggregate or polishing the cream only. Uneven floors, or floors with epoxies and glues that must be removed will take much longer to process. Operators should keep in mind that the grinding portion of the job is the most time consuming, and once the polishing steps are reached, the job will progress much more quickly. In general terms, for jobs that begin with optimal concrete and desire a cream polish only, a LAVINA 16"E PRO may process about 250 square feet per day, while a LAVINA 32" PRO may complete as much as 2500 square feet per day.

How do I know what to charge per square foot?

Again, this is very subjective and will depend on the condition of the existing concrete, level of shine desired by the customer, whether any epoxies or coatings will be removed, whether the floor will be dyed, the current market rate, etc. Contractors should consider all of these variables before quoting a customer, as they greatly affect the amount of time it will take to complete the job.