INTRODUCTION

This guide is intended to provide an overview of the Aurora Epoxy Dust pearlescent metallic flooring system. There are no set rules for installing this system as Aurora Epoxy Dust is a clear binder admixture and its use is a creative medium. The only limitations are set by the binder you choose to use it in.

That said, for use as a flooring system, the guidelines set forth are what we have found to be the best practices to achieve the most elegant looking floor in the least time and material expended without sacrificing quality. This is by no means the only way to use Aurora Epoxy Dust. We are continuously experimenting with the use of this creative medium to achieve different effects. Some of those methods will be shared in this introduction. We encourage all installers to develop their own best practices, but using this as a baseline you can accelerate your learning curve.

The main basics steps to a successful floor installation are:

1. Surface preparation
2. Primer coat
3. Aurora Epoxy Dust coat
4. Clear epoxy or urethane coat (optional)
5. Maintenance floor finish (optional)

We will cover each of the basic steps and some advanced techniques as well.

SURFACE PREPARATION

Surface preparation method is dependent upon the existing condition of the substrate and the guidelines from the manufacturer of the primer system you use. In general however, surface profiling should be achieved by a floor grinder or shot blasting. Just remember to keep the profile as light as possible. By the ICRI guidelines (www.icri.org), a CSP-1, CSP-2 or CSP-3 is ideal. The substrate should be as smooth as possible; not because you don't want the texture, but because you want the surface to be as uniform as possible. This profile is ideal for most coatings.

In addition, address any cracks, pitting, holes, etc. by filling them with your filler of choice and grinding flush. The better job you do in preparing the surface, the better the finished product will be. If you are in need of a quality material to do this, contact us and we can make specific recommendations. When you are done with your surface preparation, the substrate should have all deficiencies corrected, with an adequate surface profile to accept a coating, and vacuumed clean.

APPLY PRIMER

The most important aspect to creating an elegant floor with Aurora Epoxy Dust is to properly prime the floor. This will ensure that there is no out gassing of the 100% solids epoxy coating that the Aurora Epoxy Dust is mixed into. If that happens, you will have noticeable craters in the floor that will not be very forgiving and are not easy to repair and blend in. There are several ways to go about doing this.

Another aspect of the primer is you will want to tint it. This will become important to the final look of the floor as it is possible in some cases

depending on the pigment loading and application method that you will see the primer showing through the Aurora Epoxy Dust in some areas. In some cases, this will be intentional if it is part of the look you are trying to achieve. This is not necessarily a bad thing. Some very interesting looking floors have been done this way. However, this one variable can dramatically alter the look of the floor since light passes through the pigments and reflects back, keeping the primer as dark as possible (we prefer black) will allow the primer to absorb much of the light transmission. For this reason, especially if you first experimenting with this product, we recommend you keep it simple and use a black base for your Aurora Epoxy Dust. This will always give you a great look, will make it easier for you to standardize your offerings, and make final color selection for the customer much easier.

One other variable that will give your floor a much more dramatic appeal is to introduce texture into your primer coat. This texture will make the pigment have much more character and is what gives Aurora Epoxy Dust it's dimension and depth. There are several ways to achieve this.

The first method involves applying a textured concrete overlay (skim coat). The skim coat can be applied with your black pigment or whatever color you wish the primer coat to be and then sealed with an epoxy primer. Alternatively you can skim coat the surface in any color and then seal with a colored epoxy primer. Ultimately you achieve the same thing: a textured surface that is black in color and is sealed.

The second method is to prime the floor with a tinted epoxy primer and broadcast a light amount of very fine silica sand and then back roll the sand into the primer. This is an effective and easy way to achieve the same effect as the first method, but easier and cheaper. Depending on the size sand you choose, it may have too much texture, which will dictate the final texture of the floor. This may require an additional coat of clear epoxy to achieve a glass smooth surface if you attempting to achieve that.

The last method is the one we prefer, is to use an epoxy primer. The primer is tinted black with a black pigment. It gives the surface the smooth enough texture to achieve the desired effects in the Aurora Epoxy Dust coating, but not too much texture that it will leave texture in the surface after the Aurora Epoxy Dust coat is applied. The epoxy primers have the added benefit of long pot-life and being very resistant to out gassing.

APPLYING THE AURORA EPOXY DUST

Once the primer has been applied and cures, the Aurora Epoxy Dust coat can be applied. If you are using our standard colors, the Aurora Epoxy Dust 16 oz container is designed to be added to 4 gallons of epoxy. The recommended application rate is 60 to 75 sq. ft. per gallon. This thickness will ensure that the Aurora Epoxy Dust can work its magic. Once the epoxy is applied, the pigments start to move and create their patina. If the coating is applied too thin, this cannot occur. There is no danger with going thicker, but you are just using more material than is necessary. It is because of this thickness that is required to achieve the natural

effects Aurora Epoxy Dust is known for that 100% solids epoxy is recommended. 100% solids water clear epoxies can be applied at that thickness without problems unlike solvent based epoxies, urethanes, poly-aspartics, and acrylics, which cannot be built more than 8 mils generally.. Poly-ureas and MMA's are too thick and too short a working time to use effectively. All the above mentioned binders can be used with Aurora Epoxy Dust, but the best results will be obtained with 100% solids epoxies.

It's best to mix a kit size you are comfortable working with and this will depend on the size of your crew, space configuration, and the working time of the epoxy you are using. Typically, a three to four gallon mix size is easily worked with applicators that have proficiency. Be sure to mix thoroughly to ensure the pigment is equally dispersed.

Application is best done using a 3/16" notched squeegee or 20 mil spreader from McKinnon Materials. Ensure you are using a new notched squeegee. It is important that the cornrows created by the squeegee fill themselves in rather quickly. A new squeegee with sharp notches will leave a relatively narrow line on the floor that will quickly fill itself in. Whereas a worn squeegee blade will have flat notches that will not fill themselves in. The danger is that once applied, there are heavier particles in the pigment that will begin to settle out, and those cornrows will remain visible.

The application is finished by passing a trowel over the surface much like you would finish concrete. You can use spiked shoes and squat down to accomplish this, but that can be fatiguing for large areas. Use of spiked kneeboards can help to alleviate that. In either case, the spikes should have rounded points to prevent puncturing the primer coat. We would prefer to disrupt pigment by blowing with air.

Troweling can be accomplished by keeping a low angle and light pressure on the trowel. The intent is to turn over the epoxy. You do not want to move the epoxy as the thickness was already determined by the squeegee. Do not worry about what it looks like. One pass with a trowel and that is it. The less you work it the better. The Aurora Epoxy Dust will begin to take on a natural look on its own. This will start happening within a few minutes to a half hour after it is applied. This is where experimenting will help you tremendously. You will find that you don't have to work very hard to achieve a great look. If you are having a hard time getting it to look good, you are probably trying too hard. Trowel or blow it once and move on.

TOPCOAT

This step is optional. Depending upon the prime method and the degree of texture in the floor that is desired, a topcoat may be necessary. If there is too much texture in the floor, a light sanding to knock down the high spots and another application of 100% solids clear epoxy can be applied. Or you can opt to topcoat with a urethane, especially if a higher degree of chemical and abrasion resistance is desired.

MAINTENANCE

It is recommended a maintenance program be followed for any finished floor. The use of the floor will determine the frequency. For best visual effects on the floor it is recommended that the best optical clarity of the finish be maintained.

Choosing a floor finish that can be high speed burnished will allow for the best visual clarity. But the owners have to be willing to adhere to a maintenance program. If no such program exists, and the owners do not anticipate in doing regular buffing, you will not have as much optical clarity which will reduce some of the interesting effects of the Aurora Epoxy Dust system. Talk to your local janitorial supply houses and see what they recommend.

ADVANCED TECHNIQUES

The basics of installation have been covered. It is not a complicated system, and the finished floor is very unique. Once you have mastered the basics, you can experiment with some advanced techniques. This is by no means a comprehensive collection of techniques, but rather suggestions. Only your imagination can limit the application techniques and uses for our unique pigments.

1. Our recommendation for a black primer coat isn't the only way a floor can be done. However, this variable will change the look of the floor, especially if you decide to use less pigment loading in your epoxy. If you wish to have more color variation in the floor, you can opt to use less pigment loading in the Aurora Epoxy Dust coat and use a color other than black for the primer coat. This will allow some of the primer color to show through for an interesting effect. Experimentation will allow you to see the effects that are possible.

2. Colors can be mixed together dry to achieve colors not listed on the color chart. The colors Charcoal and Pearl are great for lightening and darkening the stock colors. In fact, the color Pearl is not a color we recommend as a stand alone color, but it can be used to change the shade of any other color. Conversely, Charcoal is a great stand alone color, but can also be used to darken any of the other colors.

3. Colors can be mixed together wet for very unique effects. This is best accomplished by either pouring two or more colors together on the floor and letting the squeegee mix them together during application. The colors won't completely mix together but will blend allowing for color movement similar to marble. This can be done with different colors in varying proportions. Another method is to drizzle other colors into the floor after the main color has been applied with a squeegee and using a trowel to blend the colors together. This method is best when only traces or highlight of another color is desired.

4. Using a porcupine roller or spiked roller over the entire floor as the final process can give you a hammered look. This is an especially neat look if you are using a metallic color such as the bronze or copper.

5. Patterns and design elements can be achieved by taping off a design and applying sections of the floor individually. Use a fiber or masking filament tape to define your design element.

Don't remove the tape until the epoxy has cured enough to prevent bleeding. Generally at 45 minutes to an hour. Can not stay overnight. Then reverse tape with fiber filament or masking tape

paper and apply Aurora Epoxy Dust to the adjacent area(s). For a completely seamless floor, it is best to sand the floor after the Aurora Epoxy Dust coats are complete, paying extra attention to the jointed areas, and re-apply a clear coat over the entire floor.

FINAL THOUGHTS

There is no wrong way to use our flooring system. Experimentation will lead to your own best practices. Be sure to keep subscribed to our newsletter as we will profile contractor projects with pictures and details of the installation, to give you ideas and insight into this creative medium. Likewise, we encourage you to share your completed projects with us if you wish to share with the McKinnon Materials' community. If you have any questions about our product, please don't hesitate to contact us so we can further assist you.

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Aurora Epoxy Installation Guide

Step By Step Instructions

A. Materials:

1. Black Primer Epoxy
    a. Coverage will be 150 to 200 square feet per gallon.
    b. Can also be purchased in White.
    c. Primer is available in 3 gallon and 15 gallon kits.
2. Clear Industrial Epoxy
    a. Coverage will be 60 to 75 square feet per gallon.
    b. Available in 1 gallon, 4 gallon, 20 gallon, and 220 gallon kits.
3. Aurora Dust Concetrate-16 ounce containers
    a. Coverage - Will color 4-6 gallons of Industrial Epoxy.
    b. 4 gallons of Industrial Epoxy is optimal for effects.
4. Optional Sealers – Listed in order of performance.
    a. High Performance Urethane
        1. Coverage will be 300 to 600 square feet per gallon.
    b. Polyaspartic
        1. Coverage will be 200 to 300 square feet per gallon.
    c. Acrylic Urethane (Miracle Glaze)
        1. Coverage will be 150 to 300 square feet per gallon.
    d. Solvent Based Acrylic (Super Vinyl Supreme)

1. Coverage will be 150 to 200 square feet per gallon.

e. Floor Wax

1. Coverage will be 400 to 800 square feet per gallon.

B. Tools

1. Roller Frames

2. Roller Covers (3/8 medium nap, Lint free with solvent resistance cores)

3. Gauged Squeegee

4. Extension handles (to use with roller frames and squeegee)

5. Floor sanding tool – pole sander/hand held orbital floor buffing machine.

6. Sanding paper or screens for floor machine(120-150 grit and 200-250 grit)

7. Air compressor or leaf blower

8. Plastic sheet or drop cloth

9. Spiked shoes

10. Roller grid

11. Painters tape or masking tape

12. Mixing sticks and/or drill mixer

13. 3-4 empty clean 5 gallon buckets

C. Properly Prepare Your Surface:

1. The very best surface preparation would be abrasive blasted (blast track or sand blast)

2. Second choice, but just as effective, is surface grinding or diamond brush.

3. Third choice can also provide an adequate surface profile, depending on the condition of your concrete, would be acid washing and neutralizing.

4. The ultimate goal of all of the procedures listed above is to remove concrete laitance and surface contaminants. This provides you with a surface that will readily absorb its new coating.

Improper prep is the #1 reason for job failure.

D. Deciding On Batch Size:

1. How many people do you have?

a. Do not bite off more than you can handle.

1. If you have less than 2 people or if you are too cautious, you can start with a 2 gallon batch and then increase as your comfort level improves.

b. If you have 2 or more people you can usually start with a 4 gallon kit.

E. Let's Get Started:

1. First you should address masking areas that you do not wish to coat.

a. Vertical wall surface can be protected by placing a strip of 2 inch masking 1/8 inch above the surface of the floor. Why 1/8 inch above? This will keep the tape from becoming immersed in the thick flooring epoxy because if the epoxy turns hard you will not be able to get the tape out.

2. Do not be concerned about pushing a wave of epoxy up onto the tape because once the epoxy slides back down the vertical it will be possible to pull the tape tomorrow.

3. If you're still worried about splatters add a strip of paper.

F. Priming:

1. Spread plastic sheeting or drop cloth on a space approximately 4 ' by 4' (an ounce of prevention)

2. Place the primer epoxy resin and cure along one edge.

3. Mixing pails and stir device as well as roller frames and covers and handles along the edge as well.

4. Take a 5 gallon pail and pour in 2 gallons of the primer resin then add 1 gallon of cure and mix well.

5. Place the roller grid inside the pail with the mixture.

6. Place roller handle into roller frame and install cover. Now after dipping the cover in the primer roll same out on floor. Coverage should be 150-200 square feet per gallon. (Black primer)

7. Allow 4-9 hours to dry. (Optimum curing and/or drying temperature is 75-85 °F.)

G. Next Day Floor Prep And Material Application:

1. Lightly sand primer with 80 or 120 grit sand paper.

2. Tack wipe floor with xylene or alcohol to remove dust. (Tack wipe-rag dipped in solvent then rung out then wipe floor and repeat until complete.)

3. Inspect floor carefully. If bare spots, pinholes, or surface imperfections are found, then you should repeat the priming of the floor either in part or all. If your primer surface is smooth, your Aurora surface will be also.

H. If you decided on a 4 gallon Kit:

1. Spread plastic sheeting or drop cloth on a space approximately 4' by 4'.

2. Place resin and cure along one side. Place remaining tools around plastic. Mixing pails, stir device, roller frames. Handles, covers, gauged squeegee, air blower, spiked shoes, cords, pails, and Aurora dust.

3. Open a three gallon pail of resin and give it a quick stir then open on of the one gallon cans of cure and pour the resin and cure into one of your 5 gallon mixing pails. Mix for 2 minutes then dump the 16 ounce container of Aurora in and mix 2 more minutes.

4. Start coating floor from the farthest point away from your point of entry (usually along a wall). Pour at least ½ of the pail of material out in a ribbon approximately 8 inches wide

5. Take your gauged squeegee, and while standing directly in front of the material, place the squeegee in the middle of your ribbon then push until product goes up on tape then pull the squeegee straight out until you are out of product. Medium speed not creeping. Once you are out of the product lift the squeegee and repeat in the same spot. Now move over to the next space. Overlap should be about 4 inches or less. Repeat until entire line is spread out.

6. As soon as the person who is running the squeegee is 3 or 4 feet along, your helper should start back rolling. Product should be dumped out of bucket as soon as humanly possible because of the laws of mass reaction.

7. Back rolling- you should first dip the dry roller cover into the bucket then role the roller on a bare spot on the floor then start back rolling the product. Roller speed should be quick but be careful not to throw specks on your wall.

8. Repeat steps until bucket is empty. Total time from mix to empty bucket should be 10 minute or less.

9. Repeat steps 3,4,5,6,7,8.

10. Once you have either spread your first but definitely after your second pail you will need to somehow disturb the surface of the Aurora.

(Why do you need to disturb the surface? See note at the end of this section)

11. Disturbing the surface of the Aurora can be accomplished by any of the following methods:

a. You can walk out on the surface with spiked shoes on and by either bending over or crouching down and then with a trowel reach out and trowel the surface ever so slightly. The only downside to this method is that it creates a somewhat mechanical pattern.

b. You can walk out onto the floor with spiked shoes and a squeegee or magic trowel and use one of these to slightly disturb the surface.

c. You also could walk out onto the floor with spikes shoes and use a stick or just about anything that will disturb the surface.

d. Now we come to the method that we primarily use and that is the leaf blower or compressor driven air. You simply walk out onto the material with spiked shoes and use the air to make ripples on the surface and that's all there is to it.

Reason for disturbing the surface is that once you spread the epoxy with Aurora over the floor the Aurora which is primarily a very finely ground pigment will start to settle or migrate downward so what we are doing is stirring the pigment back up to the top so that before the Aurora can resettle again the epoxy will have started its curing process and lock the pigment in striated layers of color. These layers of color are what are responsible in allowing you to sand out objects.

12. Repeat steps until entire surface is covered then just stand back and let the epoxy do its thing.

I. To Seal or not to seal:

a. Why should I put a sealer on?

1. Your first assumption is that epoxies are hard.

a. Yes they are but a great many coatings are more scratch resistant.

b. In order of hardness here are a few:

1. Floor Wax (a soft sealer - can be easily stripped and reapplied)

2. Solvent based acrylic (Super Vinyl Supreme)-Epoxy is equal to

3. Acrylic Urethane (Miracle Glaze)

4. Polyaspartic

5.High performance urethane

6. Aliphatic moisture cured urethane

The choice is yours!