



SYSTEM DESCRIPTION

Lava Flow® is an interior grade, multi-component, 100% solids high gloss decorative epoxy flooring system. Lava Flow® provides a very unique floor finish that has uniform color shift and movement that can be modified by the installer. Unlike stains which require craftsman like skills to get a repeatable finish, Lava Flow® is designed to be an easy to install product that can offer very similar results each time it is applied. Lava Flow® Epoxy Flooring is self-sealing and does not require a separate topcoat; however, an additional topcoat may be applied if desired to protect it from scuffing or walk off patterns. An addition of a polyurethane or polyaspartic topcoat also provides increased UV resistance for a long-lasting finish.

SYSTEM COMPOSITION

The Lava Flow® system is a multi-layered application made up of the following components:

PRODUCTS	Coverage Rate
1. 4195 Direct to Concrete Epoxy - A pigmented primer applied to concrete substrates (2 coats are recommended to avoid outgassing from concrete slab)	150-250 SF per gal
2. 41 Accelerator (optional) - Additive packs that can be mixed with 4195 to speed up its cure rate for a 1 day install	1-2 packs per 1-gal kit of 4195
3. 4750 Lava Flow® Epoxy – 100% solid epoxy that is used with the metallic color packs to create the Lava Flow effect.	66 SF per gal
4. Lava Flow Pigment Packs - Decorative metallic powder available in various colors.	100 SF per pack per 1.5-gal kit 4750
5. eFX pack – Ultra low-VOC solvents and additives that provides a fast and easy way to give a beautiful hammer-tone finish.	400 SF per kit per 1.5-gal kit 4750
6. TOPCOAT CHOICES -	
❖ 5073 Polyurea – A general use high solids clear Polyurea topcoat that exhibits great chemical and excellent wear resistance while providing a deep high gloss surface that can be walked on in as little as 2 hours.	250-275 SF per gal
❖ 5085 Ultra High Solids Polyaspartic - A high solids clear Polyaspartic topcoat that exhibits great chemical and excellent wear resistance while providing a high-build & high-gloss surface in one coat that can be walked on in 3-12 hours (3 hours for warmer days and longer for cooler days).	250-275 SF per gal
❖ 5018 Matte Finish Polyaspartic - A high solid clear Polyaspartic Topcoat that exhibits great chemical and excellent wear resistance while providing a unique Matte Finish in a single application.	250-300 SF per gal

RECOMMENDED 4195 BASE COLOR

Review the recommended color chart below to achieve desired Color Matrix.

LF Pigment Pack	4195 Base Color	LF Pigment Pack	4195 Base Color	LF Pigment Pack	4195 Base Color
Antique Silver	Whisper Gray	Chestnut	Mocha	Mocha	Mocha
Artic Pearl	White	Copper	Mocha	Mojave Sand	Mocha
Avocado	Black	Curacao	Whisper Gray	Palapa	Cottonwood
Bikini	Cottonwood	Daydream	Cottonwood	Pier	Whisper Gray
Black Olive	Black	Gold Dust	Cottonwood	Rustic Sky	Cottonwood
Catalina Blue	Black	Mandarin	Cottonwood	Sterling	Whisper Gray

SUBSTRATE REQUIREMENTS

CONCRETE

All concrete shall be clean and bare. Concrete shall be structurally sound and stable. Concrete shall be free of dust, dirt, grease, contamination, surface laitance, and other potential bond-breaking substances that could impair adhesion. All cracks, gouges, and



other surface defects need to be addressed prior to coating installation. Substrate and ambient temperatures must be above 35°F during installation of coating. Relative humidity should not exceed 65% during installation of the coating. Environmental conditions must not be near the dew point during installation of the coating. Moisture Vapor Transmission of the substrate must not exceed 8lbs per 1000 SF per 24 hours. For high MVT substrates, consult with a Versatile's representative for recommendations.

If concrete is not porous (does not darken when wet), it must be mechanically profiled and prepared by either shot-blasting, grinding, water-jetting, or other means of scarification to produce a Concrete Surface Profile (CSP) between #2 and #4, according to International Concrete Repair Institute (ICRI) Guideline No. 03732.

OTHER SUBSTRATES

Versatile only recommends its Lava Flow® system for use over concrete. All other substrates are done at the user's own risk.

ADVICE BEFORE INSTALLATION

MIXING PRODUCTS

4195, 4750, 5073, 5085 and 5018 are 2-component products, be sure to mix thoroughly before the application. Cure times will be affected by environmental conditions. Do not force dry. High humidity and/or low temperatures can cause haziness and blushing in the coating. Large masses of mixed and/or heated material will have a shorter pot-life.

** Caution: If you are not familiar with the product, Do Not Mix more than 1 gallon at a time. The more you mix, the shorter your pot life (working time) will be.*

HOT WEATHER TIPS

4195, 4750, 5073, 5085 and 5018 have a shorter pot life in very hot conditions. Keep the material core temperature around 50-75°F if possible. lcing the buckets hours before doing job or placing in a cool environment the day before application can help by lowering the core temperature. If instructions are not followed, excessive heat may cause outgassing, foaming, and hazing of 5085 where it has been applied too thick or where material settles into joints, etc. as well as a shorter pot life. To reduce the effects of outgassing (vapor coming out of the substrate), install in the cooler parts of the Day or when the temperature is decreasing from the highest temperature of the day.

COLD WEATHER TIPS

All products are Temperature sensitive, especially the Epoxy (4195/4750). The colder the temperature, the longer the dry and cure time will be extended. Adding solvents to the product will also increase dry times.

These products may have higher viscosity or may gel up in very cold conditions. Keep the material core temperature around 50-75°F if possible. Using a pail warmer hours before installing the materials or placing product in a warm environment the day before application can help increase the core temperature which will make the material thinner and easier to work with. If instructions are not followed, material may get very thick during mixing which may lead to foaming and hazing of 5085 where it has been applied too thick (avoid puddling in low spots) or where material settles into joints.

***OPTIONAL 41 ACCELERATOR (for one-day installations)**

- 1 pack of 41 Accelerator per 1 gallon of 4195 will provide up to 50 mins pot-life and 6 hrs dry-time at 75°F.
- 2 packs of 41 Accelerator per 1 gallon of 4195 will provide up to 40 mins pot-life and 4 hrs dry-time 75°F.

Please note that when the pot-life kicks, it will be fast and become unusable very quickly. It is recommended to mix a small amount of material first for cutting in, etc. until you become more familiar with the system performance in your local climate.

INSTALLATION STEPS

1. SURFACE PREPARATION

There are many methods of surface preparation for various substrates, many of which are adequate for this application. Consult a Versatile Representative for alternatives to the procedure outlined below, such as methods of correcting problematic and contaminated substrates.

Concrete -

Pour water onto the concrete surface. Inspect area to see if water penetrates concrete (concrete will darken). If the concrete allows water to penetrate and not "bead up" on the surface, then proceed to clean the surface using V-100 concrete cleaner

degreaser. Use liberal amounts on oils stains, then scrub until the water no longer beads on stain. If water does “bead up” when doing the penetration test, then the following additional preparation will be needed. Concrete must be mechanically profiled and prepared by shot-blasting, grinding, water-jetting, or other means of scarification to produce a Concrete Surface Profile (CSP) between #2 and #4, according to International Concrete Repair Institute (ICRI) Guideline No. 03732.

2. PREPARATION

- Shut off all sources of ignition prior to work, and throughout the coating process.
- Supply auxiliary ventilation as necessary to produce a safe working environment.
- Use a NIOSH approved respirator capable of filtering organic vapors.
- Always wear protective clothing, gloves, and equipment as required by OSHA and as necessary.
- Because the clear topcoats have such high gloss, be sure to remove dust from areas during application.
- Use a brush, 18” Lint Free 3/8” Nap roller, or squeegee (Magic Trowel works well for 5085 and is preferable) for application.

3. 4195 EPOXY PRIMER APPLICATION

Thinning -

Advantages of thinning 4195 are a lower viscosity which makes it easier to roll and an extended pot-life. 4195 can be thinned with up to a ½ pint of Xylene or Acetone. However, this will slow the cure times.

** Caution: Thinning with Xylene will increase the VOC of 4195 by 55g/L, which makes it non-compliant for residential use in the SCAQMD District. Check your local district rules before using Xylene, otherwise, use Acetone. Solvents are extremely flammable, be sure that all containers are metal, and all sources of ignition have been turned off.*

**Using the optional 41 Accelerator for one-day installs will shorten the pot-life. Be careful of not mixing a large amount if you are not familiar with the product.*

Mixing -

- Material should be at room temperature (50-75°F)
- First, premix 4195 Epoxy A-component for 1 minute using a jiffy-type mixing blade
- Then mix 4195 Epoxy A-Component with 4195 Epoxy B-Component at ratios listed on the label for 2-3 minutes. Slowly add the **optional** 41 accelerators as you mix.
- Transfer mixed material to a second mixing vessel and mix an additional minute to ensure that material along the sides of the first mixing vessel have been properly incorporated into the mixture. Be sure to mix thoroughly.
- 4195 has a pot-life of 60 minute, this is based on 1-gal mass at normal temperature at 75° F. Adding accelerators will decrease pot-life.

Application -

- Working only as much product as you can handle properly whilst keeping a wet edge.
- Begin by cutting-in the concrete footings (Stem Walls) and around the edges with a 3”-4” chip brush or 6” weenie roller.
- Do not work edges more than 15-20 minutes ahead of the main body of the floor. Keep a wet edge.
- Pour a band of the mixed material out onto the floor and begin rolling with a 3/8”-1/2” nap 18” wide roller.
- Work the material evenly to a wet film thickness of 5-10mils (150-250 SF/ 1gal kit).
- Cross Roll the surface evenly in the opposite direction to eliminate Roller Lines. 5-10 min after applying. 4195 has self-level qualities.
- Allow the 4195 PRIMER to cure a minimum of 4-6 hours (accelerated) 12-24 hours (standard) before repeating the procedure for second coat within 8-24 hours.
- If more than 24 hours has passed, then sand and scuff the floor to de-gloss before proceeding to a 2nd coat or additional Topcoats.

** Note: 1 Coat installations can be achieved, however due to the wicking nature of this product it may not have uniform build and hide with one coat. 2 coats are recommended to achieve uniform build and hide.*

4. 4750 LAVA FLOW® EPOXY APPLICATION

Note -

Wait at least 4-6 hours (accelerated) 12-24 hours (standard) from 4195 application before applying the 4750 Lava Flow® Epoxy.

4750 Lava Flow® Epoxy Mixing -

- Material should be at room temperature (50-75°F)
- First, premix 4750 Lava Flow® Epoxy A-component for 1 minute using a jiffy-type mixing blade before adding the Lava Flow Pigment Pack. Recommending 1 color pack for 1.5-gal 4750 Lava Flow® Epoxy kit and mix well for 5 mins or until the color is homogeneous in the container before continuing to the next step to ensure that pigments and additives have been re-incorporated into the material
- Then mix this metallic 4750 Lava Flow® Epoxy A-Component with 4750 Lava Flow® Epoxy B-Component at ratios listed on the label for 2-3 minutes.
- Filter the mixed material in a second mixing vessel and mix an additional minute to ensure that material along the sides of the first mixing vessel have been properly incorporated into the mixture. Be sure to mix thoroughly.
- 4750 Lava Flow® Epoxy has a pot-life of 30 minute, this is based on 1.5-gal mass at normal temperature at 75° F.

**Caution: 4750 Lava Flow® Epoxy generates heat as it cures and causes a reduction in pot-life & working time. Work with only as much material that can be properly handled within the pot-life.*

Application -

- Apply the 4750 Lava Flow® Epoxy Lava Flow at a spread rate of 66 SF/gal.
- Pour material onto the floor and work it back and forth with the notched trowel to achieve the correct thickness.
- Back-roll the entire area to eliminate the line marks from the notched trowel.
- When using two or more different Lava Flow colors, it is best to limit the amount of back-rolling as the colors may bleed together.
- After 2 hours, come back and misting EFX on the floor. This will create a unique hammer-tone affect.

Cure Times -

- 4750 Lava Flow® Epoxy can typically accept light foot traffic in 6-8 hours depending upon ambient temperatures, vehicular traffic with pneumatic tires in 72 hours.
- Full cure occurs in 7 days.

5. TOPCOAT APPLICATION (for UV protection)

Note -

Allow the 4750 Lava Flow® Epoxy to cure a minimum of 6-8 hours before proceeding to the next step.

❖ **5073 POLYUREA TOPCOAT APPLICATION**

Mixing -

- Material should be stored at room temperature (50-75°F)
- Mix 5073 A-Component with 5073 B-Component at ratios listed on container for 2-3 minutes using a jiffy-type mixing blade at no less than 400rpm.
- Transfer mixed material to a second mixing vessel and mix an additional 30 seconds to ensure that material along the sides of the first mixing vessel have been properly incorporated into the mixture. Be sure to mix thoroughly.
- 5073 has a pot-life of 55 minutes based on a 2-gallon mass at 75°F.

** Caution: Unlike Epoxy, this Polyaspartic material has a long pot-life in the container than on the floor (keep the mixed material in pail to achieve maximum working time instead of pouring bands on the floor)*

Application -

- After mixing, cut in edges/curb with a 3"-4" chip brush and or 6" weenie roller.
- Be careful not to make the cut in lines too wide. If the cut in lines are too wide and it takes too long to squeegee material across, it may start to dry. If you then seal over that it may look darker with now two coats of sealer on it.
- Then pour a 4"-5" even ribbon of 5073 across the floor.
- Use a Lint Free 3/8" nap 18" roller to spread 5073 out evenly so the entire surface is coated.
- Pour out additional ribbons on the surface as needed and make sure to keep a "Wet Edge" at all times.
- Walk back into the wet floor on spiked shoes to disperse any heavy puddles of material that are pooling.
- Keep firm pressure on the roller when spreading.
- Once 5073 is spread out evenly with the roller, back roll the entire surface, keeping spread rate at 250-275 SF/gal. This will even out the gloss across the entire floor and should be done in the opposite direction of the first direction rolled. Back-rolling should be done within 20 minutes, break off into sections at control joints or have extra installers if the floor is large.

- You will have an open time on the floor of approx. 30 min to back roll the 5073 at 75°F.

* **Caution:** *If back-rolled too late or over rolled as the product is setting or tacky, it may cause microbubbles in the coating due to the coating setting up and becoming too thick to release bubbles caused by excessive rolling.*

Cure Times -

- Coating can typically accept light foot traffic in 2-3 hours depending upon ambient Temperatures, vehicular traffic with pneumatic tires in 24 hours.
- Full cure occurs in 5-7 days.
- Pilot lights and surrounding sources of ignition may be put back into service once solvent vapors have dissipated to a level below the lower explosion limit. Typically, this will take 8-16 hours after floor installation with adequate ventilation.

❖ **5085 POLYASPARTIC TOPCOAT APPLICATION**

Mixing -

- Material should be stored at room temperature (50-75°F)
- Mix 5085 A-Component with 5085 B-Component at ratios listed on container for 2-3 minutes using a jiffy-type mixing blade at no less than 400rpm.
- Transfer mixed material to a second mixing vessel and mix an additional 30 seconds to ensure that material along the sides of the first mixing vessel have been properly incorporated into the mixture. Be sure to mix thoroughly.
- 5085 has a pot-life of 55 minutes based on a 2-gallon mass at 75°F.

* **Caution:** *Unlike Epoxy, this Polyaspartic material has a long pot-life in the container than on the floor (keep the mixed material in pail to achieve maximum working time instead of pouring bands on the floor)*

Magic Trowel Application for Faster Installs -

- After mixing, cut in edges/curb/stem walls with a 3-4-inch chip brush and or 6" weenie roller.
- Be careful not to make the cut in lines too wide. If the cut in lines are too wide and takes too long to squeegee material across, it may start to dry. If you seal over that, it may look darker with now two coats of sealer on it.
- Then pour a 4"-5" even ribbon of 5085 across the floor.
- Use Magic Trowel squeegee to spread 5085 out evenly so the entire surface is coated.
- Pour out additional ribbons on the surface as needed and make sure to keep a "Wet Edge" at all times.
- Walk back onto the wet floor on spiked shoes to disperse any heavy puddles of material that are pooling.
- Keep firm pressure on the trowel when spreading.
- Once 5085 is spread out evenly with the squeegee, use a 3/8" Nap 18" Lint Free Roller to back roll the entire surface, keeping spread rate at 250-275 SF/gal. This will help even out the gloss across the entire floor and should be done in the opposite direction you squeegee.
- You will have an open time on the floor of approx. 30 min to back roll the 5085 75°F.

* **Caution:** *If back-rolled too late or over rolled as the product is setting or tacky, it may cause microbubbles in the coating due to the coating setting up and becoming too thick to release bubbles caused by excessive rolling.*

Lint Free Roller Application -

- After mixing, cut in edges/curb/stem walls with a 3"- 4" chip brush and or 6" weenie roller.
- Be careful not to make the cut in lines too wide. If the cut in lines are too wide and it takes too long to squeegee material across, it may start to dry. If you then seal over that it may look darker with now two coats of sealer on it.
- Then pour a 4"-5" even ribbon of 5085 across the floor.
- Use a 3/8" nap Lint Free 18" roller to spread 5085 out evenly so the entire surface is coated.
- Pour out additional ribbons on the surface as needed and make sure to keep a "Wet Edge" at all times.
- Walk back onto the wet floor on spiked shoes to disperse any heavy puddles of material that are pooling.
- Keep firm pressure on the roller when spreading.
- Once 5085 is spread out evenly with the roller, back roll the entire surface, keeping spread rate at 250-275 SF/gal. This will even out the gloss across the entire floor and should be done in the opposite direction you first squeegeed on the product.
- You will have an open time on the floor of approx. 30 min to back roll 5085 at 75°F. Break off into sections at control joints or have extra installers if the floor is large.

* **Caution:** *If back-rolled too late or over rolled as the product is setting or tacky, it may cause microbubbles in the coating due to the coating setting up and becoming too thick to release bubbles caused by excessive rolling*

Cure Times -

- Coating can typically accept light foot traffic in 3-12 hours depending upon ambient Temperatures, vehicular traffic with pneumatic tires in 72 hours.
- Full cure occurs in 5-7 days.
- Pilot lights and surrounding sources of ignition may be put back into service once solvent vapors have dissipated to a level below the lower explosion limit. Typically, this will take 8-16 hours after floor installation with adequate ventilation.

❖ **5018 MATTE FINISH POLYASPARTIC TOPCOAT APPLICATION**

Mixing -

- Material should be stored at room temperature (70-75°F) or below if in extreme hot conditions.
- Pre-mix the 5018 M A-Component in the original bucket for 2-3 minutes using a jiffy-type mixing blade at no less than 400 rpm till the mixture is homogeneous.
- Then add 5018 M A-Component with 5018 M B-Component at ratios listed on container and mix well for 2-3 minutes.
- Transfer mixed material to a second mixing vessel and mix an additional 30 seconds to ensure that material along the sides of the first mixing vessel have been properly incorporated into the mixture.

** Caution: If you are not familiar with the product, Do Not Mix more than 1 ½ gallons at a time. The more you mix the shorter your pot life will be. This is a 2-component product, be sure to mix thoroughly.*

Application -

- After mixing, pour a nice even consistent 4-5" wide ribbon of mixed 5018 M across the floor surface.
- Use 3/16" nap Lint-free Roller to spread 5018 M out so the entire surface is coated evenly.
- Pour out additional ribbons on the surface as needed and make sure to keep a "Wet Edge" at all time.
- Walk back into the wet floor on spiked shoes to disperse any heave puddles of materials that are pooling.
- Keep a firm pressure on the roller when spreading.
- Once 5018 M is spread out evenly, back rolling the entire surface in the opposite direction you roll, keeping spread rate at 250-300 SF/gal. This will even out the film build across the entire floor.
- Use the single back roll method to even out overlaps where there is too much material.
- Do not over work the material and keep the back rolling to a minimum, the material has great leveling properties.

6. CLEAN-UP

- Immediately clean up splatter marks and tools with MEK. Clean hands and exposed skin with mild soap and water, and/or citrus-based hand cleaner.

ADDITIONAL CAUTIONS AND RECOMMENDATIONS

- If concrete is extremely porous a 2nd coat of the 4195 may necessary.
- Use a 3/8" nap 18" lint-free roller to help speed up the application.
- Be sure to back-roll the topcoat to ensure a uniform coat.
- Do not allow material to puddle.
- Use accelerators when installing in cold climates or where the return to service time needs to be fast-tracked.
- Mask all areas that need protection.
- Store material at 50-75°F
- Do not force dry any components of the Lava Flow[®] system.
- Always wear protective clothing, gloves, and equipment as required by OSHA and as necessary.
- Turn off all sources of ignition and follow safety guidelines listed in product sections.
- Have all personnel who come in contact with liquids read The Versatile EPOXY, URETHANE, AND POLYASPARTIC 2K SAFETY GUIDE and Material Safety Data Sheets before commencing work.

TECHNICAL SERVICES

- Technical services can be obtained by contacting Versatile directly at 714-829-2600.