

Professional Concrete Coating & Flooring Guide

All-in-one manual for selecting materials and the installation process

This Walttools concrete coating guide is all you need to learn or develop your concrete coating skills. We will walk you through how to perform each step of the process from ensuring you have the right supplies and floor prep to the final coating installation. This all inclusive guide also provides you with all of the information needed to make a decision on what resin (coating material) you should use for your floor.

Come visit our store, or contact us with any questions about our coating systems.



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General Guidelines and Tips for Epoxy and Polyaspartic Floor Installation:

Timeline for different floor systems for 1-3 car garage sized project (no difference in quartz vs flake)

- Epoxy HP (with primer layer): 5-16 hrs labor + 20-30 hrs wait (done in 3 days)
- Epoxy HP (no primer): 4.5-14.5 hrs labor + 10-18 hrs wait (done in 2-3 days)
- Polyaspartic 85 (with primer layer): 5-16 hrs labor + 8-14 hrs wait (done in 1-2 days)
- Polyaspartic 85 (no primer): 4.5-14.5 hr labor + 4-8 hrs wait (done in 1-2 days)
- Adding a second layer of top coat adds about 30 min to 2 hr of labor after a 4-12 hr wait time

Installation Environment

- The installation guide we provide is based on installation at 70°F with 50% relative humidity.
- You can install in a variety of conditions, but working in higher temperatures will cause the material to set much faster, and conversely for lower temperatures.
- We recommend grinding over pressure washing. You want your concrete to be moisture free.

Mixing

- You can use any mixer you have available, but we recommend using a [helix mixer](#).
 - The key to properly mixing Epoxy HP, Polyaspartic, and all of our two part coatings is to go slow. Mixing at high speed will incorporate a lot of air and lead to bubbles forming in the coating.
 - Settling can occur in each part A and part B. So, always start by mixing each container separately. Ensure that nothing has settled to the bottom and if it has, use the mixer to redisperse the material.
 - Epoxy [3 min mix time], Polyaspartic [30-60 sec mix time]
 - Always **mix the resin first**, then add RZ Tint, metallics, sand, tru matte, etc
 - Never leave mixed resin in the container. Pour your material as soon as possible.

Process Overview and Checklist

Step 1 - Surface Preparation, Cleanup and Taping

- Floor Grinder & Accessories (RENT IF NECESSARY)
- Hand Grinder
- Turbo Disc
- Crack Chase Blade
- Putty Knife
- Shop Vacuum
- Heavy Duty Masking Tape
- Sand (to fill cracks and joints if desired)
- Epoxy HP or polyaspartic 85 to create filler
- Drill for Mixing
- Helix Mixer
- Measuring & Mixing Container

Step 2 - Optional Primer Coat (Only applicable to three coat systems)

- Primer Coat of Essential Epoxy Primer or Polyaspartic 85
- Window Squeegee
- Measuring & Mixing Container
- Drill for Mixing
- Helix Mixer (Drill mixing attachment)
- Spike Sandals

Step 3 - Base Coat and Chip or Quartz Broadcast

- Base Coat of Epoxy HP or Polyaspartic 85
- RZ Tint
- Measuring & Mixing Container
- Drill for Mixing
- Helix Mixer (Drill mixing attachment)
- Notched Squeegee
- ¼" nap Epoxy glide roller

- Vinyl chips or quartz
- 5 gallon bucket for broadcast
- Spiked Sandals

Step 4 - Broadcast Cleanup, Touch-ups, and Topcoat Prep

- Measuring & Mixing Container
- BroomBr
- Floor Scraper
- Drill for Mixing
- Helix Mixer (Drill mixing attachment)
- Paint Brush
- Small amount of flakes or quartz

Step 5 - Top Coat(s)

- Top coat of AU 85, Polyaspartic 85, WBU M, or WBU G
- Measuring & Mixing Container
- Flat Squeegee, notched squeegee roller, floor applicator tool
- Drill for Mixing
- Helix Mixer (Drill mixing attachment)
- Paint brush (for small spaces)
- Spiked Sandals

Step 0 - Choosing a Material

You have the option to use Polyaspartic or Epoxy for your coating system. Both resins are formulated to deliver the same coverage rates and can be tinted to achieve virtually any color. Each system can be installed with either vinyl chips or quartz broadcast, and both are viable options for DIY installation when proper preparation and application steps are followed. Both also provide up to a 24-hour recoat window with proper bonding conditions and should be mixed at low speed using a non-aerating mixing head.

Material Comparison

<u>Polyaspartic 85</u>	<u>Epoxy HP</u>
<ul style="list-style-type: none"> • Quick recoat time 4-6 hours depending on conditions. If you are not experienced, the material can set up quicker than you might expect. • If you have done coatings before, then we recommend this option because you can complete the labor in one day. • Longer pot life, but sets up quicker on the concrete • Higher UV and abrasion resistance. • Can be paired with a different topcoat or used as a topcoat itself. 	<ul style="list-style-type: none"> • Longer set time 8-16 hours depending on conditions. You can spread the work across 2-3 days while the bonding window is still open. • Shorter pot life, but longer working time on concrete surface. • It's not a matter of IF, epoxy will yellow if directly exposed to UV. Epoxy is also more likely to scratch. • A hardy topcoat can protect the main epoxy coat. Additionally, if you do a full broadcast of chips or you do a quartz floor, then the bulk of the epoxy is not even visible or exposed to wear, making it a viable less expensive option.

Step 1 - Surface Preparation

We cannot stress the importance of surface preparation enough

This is the key step that determines the long term effectiveness of your coating.

Before doing or planning anything, please ensure the following:

1. The concrete you plan to install the coating on has been cured for at least **30 days**.
2. The concrete is not permanently wet and does not contain any chemical contaminants.
 - a. We will cover vapor emissions and how to assess this in the next step
3. You have access to a floor grinder. Whether you are installing a floor for your own garage/ other floor or you are a professional, the use of this tool is extremely important.
4. In addition to a grinder it is highly recommended(though still optional) to also seek the use of a shotblaster.
 - a. **If you do not own a walk behind floor grinder and shot blaster, they are usually available to rent from various rental companies (you can use a hand grinder, but good luck):**
 - i. Home Depot
 - ii. Herc Rentals
 - iii. SunBelt Rentals
 - iv. United Rentals
 - v. Use your web browser and search “Concrete floor grinder rental” and find a business with a location near you.
 - vi. Selecting a grinder with higher horsepower is obviously going to make grinding more efficient, but selecting a grinder that works on your home’s electrical capabilities is going to make your project easier
 - vii. Shot blasters are usually available in a single size. If you go this route, make sure you also get the magnetic sweeper to pick up stray beads.
5. You will have to remove everything from the surface for a couple of days (cabinets, furniture, equipment, etc) and leave your car out of the garage for 3-7 days.

Crack Repair: 15 min - 1 hr

Repair time depends on how many cracks you have on the surface.

This can be done before the space is cleared if you can access the cracks, but we recommend clearing the space to prevent dust spreading to your items.

1. This step is optional, but by performing these key steps, your floor will look more like it was installed by an experienced professional.

2. Now let's walk through how to handle these imperfections in the floor (they will most likely lead to a visible imperfection if you apply the coating over the top with no correction made).
3. Depending on the size, you may need to open the crack with a grinder. This will require a hand grinder with a crack chase blade. The reason it is ground is because it needs to be widened so that it can be filled with sand, and the surfaces of the opening need to be prepped for bonding with your Epoxy or Polyaspartic resin.
4. Once you have the cracks prepped, take the sand and sprinkle it into the cracks. You can use a putty knife to spread the sand, you can simply use play sand from your local hardware store. Be sure to not leave sand piled above the level of the floor. The silica and quartz in the sand is harder than the concrete and it will not want to level back out easily when you grind later, and you may have a protrusion where the cracks existed.
5. After you clean up the excess sand, you need to grab your epoxy or polyaspartic resin and mix a small batch. You will not need a lot of material to fill the cracks. Unless you have a lot of very wide/ deep cracks, you should likely not need more than a couple quarts of material *total*.
6. Measure and mix the material and have your putty knife ready to use. Pour the material over the sand filled cracks and give it a little time to flow into the space below. Use the putty knife to spread any uneven material along the length of the crack. If the resin ends up above the level of the floor, this is acceptable because it will grind off easily in the next phase.

Dealing with Control Joints: 30 min - 1.5 hr

This is an optional step that is mostly dependent on style preference.

Filling control joints allows for a continuous look that makes it easier for cleaning because dirt and grime has nowhere to settle into.

Depending on the size of the project, you may want to order an extra 3 quart kit of material to complete this process.

There is a risk involved with this, especially in freeze-thaw locations, because the expansion and contraction of the concrete can lead to a crack or a disturbance in the surface of the coating.

1. Clean and grind the area in and around the joints. You can use a hand grinder with a turbo disc if the joint is wider/ more open, otherwise you can use a crack chase blade to prepare the surface. Vacuum the joints to remove dust before applying the grout material.
2. If you choose to perform this step, you can use sand & epoxy or polyaspartic slurry. We recommend using polyaspartic because of the longer pot life and quicker set time. It also cures out to be extremely hard.
3. Mix the epoxy or polyaspartic following our mixing instructions. Then add the sand to the mixture. You want to add the sand until it is at the same level of the resin. There should not be any clear material sitting above the sand. The key features you want from your mixture is that it can still flow, but it is thickened up and has some body to it from adding the sand.
4. You will want to have the mixture in a container that you can easily pour precisely. Pour the slurry into the control joints up to the surface. Use the putty knife to clean the surface up and spread along the length of the joint. **DO NOT LET THE MIXTURE SIT IN THE CONTAINER AS YOU'RE CLEANING JOINTS. POUR INTO THE JOINTS ALL AT ONCE THEN RETURN TO FIX.**

- i. If the mixture is still flowable you should be able to pour to the top of the joints easily. If it goes above the level of the floor slightly, that is fine, it will be grounded off in the next step.

Floor Grinding and Prep: 1 - 6 hr

Grinding time depends on how uneven your floor is, and the size of the area.

Some grinding equipment manufacturers state 200-250 square feet per hour at 1/32" removal with a 10-11" grinding diameter.

You will need to clear the surface of everything (cabinets, equipment, cars, etc)

1. Discuss with the rental company/ manufacturer of the floor grinder to determine proper setup and use. You should be set up with tooling that can grind your floor to a concrete surface profile (CSP) of CSP-2 or CSP-3.
 - a. CSP-3 is rougher and the preferred surface profile for doing thicker, professional grade quartz and vinyl chip flooring. This is more difficult to achieve with just a grinder. To ensure this level of roughness, this would require the use of a shotblaster which is typically more expensive to rent in addition to the grinder.
 - b. CSP-2 will provide you with a profile that will work sufficiently for a lighter coating thickness.
2. Grind the floor until the floor feels relatively rough. Similar to a 60 grit sandpaper. While grinding you should have the vacuum hooked up to the grinder for dust collection. Get as close to the edges of the room as possible, the more you leave, the more you will have to grind by hand.
3. If you want to profile your floor more aggressively, you can rent a shotblaster. This is a step beyond DIY, and the rental cost for shot blasters is much higher than renting the floor grinder. However, if you want to be extremely thorough, then talk with your local equipment rental company about renting a shot blaster and any information you need to know about operating.
4. You can grind the edges of the floor with a hand grinder and a turbo disc. Grind the foundation as well if there is a curb that protrudes above the floor and you have elected to include that in your coating. We recommend doing this as it provides a very complete and professional finish that the typical DIY kits can not provide.
5. Next, for the best results you will want to use a shotblaster to clean the entire floor. This will ensure you have the cleanest, dustless floor possible. This machine fires tiny metal beads into the floor knocking up all the embedded dust and it is under suction so it acts like a vacuum.
6. If you did not blast, you must use the vacuum to clean up the remaining dust on the floor. This must be done very thoroughly. Any dust left on the surface will increase the chance the epoxy and polyaspartic lose adhesion/ bonding to the concrete surface.
7. Finally, use a heavy-duty masking tape for edges and rosin paper for any surfaces you want to *ensure* will not get any material splashed, flicked, or sprayed onto it. We can guarantee you that if you are not very careful, there will be some rogue material going somewhere you don't want it to.

Step 2: Applying the Primer

(Optional) Primer Coat:

Application: 15 min - 1 hr

Epoxy recoat time: [8-12 hrs] Polyaspartic recoat time: [4-6 hrs]

We know that saying something is optional can lead to confusion. So, to be more specific, the primer coat is **conditional**.

Do I need a primer coat?

Potential Moisture Issues

- A quick way to test whether your surface has a moisture problem is with a piece of plastic. Take a clean piece of flat clear plastic (size doesn't matter) and tape it to the surface of your concrete. All sides should be taped securely (get it as "airtight" as you feel you can).
- Let the piece sit in place for 12-24 hours.
- If you come back and there is condensation on the plastic surface or the concrete is darkened due to moisture under the plastic, then this means that moisture is being emitted from the slab.
 - How to assess what to do from here?
 - If there is no moisture and your floor passes the porosity assessment, then you can **opt out** of a primer coat.
 - If there is seemingly minimal moisture emission, then you should **opt in** to using Walttools essential primer epoxy or polyaspartic 85 as a primer coat.
 - Signs of minimal moisture is the concrete being mildly moist and there is not a large amount of condensation on the plastic.
 - If you are unsure, we recommend doing another test in a different spot.
 - If there appears to be heavy moisture emission, then we recommend getting the slab tested via ASTM F-1869.
 - First you need to purchase a Vapor Transmission Test Kit. You can purchase this from radonseal.com (SKU:800)
 - You can find a copy of the official test by searching for "ASTM F-1869", but in summary you weigh the testing dish before the test (a food scale works fine for this test). Then you seal the apparatus to the cleaned floor and let it sit for 48-72 hours (it is important to know the exact number of hours. Then you weigh the testing dish after the test.
 - **Use this equation to calculate the emission rate:**

$$\text{RATE} = 24000 * (\text{final weight} - \text{starting weight}) / (453.612 * (\text{testing area}) * (\text{testing time in hours}))$$

- If the number ends up greater than 3 lbs / 1000sqft / 24hrs, then you will need a special vapor barrier epoxy to use a primer. If the number ends up lower than 3, then you should use a primer coat of essential primer epoxy or polyaspartic 85.

Highly Porous Surface

1. After you grind the surface, you need to assess the porosity of the concrete.
 - a. If it still looks relatively “hard” and there are only small voids/ holes, then your surface profile is conducive to **opting out** of a primer coat.
 - b. If your concrete surface looks like a foam or like swiss cheese then we highly recommend that you **opt in** to using a primer coat of your essential primer epoxy or polyaspartic 85.
 - c. Why does porous concrete require a primer coat?
 - i. A thin primer coat seals off the holes & voids in the concrete that are full of air.
 - ii. If you have porous concrete and start with your thicker broadcast/ base coat: some voids are too small for the material to flow into when rolled/ squeegeed across the floor. When the coating sits above a pocket of air, it is likely that the air will want to rise up into the coating and create bubbles. These bubbles ruin the surface of the coating and add imperfections to the surface.
2. Start by mixing the essential epoxy primer or polyaspartic in the proper ratio. For this coat, each gallon of material should cover 250-300 square feet. Always plan to have more, but fortunately if you run short, you can quickly mix more and apply to cover un primed spots.
3. Ensure that you are wearing a pair of spiked sandals before you start.
4. Once your material is mixed, spread the material across the first section of the floor in ribbons. What this means is that you should be pouring out the material so that it looks like a long rectangle. Pour into various rows evenly across your current section.
5. Installation of the primer coat is done with a flexible squeegee. This ensures that the primer coat is installed very thin and evenly. The concrete should look a little bit wet or darkened after you apply the primer, this means that the primer is working to seal the next layer from the bare concrete and will reduce bubbling and protect from minimal moisture.

Step 3: The Main Coat

Application of resin and broadcast media: 1 - 3 hrs

Epoxy recoat time: [8-12 hrs] Polyaspartic recoat time: [4-6 hrs]

You can choose vinyl chips or quartz granules.

Having more than one person makes large spaces easier.

Tinted Resin Base Coat Application

1. If you did a primer coat, make sure that the surface is ready to be recoated. We recommend that you coat as soon as the coating becomes tack free. When you press a finger lightly against the surface, you should not feel the coating pull your skin when you remove your finger and your finger should not leave an impression on the surface.
2. **Now, the surface is ready for the base coat to be applied. For vinyl chip or quartz flooring, we recommend to plan for the following coverages:**

Base Coat Coverages for Vinyl Chip Floors

Epoxy (with primer coat)	Polyaspartic (with primer coat)	Epoxy (NO primer coat)	Polyaspartic (NO primer coat)
150 sqft/ gal	150 sqft/ gal	100 sqft/ gal	100 sqft/ gal

Base Coat Coverages for Quartz Floors

Epoxy (with primer coat)	Polyaspartic (with primer coat)	Epoxy (NO primer coat)	Polyaspartic (NO primer coat)
175 sqft/ gal	175 sqft/ gal	150 sqft/ gal	150 sqft/ gal

RZ Tint recommended dosage: TWO 6 oz. containers per 3 gallons of resin. (4 oz/gal)

3. To start, gather all the necessary supplies listed for this step.
4. You will need to measure the epoxy or polyaspartic and the RZ Tint color in the proper ratio (2A:1B) using a mixing bucket with markings. You will likely have to mix in batches. **DO NOT MIX AHEAD OF TIME TO HAVE YOUR MATERIAL READY.** Having a large volume of resin mixed in an enclosed space (bucket) will accelerate

the reaction and will make it unusable. Use our section planning sheet to ensure that you are prepared for what you have to mix for each section of your space. This is a huge added convenience and you will feel the added stress if you have to calculate on the fly.

- a. You should mix the epoxy for **3 minutes** and the polyaspartic for **1-2 minutes** to ensure proper mixing.
 - b. When mixing material, go slow. Going faster can incorporate air into the resin which will create bubbles in the surface when you lay it down.
5. Before you start spreading material, make sure you have spiked sandals on. Be very careful walking with the spiked sandals on, it can be very slippery.
 6. Once your material is mixed, spread the material across the first section of the floor in ribbons. What this means is that you should be pouring out the material so that it looks like a long rectangle. Pour into various rows evenly across your current section. **DO NOT LET THE MATERIAL SIT IN THE CONTAINER LONGER THAN 10-15 MINUTES.**
 - a. Avoid pouring all of the material into one big pile thinking that you will just spread it out with the squeegee. Waltools epoxy and polyaspartic flow better than other manufacturers, so when you try to pull a large volume of material, it will want to flow out and back instead of staying under the control of your squeegee blade.
 7. Once you have the material down, use an 1/8" notched squeegee to spread the material out to an even thickness. If there is variation in the surface of your floor, ensure that the material does not flow *off* the high spots and into the low spots.
 - a. In addition to the notched squeegee, you can backroll the material to get an even spread.
 - i. For backrolling Epoxy HP and Polyaspartic 85, we recommend using: [Epoxy Glide Roller Cover ¼" nap](#), 9 or 18 inch (the small price difference for the bigger size is totally worth it, you will save so much time)
 - ii. A tip for this is to use the color of the resin to determine how even it is spread. The thinner the coat, the lighter the color will be. So the roller is a great tool to redistribute the material when there is only a small difference in thickness throughout the area.
 8. Continue to mix and spread until the entire floor is coated.
 9. If you are planning to apply the coating to the footing curb or stairs in the garage you can use the roller to coat the vertical surfaces. If you don't have enough control over the roller or it is a hard to reach spot, you can use a brush (make sure it is solvent resistant).
 - a. If you are using a brush or rolling the material on to a surface, be sure that you do not coat it too thick. The resin should not be drooping or sagging, it should be thin enough to be even thickness and hold itself to the surface. It is easy to over apply with a brush, so be careful to make sure you spread properly.
 - b. If you do not want chips or quartz on your stairs, we have a solution for that. You will have to mix a separate batch of material with our product called tru-grip. Use the tru-grip directions for proper dosing. This will create traction on the stairs, but will allow the tinted resin to be a solid color instead of the chip or quartz look.

Applying broadcast media:

Which broadcast media should you use?

Plan for the following coverages to achieve full coverage

Vinyl Chips Full Coverage	Quartz Coverage
<p>Plan for 8 sqft / lb Can range from (5-10 sqft / lb) due to variations in chip size and orientation</p>	<p>1 lb sq/ft</p>

Vinyl Chips	Quartz Granules
<ul style="list-style-type: none"> ● Vinyl Chips are very easy to get right. <ul style="list-style-type: none"> ○ Because they are larger, lighter, and tend to “flutter” slightly more than quartz they are easier to make appear in a random configuration. ● You can choose to do a partial broadcast or a full broadcast. <ul style="list-style-type: none"> ○ A full broadcast requires more chips, but leads to more of a non-slip floor. ○ A partial broadcast leaves the base coat resin visually exposed which can be a design choice if you like the color that the RZ tint provides as the base color. ● A vinyl chip coating is extremely common for DIY garages. 	<ul style="list-style-type: none"> ● Quartz provides superior resistance to abrasion and slip. <ul style="list-style-type: none"> ○ It creates a very rough and hard surface that can stand up to heavy traffic and harsh applications. ● Quartz is more difficult to broadcast evenly. <ul style="list-style-type: none"> ○ The smaller, heavier pieces tend to fall in the exact orientation that they leave your hand. This means you need to agitate the particles as you toss them outwards and create an even “raining” effect with the quartz. ○ If not done correctly, you can get “streaks” where you can tell the direction of the tosses. ● Always applied in full broadcast. <ul style="list-style-type: none"> ○ The application process is two passes with the throws going in different directions.

Broadcasting Vinyl Chips

1. Make sure that you are wearing spiked sandals for this process.
2. For broadcasting, it is very convenient to put the vinyl chips into a 5 gallon bucket with a handle. You can keep them in the packing they come in, but it is much more difficult to broadcast while holding a box or a bag.
3. The process is quite simple, take a handful of chips and throw them up and away from you. The goal is to create an even distribution of chips. You do not want to throw them down at spots, this can create imperfections in the surface by disturbing the wet resin and lead to weird chip orientations.

4. How do I know when there's enough chips?

- a. If you are doing a full broadcast, meaning you want the chips to cover the entire floor with no gaps, then keep throwing the chips until the next chips you throw would just be sitting on top. This means you are throwing until rejection. Don't worry, the extra gets taken off later.
 - b. If you are doing a partial broadcast, then the amount of chips you throw is a personal choice. Stop throwing chips when you like how it looks. Just be sure to keep the chip density consistent throughout the floor and if you went light on purchasing chips, make sure you ration them for the entire floor.
5. To complete the edges of the floor, foundation curbs, or stairs, get up close and try to use the same broadcast technique. You may not need to throw as large of a handful. Just shake the chips out over the smaller areas to get precise coverage.

6. If you are doing a partial broadcast, you have:

- a. **Epoxy HP: 24 hour window** (maximum) to apply the next coat.
- b. **Polyaspartic 85: 12 hour window** (maximum) to apply the next coat

YOU DO NOT WANT TO RUN OUT OF CHIPS WHEN YOU ALREADY HAVE THE COATING DOWN. ORDER MORE THAN YOU THINK YOU NEED.

Broadcasting Quartz Granules

1. Make sure that you are wearing spiked sandals for this process.
2. For broadcasting, it is very convenient to put the quartz into a 5 gallon bucket with a handle. Be sure not to fill it up too much as it can get heavy quickly. You can keep them in the packaging they come in, but it is much more difficult to broadcast while holding a box or a bag.

The process for quartz takes two passes of broadcasting. Each pass you take, you should be throwing in a different direction.

3. The first pass of the broadcast should be about 60% saturation. So, based on your calculations, you should be using about 60% of the total amount.
 - a. The broadcast technique is taking a handful of quartz and throwing it outward. You should not let quartz come to “rest” in your hand, it should go directly from the container to being thrown in an arcing motion. The quartz should not come out of your hand all moving together, this will lead to streaks or “blobs.”
4. The second pass should be the rest of the quartz (about 40%), broadcasted until rejection. So, keep throwing it until the quartz just sits on top of other quartz and is not dropping into the coating anymore.
 - a. Use the same technique, but for this pass, throw it in a different direction than the previous pass. If the first pass started on the east wall and worked west, then the second pass should be working north to south or south to north.

Step 4: Top Coat Prep and Touch-ups

Scraping off Excess Chips

Scraping time: 15 min - 2 hr

- **Epoxy HP: wait 10-18 hours before scraping**
- **Polyaspartic 85: wait 4-6 hours before scraping**

This depends on the temperature and environmental factors, so it is best to judge based on the following factors:

- The coating should not be tacky.
 - The coating should not depress from light foot traffic.
 - If you are doing full broadcast, the roughness of the chips lends to greater bonding of the top coat. This means that if you fail to apply the top coat before the recoat window, there is no need to panic, the top coat will still be securely bonded.
 - However, it must be noted that if you wait too long, the surface could become full of unrelated contaminants that *will* reduce adhesion of the next coat. So, we recommend that you finish the project as quickly as possible.
7. For a full broadcast application, you will need to use a scraper to clean up rogue chips and due to the chips being brittle, you will be breaking off the sharp edges that end up sticking out of the coating.
- a. We recommend using the Kraft Steel Smoother (KR-GG608). Our team of professionals say that this tool surpasses other similar items for efficiency, effectiveness, and ease of use.
8. When scraping the excess chips off the top surface, it is important that you keep the scraping tool at a shallow angle. If you approach the surface at a steep angle, you risk gouging the coating because it is still young and soft compared to what it will become.
9. Once you have thoroughly scraped the entire floor and any other surfaces (foundation curbs, stairs, etc) now you need to clean up the excess chips. Use the same shop vac you have available to vacuum the entire floor thoroughly.

Cleaning up Excess Quartz

Cleanup : 15 min - 2 hr

5. If you are using
 - a. **Epoxy HP: wait 10-18 hours before proceeding.**
 - b. **Polyaspartic 85: wait 4-6 hours before proceeding**

This depends on the temperature and environmental factors, so it is best to judge based on the following factors:

- c. The coating should not be tacky.
 - d. The coating should not depress from light foot traffic.
 - e. **The roughness of the quartz lends to greater bonding of the top coat. However, the quartz does not completely cover the base coat like a full broadcast of vinyl chips. So, to ensure proper bonding:**
 - i. **Epoxy HP: 24 hour** window (maximum)
 - ii. **Polyaspartic 85: 18 hour** window (optimal) **24 hour** window (maximum)
6. You will need to use a broom to sweep the floor and other surfaces to dislodge any weakly bonded quartz granules. Do not sweep too aggressively as this can lead to
- a. We recommend using the Kraft Steel Smoother (KR-GG608). Our team of professionals say that this tool surpasses other similar items for efficiency, effectiveness, and ease of use.
7. Once you have thoroughly swept the entire floor and any other surfaces (foundation curbs, stairs, etc) now you need to clean up the granules. Use the same shop vac you have available to vacuum the entire floor thoroughly. Loose quartz can lead to imperfections in the top coat.

Repairing Blemishes

Touchups: 15 - 30 min

1. Once you have scraped the floor and/ or vacuumed, scan the floor for any spots where chips or quartz is missing/ got pulled up.
2. You will need to mix up a small amount of resin. If you do not have any RZ tint, that is fine, it can be uncolored.
3. Use a brush to lightly coat the bare spot/ imperfection and sprinkle chips or quartz over the top of this touch up spot.
 - a. To remain within the recoatable window of the base coat, as long as you are careful scraping the chips off this spot or making sure they are not disturbed in the next steps, then you can proceed (not necessary to wait to be within the foot traffic window unless the touch up is a large spot).

Step 5: Top Coat(s)

Do I need to do one or two layers?

Completing your seamless flooring project with a single layer of top coat provides higher traction. If you are doing a quartz floor, we recommend doing a single top coat, but there is an exception to this. In the coverage recommendations below, you can see that the first layer of top coat for quartz is thicker than for chip floors (because it is broadcasted into a thinner layer of base coat). If you start piling on layers, then you will lose the high traction that the quartz floor provides. If you want to do a two layer top coat, then you can elect to split that thickness into two thinner coats being applied at 200-250 sq ft / gal.

The reason for doing a **two layer top coat** is to provide **more protection** by finishing the exposed surface with a more durable material or because you want a **smoother surface**. Additionally, if you want a low sheen finish, electing to do a second layer unlocks the ability to use WBU M which is an extremely durable water-based urethane that has a satin (low-sheen) finish instead of the typical high-gloss look that most floors have.

SPECIAL CASE FOR PARTIAL BROADCAST:

If you did a partial broadcast of chips, then your system is different from a full broadcast. Your application of the first layer of top coat is the same process and options as the second layer for the full broadcast systems. If you did a partial broadcast, we recommend finishing with two layers of topcoat to provide full protection. Proceed to the second layer top coat instructions.

First Layer of Top coat options:

Coverages for TOP COAT on Vinyl Chips (full coverage)

Polyaspartic 85	Epoxy HP	AU 85
175 sqft / gal	175 sqft / gal	175 sqft / gal

Coverages for TOP COAT on Quartz

Polyaspartic 85	Epoxy HP	AU 85
125 sqft / gal	125 sqft / gal	125 sqft / gal

Top Coat Option Comparison

Polyaspartic 85	Epoxy HP	AU 85
<ul style="list-style-type: none"> This is a high performing polyurea coating. This coating cures to a very hard top coat, that is resistant to UV and abrasion (non-yellowing). It is very convenient to use if you already have a polyaspartic base coat so you have less material to order and store and get a feel for mixing/laying down. Like stated earlier, the cure time of polyaspartic is quicker than Epoxy and if you are not ready to complete the project all at once, the material can cure beyond its bonding window quickly depending on the conditions. It will cure even faster when you are using it as a thinner top coat. If you are a DIY'er, we recommend this to you if you have a good feel for using tools and are well prepared for the project. 	<ul style="list-style-type: none"> Using Epoxy HP is recommended for indoor use only. Epoxy, if used as the top coat, will yellow over time if exposed to UV. It is mildly resistant to abrasion, so we don't recommend it as a top coat for high traffic areas. It is acceptable to install in a basement where there are no windows, such as a storage room. Epoxy HP has a longer cure time, which means that you will have a longer working time to get the material spread out. However, any benefit you get from having the working time extended is not worth it if you are wanting to install in a high risk environment we mentioned earlier. 	<ul style="list-style-type: none"> This is an aliphatic urethane, but it's unlike anything else on the market. It has been formulated to allow for thicker coats without foaming. This is the highest quality top coat available and will absolutely outperform the other options on UV, abrasion, chemical, and oil resistance. Also, this is the hardest coating available. This has a long working time and curing time. This makes it DIY friendly as you can work the top coat to perfect thickness all over your floor without a risk of it gelling and becoming unworkable.

Application of first top coat layer : 30 min - 1.5 hr

1. Gather the necessary materials listed in the checklist for this step.
2. Using the coverage chart, plan out the materials that you will need. It is convenient to know how much you will be using for each section before you start and write it down so you don't have to guess while you're in the middle of installation.
3. The application process is the same whether you're doing a quartz or a vinyl chip floor. **Make sure you are wearing spiked sandals.** Applying the top coat is very similar to applying the base coat. Start by mixing the material, **AU 85 is a 1A:1B ratio**, and dispersing your material in a long ribbon.

4. Use the notched squeegee or the 18" floor applicator with a fresh refill to spread the material. Best practice is to run the tool along the length of the ribbon. As long as you don't pour too much into one ribbon, then this will evenly disperse the material.
5. If you are using a squeegee, you can use a 3/8" nap roller to backroll the section to ensure the material is evenly distributed. If you are using the floor applicator, the material will likely be spread to your liking and you will be able to move to the next section.
6. Keep working through the area until the floor is complete. It is best practice to finish on a section that allows you to exit from there because even though you have spiked sandals on, you can still disturb the coating and if it has started gelling at all, it will create an imperfection in the surface and not flow back to being level.
7. If you're installing onto steps or the footing base, then you will use a hand roller or a paint brush to get to hard to reach spots. Be sure to keep the thickness even

Application of second top coat layer: 30 min - 2 hr

If you elect to do a second layer of topcoat, your options expand a little bit.

In addition to the options listed above for the first layer of top coat you can select from:

WBU G or WBU M

If you did a partial broadcast, this is the perfect option for a protective topcoat.

The only difference between these two materials is that WBU G is a high gloss finish and WBU M is the only low sheen. Additionally, they have different mixing ratios:

- WBU M: 4A:1B
- WBU G: 2A: 1B

WBU is very easy to use and we highly recommend it for DIY use. It is a water-based urethane system that provides chemical, stain, abrasion, and UV protection.

Second Layer of Topcoat Coverages (applies to all floors)

Use These Coverage Numbers for First and Second Layer of Partial Broadcast Topcoat

Polyaspartic 85	Epoxy HP	AU 85	WBU M	WBU G
250 sqft/ gal	250 sqft/ gal	250 sqft/ gal	200 sqft/ gal	200 sqft/ gal

1. Gather the necessary materials listed in the checklist for this step.

2. The process for applying the second layer of top coat is the exact same as the first layer. The only difference is that the material is going on thinner. So, you can choose to use the notched squeegee and backroll method, lightweight floor applicator, or a flexible squeegee. This is up to personal preference or availability of supplies on hand for the project.
3. If you elect to use WBU M or WBU G as your ultimate top coat, we recommend that you use two coats. It goes on fairly thin, so using two coats provides maximum protection.
4. Using the coverage chart, plan out the materials that you will need. It is convenient to know how much you will be using for each section before you start and write it down so you don't have to guess while you're in the middle of installation.
5. The application process is the same whether you're doing a partial broadcast or a second layer of any other system. **Make sure you are wearing spiked sandals.** Applying the top coat is very similar to applying the base coat. Start by mixing the material, **AU 85 is a 1A:1B ratio**, and dispersing your material in a long ribbon.
6. Use the notched squeegee or the 18" floor applicator with a fresh refill to spread the material. Best practice is to run the tool along the length of the ribbon. As long as you don't pour too much into one ribbon, then this will allow you to evenly disperse the material.
7. If you are using a squeegee, you can use a $\frac{3}{8}$ " nap roller to backroll the section to ensure the material is evenly distributed. If you are using the floor applicator, the material will likely be spread to your liking and you will be able to move to the next section.
8. Keep working through the area until the floor is complete. It is best practice to finish on a section that allows you to exit from there because even though you have spiked sandals on, you can still disturb the coating and if it has started gelling at all, it will create an imperfection in the surface and not flow back to being level.
9. If you're installing onto steps or the footing base, then you will use a hand roller or a paint brush to get to hard to reach spots. Be sure to keep the thickness even.

Now you have all of the information you need to feel confident to install a professional-grade decorative concrete coating. Good luck, and call or email our knowledgeable customer service team with any questions:

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