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ARMORTECH PREMIUM COATINGS INC.
PROUDLY MADE IN THE USA
Superior Formulations for Lasting Results

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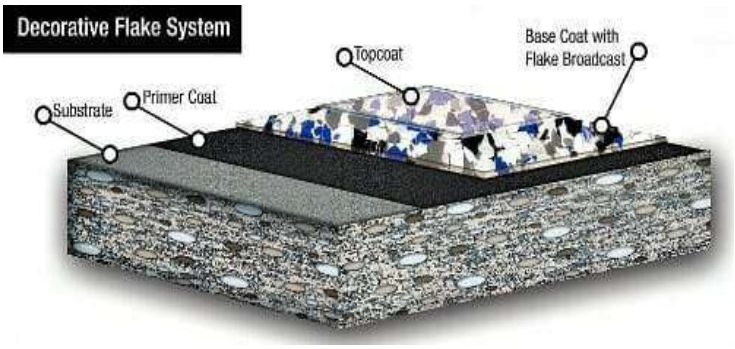
Polyaspartic Flake Garage Floor Instruction Sheet

(Please read instructions carefully before mixing and applying products)

Our basic polyaspartic broadcast system consists of three layers: The tinted or colored basecoat, the flake broadcast, and a clear polyaspartic topcoat. Variations of this system may also include an added broadcast coat (known as double broadcast), or an additional clear topcoat, for a smoother yet still slip-resistance, and finish.



Our polyaspartic floor coatings can be applied at temperatures between 50-90 degrees F (with the optimal temperatures being 65-75 degrees F) and when relative humidity is less than 80%. Products should be stored in a dry area at temperatures between 60-80 deg F. Material must be above 60 deg F for installation. Install in areas with proper ventilation. Wear safety glasses, protective clothing and rubber gloves for the duration of preparation and application process.

BEFORE YOU START: Read all instructions and gather all required tools and needed supplies.
Spiked shoes
Power Drill
Mixing Paddle
Buckets and/or Graduated containers
Mixing Sticks/Paint Sticks
Smooth and/ or V-Notched Squeegee
3”, 9”, 18” Paint Roller Frames with extension poles
3”, 9”, 18” Roller Sleeves
Disposable Nitrile Gloves
18” Roller Tray for Topcoat
Masking Tape
Isopropyl alcohol

Lint free shop rags

SURFACE PREP: THE MOST CRITICAL STEP to assure the performance of the Armortech system is to apply the product to a clean, well-prepared surface. The surface must be free of debris, loose or flaking concrete, dirt, dust, oil, curing compounds, sealers, and loose paint. Even new concrete must be cleaned to remove dirt, dust, and salts that form as the concrete cures. DO NOT SKIP THE PREP STEP OR COATING FAILURE COULD OCCUR.

DEGREASE: While not required on every application or situation, if you have visible oil stains on the concrete the first step will be to degrease the area. First, remove oil and/or grease. Use our product NEXTECH PRO™ APC 026 heavy duty, 100% biodegradable and environmentally safe cleaner concentrate. For heavy duty cleaning and degreasing, we recommend 1 part APC 026 to 4 parts water by volume. Deviations from this ratio can employ differing concentrations suited to the cleaning strength needed. For less soiled floors, dilute with more water and for heavily soiled floors, dilute with less water. Ratios varying from 1:1 to 50:1 (Water: APC 026) can be used for cleaning. Scrub the surface with a stiff bristled boat brush, and APC 026 mixed with warm water. Once complete vacuum up excess water using a shop vac with a squeegee attachment and allow to air dry. If after degreasing residual petroleum products remain on the floor, degrease again as previously described and/or prime the area with our Oil Stop Primer, NEXTECH PRO™ APC 931 OIL STOP EPOXY PRIMER COATING.

PREFERRED CONCRETE PREP METHOD: Next, prepare the floor by using a shot blaster, diamond floor grinder or handheld grinder with a diamond wheel, all of which are available at most local tool rental stores or your local box store. This method works best for removing existing paints, coatings and/or sealers and for “opening the pores of the concrete” as well as removing concrete laitance. Concrete laitance is the fine, loose, powdery particles and non-durable cement that rises to the surface of a concrete slab when installed and curing. The removal of laitance is important to ensure that the materials being applied to the floor adhere adequately. There are several ways to remove laitance and the method chosen should depend on the working environment and purpose of the floor. Today most floor grinders and handheld grinders come equipped with dust shrouds and attachment points for a shop vac or vacuum and are very effective at controlling dust. Grind the entire floor and edges. A small multi-tool with a triangle shaped diamond head can be highly effective at reaching into corners and other tight spaces where the larger grinders will not reach; and are also available at your local box store. Once the area to be coated has been thoroughly ground, be sure to vacuum the entire floor, removing any dust and/or loose particles.

ALTERNATE CONCRETE PREP METHOD: Acid etching can be employed for previously unsealed concrete, concrete with only a thin layer of laitance, and non-porous or low porous surfaces. This method should only be used if other options have been ruled out, due to the caustic and hazardous nature of these products. The acid (typically a muriatic acid) in the acid etch product attacks and breaks down the laitance at the surface of the concrete. However, due to the varying degrees of hardness found across a typical concrete slab this method can produce inconsistent degrees of porosity. Because of this, the acid etching process may have to be repeated several times until a uniform porosity is achieved across the entirety of the slab. Acid etching can and is a highly effective method of prep, if done properly. A variety of concrete acid etch brands are readily available and can be purchased at most local box stores at low cost. We encourage you to

read the label and follow the directions of your chosen acid etch product. With that said, below we will outline the basic process as well as offer you some practical tips to make the process go as easy and as smoothly as possible.

Wash the floor down first. If you do not have a pressure washer, renting one at a local home center or paint/hardware store makes this job much easier and faster, and will get the floor cleaner. While the floor is still wet, spread the mixed etching solution over the area to be coated with the aid of a broom or mop and allow it to soak as directed. You may notice some slight foaming, this is normal. While the solution is soaking, scrub the floor with a medium to heavy bristled boat brush, bristle-type broom, or scrub brush on a stick. Once the acid solution has soaked for the recommended time period, rinse the entire surface with plenty of fresh, clean water to remove all of the spent solution and to remove emulsified oils and grease as well as any loose dirt or debris.

Once the acid etch has been rinsed off, remove any standing water with a wet/dry shop vac with a squeegee attachment. After removing the standing water, the floor should be clean and free of oils. If it does not appear to be clean or appears to be saturated with oils, then you must repeat the acid etch process, until uniform porosity is achieved. You may need to re-etch problem areas with muriatic acid at a higher concentration to achieve the needed results. Do not begin applying new coatings until the entire concrete surface is clean and dry to the touch, normally overnight but it can take longer at lower temperatures or if humidity is high.

PRO TIP: Test all acid etched areas for adequate porosity by dribbling water droplets on the floor. If the water droplets absorb in the floor after a few minutes, you are good to go. However, if the water droplets bead up and do not absorb into the concrete the etch process will need to be repeated until water no longer beads on the surface.

HELPFUL HINTS: Wet down the driveway outside of your garage and nearby plantings with a hose first before rinsing out the etch solution from your garage. This will help to protect your exterior driveway from being accidentally etched as well as aiding to protect any nearby plantings. Using a shop vac with a squeegee attachment can also be quite effective at minimizing the volume of etching compound that is rinsed down the driveway.

CHIP & CRACK REPAIRS: No liquid coating will fill or 'fix' a floor that has open cracks, or deep spalls and flakes. Any cracks, divots, spalling, roughness, leveling or other repairs must be done prior to applying the primer coat or the solid color basecoat. At Armortech we carry a variety of excellent floor repair products including joint and crack repair products. When filling cracks please follow the individual product directions, which are available on the product TDS sheet or the product label. To learn more about these products please visit our website at the following link. www.armortechepoxy.com/joint crack fillers

MASKING: Now that your surface is prepared you are ready to begin masking. Using standard masking tape or blue painters' tape, mask off any areas that you do not want to coat, such as perimeter walls and edges as well as the area extending beyond where the garage door comes down.

PRO TIP: With the garage door closed use a construction pencil to mark where the rubber seal contacts the garage floor on the inside. Once completed, raise the garage door, and measure ½" to ¾" out from your previous mark (towards the outside). Then, using a straight edge, draw a line all the way across the garage door opening between the roller channels. When masking across the garage door opening, use green concrete tape, as it will adhere well to the clean concrete and prevent the coating material from going outside or in unwanted areas.

A WORD ABOUT MIXING, BEFORE YOU START MIXING: Resinous coatings require a thorough mixing of the Part A and Part B components for the material to properly harden. Mixing can be done by using a drill and a jiffy mixer or paddle mixer. When mixing avoid mixing at high speeds, rather use a lower speed to avoid splashing and causing excessive air bubbles being captured in the mixture.

While our products are always pre-measured and packaged by weight, it is recommended that each component be measured out, individually (A & B), to the stated ratio by volume, prior to mixing.

Once each component has been measured out by volume, mix the two components together for period of 3-4 minutes. When mixing move the mechanical mixer up and down through the contents while spinning so that you get ALL of the material mixed, not just the material at the bottom of the bucket. NOTE: When mixing the A and B together you will notice 'veins or streaks' appear in the mixture. These streaks should be 100% dissipated and not visible when the products are thoroughly mixed, which is another indication of complete mixing. Be sure to stop at the halfway point to scrape the sides and bottom of the container with a large paint stick, then resume mixing for the time remaining. This will help to ensure that all the materials are properly mixed. Improperly mixed resins will not harden properly or can show color variations when applied. DO NOT MIX AT HIGH SPEEDS AS THIS CAN ENTRAP AIR BUBBLES. IMPROPER MIXING MAY CAUSE THE PRODUCT TO NOT HARDEN PROPERLY, SO MAKE SURE THE PRODUCT IS PROPERLY MIXED. IF IN DOUBT, MIX A LITTLE LONGER.

ALL OF OUR PRODUCTS ARE REGULARLY TESTED FOR HARDENING PROPERTIES. IMPROPER HARDENING OR FAILURE TO CURE IS NOT COVERED UNDER THE WARRANTY AS THE ONLY THING THAT CAN CAUSE THIS IS IMPROPER MIX RATIOS OR IMPROPER MIXING.

PRO TIP: Remember, resins are easy to work with, if you follow the directions, mix well, and apply the coating as directed.

After the components are measured and mixed you have only a limited time to apply the product. (Be sure to check the product TDS sheet, before you start, for specific product working times). HIGHER TEMPERATURES WILL SHORTEN WORKING TIMES. Work diligently and quickly to avoid premature hardening. Premature hardening is not covered under warranty. DO NOT MIX IN DIRECT SUNLIGHT and keep mixture out of sunlight. You can mix as much or as little of the material as you like, if you strictly adhere the stated mix ratio on the product. HIGHER AMBIENT TEMPERATURES CAN CAUSE HARDENING PREMATURELY. GETTING THE MATERIAL ONTO THE COOLER FLOOR AS QUICKLY AS POSSIBLE WILL ALSO HELP SLOW DOWN CURING AND EXTEND WORKING TIMES.

TINTED BASECOAT APPLICATION: At this point it is best to have the assistance of another person to aid in mixing, spreading and rolling the product out in a timely and efficient manner, within the allotted working time of the product being applied.

Once the Part A, Part B, and the desired color tint has been thoroughly mixed, pour the mixed product directly onto the floor in a long ribbon a few inches away from your starting wall. Using a notched rubber squeegee spread the material evenly over the entire floor. An appropriately sized notched squeegee will leave the appropriate mils of wet epoxy on the floor and allow you to achieve the proper thickness and coverage without guesswork. If working with a partner, this is a good time to begin cutting in around the perimeter of the room. In most open areas a 3" roller on an extension pole is perfect for pushing and rolling out the product applied with the notched squeegee pass. Use a 2 ½" angled brush or quality chip brush for tighter areas such as around garage door rails, corners, and other immovable obstacles, or mountings.

Once the product has been spread out evenly with the notched squeegee the product should be quickly cross rolled in two directions. Cross rolling will aid in spreading the product out evenly across the floor and will eliminate the lines left by the notched squeegee pass. While the basecoat is still wet begin broadcasting the decorative flake into the coating.

PRO TIP: Once an area has been cut in along the edges and properly cross rolled, begin pulling your masking tape in that area. This will prevent you from having to retrieve the masking tape after the decorative flake has been broadcast onto the floor and avoid the potential of slipping, marring, or otherwise disturbing the broadcast coating.

Please see the system application guide and/or product TDS sheet or label for recommended product coverage rates. Generally, the tinted basecoat will be applied at a rate of 125-150 sq. ft. per gallon.

DECORATIVE FLAKE APPLICATION: (FULL & PARTIAL BROADCAST)
The flake application. When installing decorative flake the two most popular options are a full broadcast or a partial broadcast.

FULL BROADCAST FLOOR: A 'Full Broadcast' means that the coating, whether it be a tinted epoxy or a tinted polyaspartic, or other polymer coating is completely covered by the flakes that are broadcast into it. When you look at a full broadcast flake floor all you see is the colors of the flake, so much so that the color of the base coat almost becomes irrelevant.

A basic full broadcast system consists of three layers: The basecoat, the flake broadcast, and a topcoat. Variations of this system may also include an added moisture vapor barrier and/or a primer coat, or an even an additional basecoat, or clear seal coat, depending on the intended use, desire look, desired slip-resistance, and finish. For even more durability and wear thickness many professional installers recommend what is known as a double broadcast system. Double broadcast systems include the application of a clear coat over the first flake broadcast and the application of a second broadcasting of flake, before, clear seal coating and/or top coating. The result, a decorative, thick wear floor suitable for many residential, commercial, industrial, and heavy use areas.

For the basic full broadcast flake system using ¼" inch flake we typically recommend using a broadcast rate of 5-7 sq. ft. per pound of flake, depending on installer type and experience level.

Use this formula, for DIY or INEXPERIENCED INSTALLERS (square footage divided by 5 = lbs. of flake needed) EXAMPLE: 100 sq. ft. ÷ 5 sq. ft. per lb., equals = 20 lbs. of flake needed.

Use this formula, for EXPERIENCED OR PROFESSIONAL INSTALLERS (square footage divided by 7 = lbs. of flake needed) EXAMPLE: 100 sq. ft. ÷ 7 sq. ft. per lb., equals = 14.28 lbs. of flake needed.

You may think that it sounds unfair to recommend an inexperienced or DIY installer purchase more flake to do the same size floor than we would a professional installer, and we understand that, but let's be honest, as first-time installer, wouldn't you rather have a little left-over flake, than experience the alternative, running short of flake on a floor that is hardening by the minute?

The amount broadcast will depend on your desired level of flake saturation. For a full broadcast flake floor in ¼" flake, the flake will be broadcast at a rate of 5-7 square feet per pound. Application rates for different size flakes and/or flake types (example, Paint flake vs. Mica flake) will vary. For more information on application rates for full and partial broadcast floors please refer to our "Flake Broadcast Rate Chart" which is available on our website. Use this chart to find the proper application rate for your desired look.

When installing a full broadcast flake floor as the coating material begins to level out, which only takes a few minutes. Begin broadcasting your decorative flake into the wet coating. This is best accomplished by starting your broadcast in the area that was coated first, and progressively working back towards the last area that was coated.

HELPFUL HINT: Distribute the decorative flake from the box it comes packaged in into several, clean, five-gallon buckets. Fill the buckets approximately halfway or with an amount of flake that is easily manageable for you. Next, cradle the bucket under one arm and use your free hand to scoop and toss handfuls of the decorative flake into the air and allowing it to randomly rain down onto the surface, do this repeatedly until the entire surface is evenly covered.

PRO TIP: Work quickly, and don't be afraid to make a mess with the flake. Keep in mind it is normal to have a large amount of loose 'dry looking' flake on the floor when you are done. As you walk around keep an eye out for any 'shiny spots', or areas that still look 'wet'. These are areas of visible resin and should be covered completely in flake.

Be sure at this point in your project that any and all masking, or masking tape used has been pulled and removed. Failure to pull masking could result in the tape becoming embedded or stuck in the coating and require the need to cut it out after the coating hardens. Trust us, you don't want to have to cut blue masking tape out of your new white floor or any color floor for that matter.

After the broadcast coat has been allowed to cure, (please see specific product type for individual product cure times). The floor will need to be scraped, possibly lightly sanded, and vacuumed thoroughly and top coated unless doing a double broadcast.

DOUBLE BROADCAST FLOOR: Once scraped and vacuumed clean, apply an additional clear coat over the first broadcast coat with a notched squeegee and cross roll. After the cross rolling is complete and the coating has begun to level out, again begin broadcasting flake as has been previously described. Once the second broadcast coat has been allowed to cure. The floor will again need to be scraped, possibly lightly sanded, and vacuumed thoroughly to remove any dust, debris, as well as any loose flakes. After which you are ready to apply a seal coat and/or a final topcoat.

WHAT IS A SEAL COAT? A seal coat is a clear coating that is applied over the final flake broadcast. Seal coats are applied for several reasons, they serve to fill voids between flakes, protect and encase the decorative flake broadcast coats, provide a thicker wear surface, added durability, as well as aid to decrease the aggressive texture of an unsealed flake floor. (In most cases, an application rate of 90 to 120 sq. ft per gallon works exceptionally well to both seal the flake and provide an acceptable texture level.

PARTIAL BROADCAST FLOORS: Also known as a random broadcast, partial broadcast floors are among the most popular with DIY installers. As the name suggests these floors are achieved by randomly sprinkling small amounts of decorative flake into the still wet coating. This is a different look than a full broadcast floor. When you look at a partial broadcast floor, what you see is the color of the tinted or colored basecoat, with only a light sprinkling of flakes as an accent. These floors may or may not be top coated, although a topcoat is typically recommended.

HELPFUL HINTS: If working without the aid of an assistant, break the project into manageable sections. While maintaining a wet edge, immediately after applying the coating to a given section apply the flakes by carefully sprinkling them from a height of approximately three feet and allowing them to randomly 'rain down' onto the wet surface. Do not 'throw' the flake down, it is better to throw them up and let them rain down naturally. Be mindful not over-apply the volume of flakes in any one area. The flakes should be sprinkled so that the surface is randomly applied yet still has a somewhat uniform appearance. Be sure to leave a wet edge free of flake where you can start spreading and rolling out your next area without disturbing the flakes you have already applied.

Please note: Try to keep the applied flakes on only the wet areas that have been coated, leaving a wet edge of approximately two feet wide with no flake applied, yet. Continue this process of spreading, rolling, overlapping, and sprinkling of the flake until all areas are completed with a uniform appearance. If you do get a few flakes onto the uncoated areas, vacuum them up if possible or they will become entrapped or stuck to your roller. If you do forget to leave an overlap area for the next section, you can just lightly recoat (if needed) and sprinkle with flake. Be sure to take note of how many flakes you have for the project and apportion them adequately, so you don't run short at the end of the project.

Try practicing applying the flakes by sprinkling some over a clean, dry area of the floor before starting your project. The loose flake can easily be swept up and used again, as long as you don't pick up a bunch of dirt and debris with it.

Please note that if you notice any uneven or problem areas with your application do not apply the topcoat until you have rectified those issues. Normally topcoat will not 'fix' issues with the previous layer of an application.

POLYASPATIC TOPCOAT APLICATION: When applying the polyaspartic topcoat, it will be applied in the same manner as the basecoat was applied. Mix the parts A and Part B together, as directed on the product label. Once mixed, pour the mixed product directly onto the floor, work quickly to evenly spread the material using a flat or notched squeegee. As with the seal coat application the product will need to be back rolled to aid in distributing the product evenly across the floor. Begin on a far wall away from your exit. Use a 3" inch roller and/or a 2 ½" angled paint brush to cut in. Using an 18" roller, roll out the polyaspartic in a 3-4 foot swath, using a large W pattern to evenly spread the polyaspartic, once rolled out, stop and do a final roll across the freshly applied poly coat by starting at one end of the room and gently pulling the roller behind you across the floor until you reach the other side, repeat the procedure from one side of the room to the other, always doing the final roll across the areas in the same direction and always maintaining a wet edge. (Be sure to not leave areas of thick or pooled polyaspartic).

(In most cases, an application rate of 90-100 sq. ft per gallon, works exceptionally well as a seal coat and provides an acceptable texture level. If a smoother finished texture is desired, once cured, the floor may be sanded and recoated typically at a rate of 200-250 sq.ft per gallon).

CLEAN UP: Coating materials can be cleaned off hands and other surfaces before the material hardens with isopropyl alcohol, mineral spirits, xylene (xylol), or lacquer thinner. It is advised that when working with coatings materials that you make a small one- gallon size container filled with several lint free rags that have been soaked in either isopropyl alcohol or denatured alcohol. These alcohol-soaked rags will be handy in wiping up hands, tools, and any unwanted spills or splatters. Once fully cured most coatings can only be removed with either lacquer thinners, or through mechanical methods such as grinding or sanding. Any leftover mixed materials, containers, brushes, and roller covers will harden once the material cures and should be disposed of according to your local regulations.

RETURN TO SERVICE: At 75 def F, the new coatings should cure for at least 4 hours before opening the area to foot traffic and 24-72 hours before parking or driving on it. Extreme variations in temperature and humidity levels can dramatically impact stated curing times.

MAINTENANCE: Armortech surfaces are easy to maintain through periodic mopping with a non-bleach household detergent solution and rinsing with clear water. Clear topcoat should be re-applied based on usage, salt/winter exposure and wear as part of a regular maintenance program.

SAFETY: As with any chemical, avoid contact with skin, avoid inhalation, and wear protective clothing, rubber gloves and eye protection. Apply only in well ventilated areas. Follow all local, state, and federal regulations that may apply to your area. See our website at www.armortechepoxy.com for TDS and MSDS sheets.

THINNING: Some of our products may be thinned by using up to 10% by volume of xylene (xylol) per gallon but is typically not needed or recommended. Please call and consult with one of our company representatives before thinning any product.

FIRST AID: For skin contact, wash thoroughly with soap and warm water. In case of contact with eyes, flush with warm water and immediately contact a physician or go to the emergency room of your local medical center or hospital. If swallowed, do not induce vomiting. Contact a physician and the poison control center.

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