AKSID CONSULTANCY

GRINDING & POLISHING SOLUTION

AKSID BUILDING THE NATION

Sika BUILDING TRUST




AKSID
ENGINEERING DEPARTMENT

AKSID Corporation Limited, an industry leader in construction, is headquartered in Dhaka, Bangladesh and has been developing the construction sector for over 10 years. Our adaptable, professional teams bring added value to our clients' businesses through our expertise and knowledge.

Highlights:

- 200+ Employees.
- Country Distributor of Sika, World's Largest Construction Chemical Company.
- Handling Infrastructure and Mega Projects all over Bangladesh.
- Clients include Japanese, Thai, Russian, Korean and the largest groups of companies of Bangladesh.

AKSID provides construction solutions and services to all types - large scale infrastructure to industrial developments to local level construction at site. We have professional skilled manpower, tools, and solutions to help all levels of construction all over Bangladesh.

AKSID is the Country Distributor of Sika, a Switzerland based construction chemical company and the largest manufacturer of construction chemicals. Sika is world renowned and has been producing construction solutions since 1912. Through a successful partnership through Sika, AKSID has grown to be the largest supplier of construction chemicals in the entire country.

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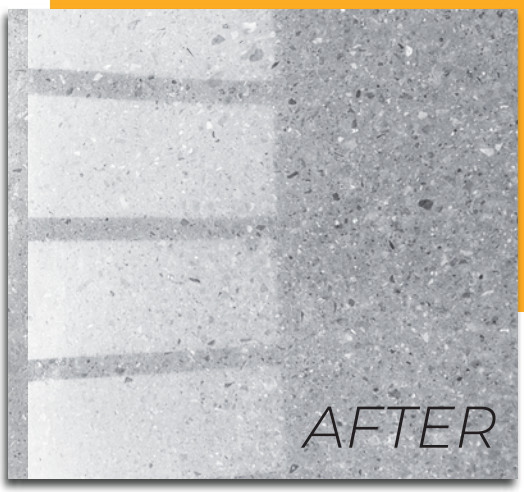
OUR VALUABLE CLIENTS



WHAT IS FLOOR GRINDING & POLISHING

Grinding and Polishing concrete is very similar to sanding wood. Machines equipped with diamond-segmented abrasives (akin to sandpaper) are used to grind down concrete surfaces to the desired degree of shine and smoothness. As when sanding wood, you gradually progress from coarser-grit to finer-grit abrasives. (In this case, grit is the particle size of the diamond.) The result is a glossy, mirror-look finish.

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CAN ALL CONCRETE BE POLISHED ?

Almost any structurally sound concrete floor can be polished. But there are some exceptions:

- Before polishing new concrete, wait until the concrete has cured to sufficient hardness (generally 14 to 28 days after placement).
- Existing floors that need extensive patching or are extremely soft and porous may not be good candidates for polishing. You can test the floor hardness in several spots by using a screwdriver or coin to scrape or abrade the surface.
- For badly spalled surfaces, you may need to remove the surface layer of concrete using a scarifier.
- Only concrete casting with stone chips can be grinding and polish. **Brick chips concrete and very low grade concrete is not suitable for this process.**
- This process could do only in horizontal way not any vertical surface (such as shear wall, retaining wall, decorative vertical wall) , but at the bottom of the wall or surface it could do polish 12 inches more or less

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BENEFITS

- Ease of maintenance is the key reason why many warehouses and retail facilities are choosing polished concrete.
- Easy to clean, requiring only occasional damp mopping or buffing with a neutral pH floor cleaner. It also holds up extremely well to heavy forklift and foot traffic.
- Floor Grinding & Polishing also eliminate the need for messy waxes or coatings as well as the associated labor, time, and expense to apply them.
- The high light reflectivity of polished concrete is another important benefit, especially for office buildings, hotels, restaurants, and other public facilities that want to project a bright, clean, professional image.
- Polished concrete is also a good alternative for homeowners or businesses that can't afford marble or granite floors but want the same brilliant, mirror-like finish.
- It's even possible to replicate the look of stone or terrazzo by exposing the aggregate and using various coloring techniques.
- Although using water does help prevent the user from being exposed to large amounts of dangerous dust particles, it leaves a slurry like paste which needs to be cleaned up and disposed of appropriately.

DECORATION WITH POLISHED CONCRETE

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DIFFERENT TYPES OF CONCRETE SURFACE 1

There are so many types of concrete surface we can go for floor grinding, such as

1. Singles mix concrete (Mainly service for taking compression)
    a. Parking side area
    b. Internal walk way
    c. Roof top garden area
    d. Out side garden walk way
2. ½" Down Ready mix concrete
3. ¾" Down Ready mix concrete

Most coatings and minor surface imperfections can be removed by diamond grinding. However, if the floor exhibits major cracking and joint spalling, you may need to resort to other remedial methods.

DIFFERENT TYPES OF CONCRETE SURFACE 2

There are so many types of concrete surface we can go for floor grinding, such as

4. Very much rough concrete surface
5. Undulated surface (Up to 5mm)
6. Damaged NCF surface
7. Patten Stone Surface
8. Damaged tile and PU floor area

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STEP 1 IDENTIFY THE CONDITION OF THE CONCRETE

If you plan to polish an existing concrete floor, you must first evaluate the condition of the surface you're dealing with.

Here's what to look for:

- High or low spots
- Spalling at joints
- Minor cracks and blemishes
- Existing sealers, paints, or epoxy coatings
- Adhesives or mastics remaining after removal of floor coverings

Most coatings and minor surface imperfections can be removed by diamond grinding, as described in Step 2. However, if the floor exhibits major cracking and joint spalling, you may need to resort to other remedial methods.

STEP 2 SURFACE PREPARATION

The first step in polishing concrete is to remove any existing sealers and coatings. If the floor has only minor blemishes or a very light coating, you can move on to initial rough grinding **(Step 3)**.

For thick elastomeric membranes, mastics, epoxies, and urethanes, it will be necessary to go over the surface with coarse diamond tooling which is specifically designed for removing heavy coatings and mastics, or damage PU coating this tool achieves high removal rates, often completing the job after one pass. At this stage you should also fill any cracks and control joints in the floor with **Sikamonotop 711** Concrete repairing morter, making sure to level the filler at the surface. This will help to repair the con- crete at the damaged area such as pin hole and hair crack.

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STEP 3 DENSIFY THE CONCRETE

After performing initial coarse grinding with the metal-bonded diamond abrasives. It's often beneficial to apply a liquid chemical hardener to the concrete to help solidify and densify the surface and provide extra protection from water penetration and staining. Hard concrete also produces a better polish.

Chemical hardeners are sold under different trade names, but are usually made of sodium-, potassium-, or lithium-based silicates. These products, which can be applied to new or existing floors, work by reacting chemically with the calcium hydroxide in the concrete to form a hard, crystalline structure.

Using a stiff-bristled broom, apply the hardener liberally to the work area, being sure to keep the surface saturated. Allow the hardener to penetrate into the surface for about 30 minutes, and then remove any excess using a squeegee or floor scrubber. Before proceeding to the next step, let the hardener cure for 12 to 24 hours, or as instructed on the container.

STEP 4 BEGIN SMOOTHING

Now you're ready for initial rough grinding of the concrete surface, which will prepare it for final smoothing. This is generally a three- to four-step process, depending on the condition of the concrete. In most cases, you'll start with a course 40-grit diamond segment bonded in a metallic matrix. After a few passes over the surface with the 40 grit, repeat the process with the finer 80-grit and 150-grit metal bonded abrasives. Each diamond grit step requires an average of two passes, depending on the density of the concrete. If the floor is in relatively good condition (clean, level, and blemish free), you may be able to start the polishing process with an 80 or 150 grit.





STEP 5 FINAL POLISHING

We are now ready to give the concrete surface a fine polish using diamond abrasives embedded in a resin matrix. Typically, this step will follow our last pass with the 150-grit metal-bonded abrasive. Start by polishing with a 100-grit resin bond. Then switch to ever-finer grits (200, 400, 800, etc.) until the floor attains the desired sheen. For an extremely high-gloss finish, have to go up to a final grit of 3000. With each successive pass, the goal is to buff out the scratch pattern from the previous pass (a process called lapping.


PROTECTING POLISHED CONCRETE

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SUMMARY OF THE BASIC POLISHING STEPS

1. Remove existing coatings (for thick coatings, use a 16 or 20 grit diamond abrasive or more aggressive tool specifically for coating removal, such as a T-Rex ™).

2. Seal cracks and joints with an epoxy or other semirigid filler.

3. Grind with a 30 or 40 grit metal bonded diamond.

4. Grind with an 80 grit metal bonded diamond. Grind with a 150 grit metal bonded diamond (or finer, if desired).

5. Apply a chemical hardener to densify the concrete. Polish with a 100 or 200 grit resin-bond diamond, or a combination of the two.

6. Polish with a 400 grit resin bond diamond.

7. Polish with an 800 grit resin bond diamond.

8. Finish with a 1500 or 3000 grit resin bond diamond (depending on the desired sheen level).

Optional: *Apply a stain guard to help protect the polished surface and make it easier to maintain.*

AKSID'S LIST OF
FLOOR GRINDING EQUIPMENTS

Handheld polisher or
walk-behind edging tool.

Set of diamond-segmented
abrasives for floor polishing

Diamond grinding stone

Scrapper for floor repair

Chemical application tool

Small grinding machine
for corner area

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OUR OTHER SOLUTIONS

Concrete Repair

Industrial Flooring

Concrete Injection

Grouting

PU Flooring

Roofing

Waterproofing

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