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"Professionals of Epoxy Applications"

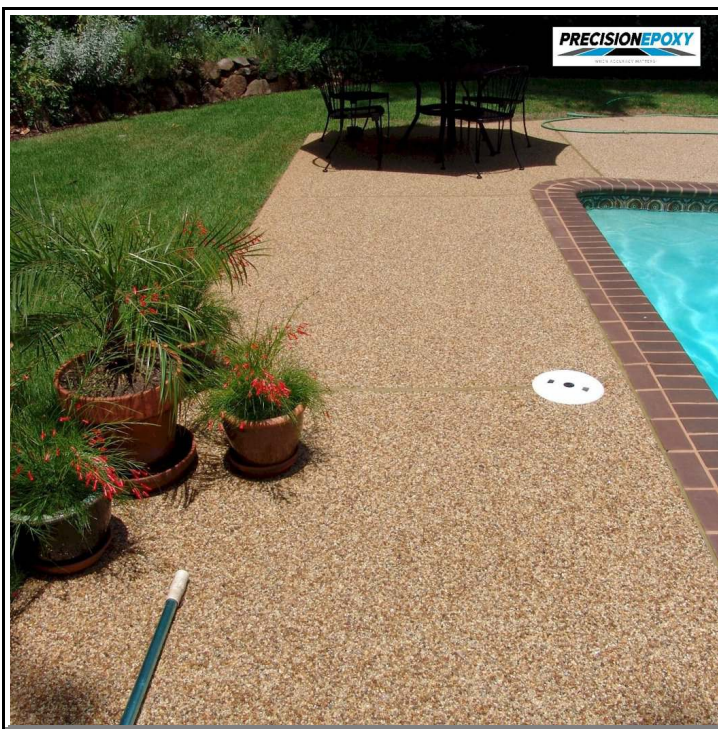
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Epoxy Riverstone Decking Installation Procedures

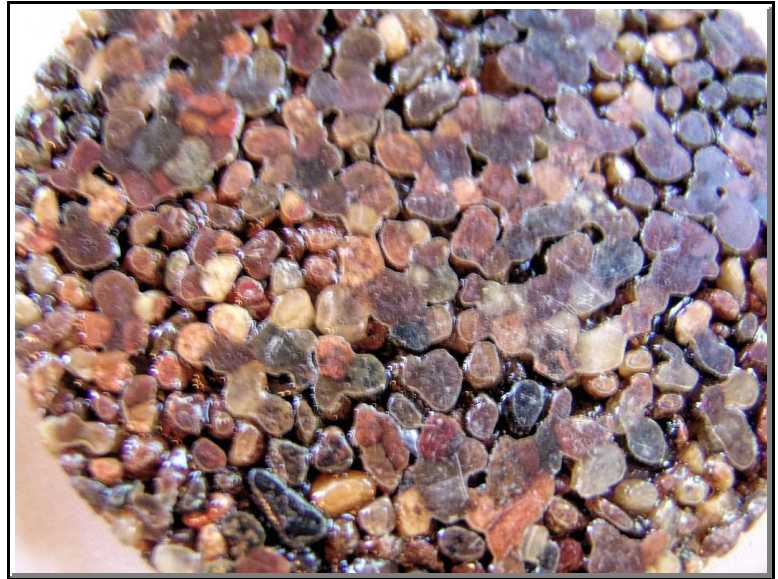
Understanding how Epoxy Riverstone Decking (Epoxy Rock) works and how it should be installed

This will explain how Epoxy Riverstone Decking works, proper application techniques, the products offered by Precision Epoxy Products and the benefits gained both structurally and cosmetically when properly installed. Rock Art's Epoxy Riverstone Decking is suitable for pool decks, walkways, patios, driveways, porches, landings or just about anywhere exterior or wooden substrates need to be attractive and functional. Riverstone Decking is achieved by blending a natural rounded river gravel, generally 1/8 to 3/8 inch in size, with one of the six formulations that make up the Stone Bond Series epoxy binders. This creates a wet mix which is hand troweled to a smooth finish over a properly prepared substrate to a thickness of generally 3/8 to 5/8 of an inch. Epoxy Rock overlays can be applied as thick as needed to satisfy unusual structural or cosmetic requirements such as wheel chair ramps, leveling uneven substrates, drainage channels and so on. This overlay when properly installed has a strength that is generally 1½ to 2 times greater than concrete. The strength of the epoxy rock overlay depends on the quality of the epoxy binder

being used, the proper amount of epoxy binder coating the stones and the tightness of the stones to each other when troweled into place. Riverstone Decking is purposely designed to be a porous overlay and relies on substrate drainage. The porosity of the epoxy rock overlay will depend on the size of the stone being used and should have a void percentage of between 18% to 33%. This allows ground slab concrete without a vapor barrier to 'Breathe' or release ground moisture migration which would normally damage or lift solid bond type coatings that create a vapor barrier on top of the concrete. The bonding of Epoxy Rock to the concrete substrate is accomplished by the run-off of the epoxy binder from the stone aggregate as it is troweled into place. This run-off is referred to as a 'Self-Priming' action. The Self-Priming is controlled by the proper Stone Bond Epoxy™ selection for the current application temperature of the installation which yields the correct viscosity. This allows for the proper amount of run-off from the wet aggregate to the substrate to properly bond without totally coating the concrete with epoxy.



Pictured is the underside of an epoxy rock overlay troweled into a plastic sample dish to simulate an actual installation at 90° F. The puddling of the SB-65 Epoxy shows the proper amount of self-priming action to properly bond the overlay to the substrate while still allowing the substrate to breath.



Pictured is the underside of a competitors epoxy rock overlay that we repaired for the customer after it failed. The original installation was done on a 90°± summer day and the epoxy binder being used had too thin a viscosity and allowed for a solid self-priming of the concrete substrate. The overlay could not breath and eventually lifted due to hydrostatic pressure from ground moisture migration.

Pictured is the underside of another competitors epoxy rock overlay that we repaired for the customer after it failed. The original installation was done on a 50°± fall day and the epoxy binder being used had too thick a viscosity and allowed for no self-priming of the concrete substrate. The customer notice the overlay was hollow (no bond to the substrate) after the first freeze that winter.



The Epoxy binder used in a Epoxy Rock overlay is much like molasses in the sense that the colder the temperature, the thicker or more viscous the epoxy will become. On the other hand, the hotter or higher the temperature becomes, the thinner or less viscous the epoxy binder will be. When installing an epoxy rock overlay with an epoxy binder that has too thin a viscosity for the application temperature, you will have too much run-off during the self-priming action creating a solid bond to the concrete and blocking ground moisture migration. This can and will eventually damage and/or lift the overlay. Furthermore, with too much run-off, the overlay will be brittle with not enough epoxy binder within the aggregate to maintain proper bonding of the stones. This scenario will cause the stones to pick out easily and degrade the overlay prematurely. On the other hand, if the epoxy binder has too high a viscosity for the application temperature, the epoxy rock overlay will have little or no self-priming action. This will give a strong top surface but the overlay will be floating with no bond to the substrate resulting in a hollow feel and sound when walked on or tapped with a solid object. Either scenario will result in an Epoxy Riverstone Decking overlay that is inferior to one that has been properly installed with the proper Precision Epoxy Stone Bond™ binder.

**Note: Stone Bond Epoxy™ is a Registered Brand Name of Rock Art, Ltd.
(registered in 1986)**

Accept no substitutes of inferior products by companies that try to represent themselves as equals by using the term 'Stone Bond Epoxy'

Stone Bond Epoxy Series™ is used as the binder epoxy for troweled porous exterior Riverstone Decking applications. Stone Bond resins (Part 'A') can be used with either the Summer Cure or Winter Cure Stone Bond hardeners (Part 'B'). Stone Bond epoxy resins are designed to maintain the correct troweling viscosity at the given application temperature. Stone Bond hardeners are designed to give a desired rate of cure at the application temperature. Stone Bond is also suitable for exterior Industrial Flooring and Quartz Flooring applications exposed to direct sunlight. Stone Bond can also be used in special application variations as the binder of choice for Santex Flooring, Patching or Substrate Modifying Systems. Stone Bond Epoxies™ will cure out clear in the presence of moisture.

SB-30 (mix ratio 2:1 / A:B)

Stone Bond Epoxy™ with suggested application temperature of 20 to 40 degrees F.

SB-40 (mix ratio 2:1 / A:B)

Stone Bond Epoxy™ with suggested application temperature of 35 to 50 degrees F.

SB-50 (mix ratio 2:1 / A:B)

Stone Bond Epoxy™ with suggested application temperature of 40 to 65 degrees F.

SB-60 (mix ratio 2:1 / A:B)

Stone Bond Epoxy™ with suggested application temperature of 60 to 80 degrees F.

SB-65 (mix ratio 2:1 / A:B)

Stone Bond Epoxy™ with suggested application temperature of 75 to 95 degrees F.

SB-95 (mix ratio 2:1 / A:B)

Stone Bond Epoxy™ with suggested application temperature of 90 to 115 degrees F.

DS-190 (mix ratio 2:1 / A:B)

Deck Sealer Epoxy™ is a sealant for exterior Epoxy Riverstone Decking applications that have aged due to UV degradation from exposure to direct sunlight and/or excessive foot traffic. DS-190 restores the cosmetic high gloss beauty of the original decking installation along with maintaining the decks structural integrity. Being a fluid system, it is easily applied by brush and roller or airless sprayer after deck has been pressure washed and allowed to dry. This system has all the advantages of the Stone Bond Epoxies™. See Riverstone Maintenance for additional information.



Proper selection of the Precision Epoxy Products Stone Bond Series™ epoxy binder will provide the proper viscosity at the application temperature from 20° to 115° F as well as allowing for variable rates of cure to suit the application requirements of any project. Other important factors of the epoxy rock overlay are the method used to measure and mix the epoxy binder's two components of resin and hardener. Then the method used to mix the blended epoxy binder with the riverstone. There are several methods that have been used by professional and amateur installers over the years; some good, some not so good and some that are worthless. The stones have to be 100% completely wet with the epoxy binder for a proper overlay. The strength of the overlay is solely dependent on how tightly it is packed when troweled into place. A tightly packed overlay has a higher percentage of contact between the stones or contact of any one stone with the stones around that stone. This results in the high strength characteristics the overlay is capable of and you are trying to achieve. A loose epoxy rock overlay (not tightly packed) has a lower percentage of contact between any one stone and the stones around it. This results in less bond strength between the stones and provides an overlay that is brittle with substandard compressive strength, flexural strength, tensile strength and tensile elongation. Now add to this stones that have not been properly coated with the epoxy binder or even worse, have dry spots with no epoxy binder at all, then you have an overlay that is doomed to fail. Stones that are not properly coated are very common when a poor blending method is chosen. Rock Art and all our authorized dealers use a specially designed M-60 Mixer for Epoxy Riverstone Decking installations because it is absolutely the best mixer for this type application. See Epoxy Rock mixing techniques for additional information.



The size of the stone aggregate also plays a role in the strength of an epoxy rock overlay. Smaller stones will pack together tighter and produce a stronger overlay while larger stones, even when packed tightly, will not have as much contact with the stones around them and the results will be a weaker overlay. With that said, there are draw backs to using too small of an aggregate for Epoxy Riverstone Decking. The transition of small river rock goes to large sand. Use too small an aggregate and you lose the proper amount of porosity for the substrate to breath properly. This will only apply to 'on grade' substrates and not to 'above grade' substrates. The second problem with too small an aggregate is that you lose the ability to properly maintain it when applied in areas exposed to sunlight. See Riverstone Maintenance for additional information. The ideal size of the aggregate used for exterior epoxy rock overlays is between 1/8 to 3/8 inch in size with 1/4 being the most common. Further more the aggregate has to be specially processed to be cleaned, dried (free of any moisture) and consistently sized. If you use 'Trash Rock' you will encounter all shapes and sizes of stones as well as sticks, grit, and other debris that will ruin the cosmetics of the overlay as well as the bond strength. The

consistent color of the aggregate is also equally important. If you are using 100 each 50 lb bags of stone (for example) for a pool deck installation and lets say 3 of those bags have a slight color tone difference from the other 97, they will stand out like a sore thumb in the overall project. This will be a 'Not Acceptable' situation if not by you, then certainly by the customer. You must acquire your riverstone from one of the few quarries that process aggregate for our industry. See Links Page 3 for contact information on these quarries.

There is much more to the Epoxy Riverstone Decking System than just troweling the epoxy aggregate blend over a substrate. The harsh environment that exterior coatings experience, combined with the fact that an exterior substrate is constantly moving in various directions due to thermal shock from ever changing weather conditions as well as settling due to soil erosion when drainage characteristics are not correct. That is why substrate preparation plays a critical part in an exterior deck coating's cosmetics, function and longevity. Where other suppliers/installers just cover up problems with the substrate, Rock Art offers structural repair solutions for the substrate prior to the epoxy rock application for permanent solutions.

The following are the most common aspects of a substrate that should be dealt with and/or corrected or considerations made for prior to epoxy rock application:

1) Pressure Washing

Pressure washing is the most common method used to clean and prepare a concrete substrate for the epoxy rock overlay installation. In some situations, more aggressive preparation techniques may be required

2) Existing Coatings

Existing coatings would, in most cases need to be removed. In some cases however, the epoxy rock can be applied over coatings that are solid and show no signs of defects. This would be handled on a case by case basis. Remember if you apply the epoxy rock over an existing coating, you are bonding to that coating and not the substrate. If the existing coating you are bonding to fails and/or lifts then the epoxy rock will do the same. Consult with Precision Epoxy for any special situations on your project for substrate preparation.

3) Adjoining Surfaces

Flat surfaces that connect or adjoin to the area to which the epoxy rock is being applied. Most common would be concrete next to brick, tile, carpet, wood or any other type flooring or decking material. This would include doorway thresholds or the same concrete that continues on past where the epoxy rock stops. If the transition between the two surfaces is flush prior to installation, then the epoxy rock will be ½ inch higher after installation. The two most common ways to deal with this is first; the mounting of the Threshold Trim Molding (see Riverstone Finishing Components for additional information) to which the epoxy rock is troweled into for a quarter round transition between surfaces. The second is to make a ½ inch deep saw cut at the transition line between the two surfaces. Then chisel to removed the concrete in a tapered fashion from the saw cut back several inches (distance will depend on the size stone being used and transition angle desired) on the epoxy rock side. This will give you a ramped recess that will allow the epoxy rock to be installed flush with the adjoining surface. The angle and distance of the chiseled out area will determined the angle or slope of the epoxy rock from the adjoining surface to the normal height of the overlay. This method allows for an almost unnoticeable transition if desired. (see Front Entrance Installation for additional information)

4) Standing Water

Standing water needs to be eliminated on the substrate prior to the epoxy rock installation. This can be accomplished with the application of the Santex System to fill low areas and correct drainage characteristics for small puddling spots. In more problematic areas, drains may need to be installed in the substrate. Standing water on the substrate means that there will be standing water within the epoxy rock. This water, not being able to drain off will sit in the epoxy rock until it evaporates away. As the water evaporates away it leaves behind all the dirt particles, any debris and chemicals such as salt and chlorine. This will eventually leave these areas very dirty and/or with a whitish appearance. Debris in the epoxy rock overlay will also aid algae growth. Consult with Precision Epoxy for additional information for correct substrate drainage. (see Santex System for additional information)

5) Expansion Joints

Expansion Joints in the substrate are retained in the epoxy rock overlay with CFZ Control Joints (see Riverstone Finishing Components for additional information). An expansion joint is installed to control the thermal movement created by the changing ambient air temperature of the environment in which the substrate is installed. When properly installed and positioned within the layout of an area, expansion joints will control the proper expansion and contraction of the concrete substrate and eliminate the development of stress fractures as it ages. An Epoxy

Riverstone Overlay Should Never be applied directly over expansion joints for any reason, they will crack through at some point in time. Other methods to retain expansion joints in the epoxy rock are PVC strips or wood strips. Either are better than nothing at all but are not as effective or permanent as the CFZ Control Joints.

The C-F-Z Control Joint is designed for maximum effectiveness in controlling substrate expansion joint and cold joint movement with regards to structural, cosmetic and waterproofing values. The C-F-Z (Constructed Flexible Zinc) Joint is used for retaining and representing the expansion joints in the substrate within the Epoxy Riverstone overlay whether they be existing or added saw cut joints. Expansion joints, most cold joints and some stress fractures within the substrate have some degree of expansion and contraction characteristics due to thermal movement. If the Riverstone Decking is installed over these areas, then cracking of the overlay will eventually occur. This situation will be eliminated with proper use and placement of the C-F-Z Control Joint as apart of the Riverstone Decking installation.



The C-F-Z Control Joint is also used to finish the Riverstone overlay at the substrate perimeter adjoining vertical surfaces such as walls, post, steps, doorway molding, fences, pool coping, etc for absorbing thermal movement and waterproofing. This is essential for adjoining surfaces that are made of wood that can rot or metal that can rust. The Riverstone Decking, being a porous overlay, tends to allow moisture to migrate into or against these items below the surface of the overlay. When troweling up against these type surfaces, this situation creates an accelerated rotting of the wood and/or rusting of the metal which can go undetected until it is too late and the damage is done. This problem can be completely eliminated with proper use and placement of the C-F-Z Control Joint as apart of the Riverstone Decking installation.



The C-F-Z Control Joint is fabricated on site by mechanically screw mounting zinc strips along both sides of an expansion joint at the edge of each slab section. The 1/2 to 3/4 inch wide gap created between the zinc strips is filled with one of the flexible gel epoxies or similar type flexible caulking material (see Technical Bulletin on Flexible Gel Epoxy Series). When using the C-F-Z Joint adjoining vertical surfaces, only a single zinc strip is mounted 1/2 to 3/4 inch off the surface and the flexible membrane material is applied to fill the gap and tooled to a smooth, waterproof control joint. Should substrate settling or roughness hinder or prohibit even mounting of the zinc strips, then a layer of Santex (see Technical Bulletin on Santex System for more information) can be applied first to allow for uniform zinc mounting. The C-F-Z

Control Joint is far superior to using wood or PVC type expansion joint material because it waterproofs the substrate expansion joint or cold joint, it will not dry out or rot out, is maintenance free and maintains its functional and cosmetic value.

6) Stress Fractures / Cracking

Stress cracks in a concrete substrate can be classified as two types, Shrinkage Cracks and Structural Cracks. Shrinkage cracks occur in newly poured concrete as it hardens. The cement, gravel and water mixture begin to shrink

as the water evaporates over an average 28 day period. The stresses created by this shrinking cannot be overcome by the amount of strength developed in the freshly poured concrete. If new concrete is poured on a windy day, the top may start to harden before the bottom, which will cause the concrete to shrink unevenly creating 'Spider Web' cracks. If pouring new concrete on grade without a vapor barrier, as is the case with most exterior applications, the lack of moisture content in the soil can cause the water component in fresh concrete to be drawn out too fast causing shrinkage cracks. These are a couple of examples of the various reasons that Shrinkage Cracks can occur.

Structural cracks occur in concrete substrates over a period of time and will generally indicate where expansion joints should have been placed at the time of installation. Structural cracks can be caused by disruption of the soil underneath on which the concrete slab is resting. This can be from settling or the growth of tree roots for example. You must determine the type of crack that you have and make corrections to the crack in the proper manner prior to the Epoxy Rock installation.

Most shrinkage cracks can be treated with our FL-115 Fiberglass System. These cracks are not going to worsen if treated and waterproofed. Structural cracks however, will generally need to be converted to expansion joints to assure that they will not cause further problems after the Epoxy Rock installation. (see Riverstone Finishing Components for additional information).

7) Cold Joints

Cold Joints in concrete substrates are seams created when new concrete is poured up against existing concrete that is already hardened. This cold joint seam will have thermal movement acting as an expansion joint and/or a stress fracture depending on the situation and should always be treated prior to the epoxy rock being installed. The two main treatments for cold joints are to fiberglass as a stress fracture or retain as an expansion joint. Additional considerations may arise with cold joints requiring other treatment techniques, consult with Precision Epoxy for your particular situation.

8) Spalling Concrete

Spalling concrete is where the top crust layer of the finished concrete substrate is chipping or flaking off. The most common reasons for this situation is from fire or freeze damage, problems during the installation of the concrete or severe impact. The finished top layer delaminates or crumbles away like 'Pie Crust' to expose the aggregate in the concrete mixture underneath. The situation will need to be stabilized prior to the application of the epoxy rock overlay or it will continue to worsen. In more extreme cases, the problem area is cut-out, removed and new concrete is then repoured. The most common spalling problems however, can be repaired with our Santex or Slurry Coat Epoxy Systems. All loose areas are chipped away to expose the sound, undamaged concrete underneath then, the Santex or Slurry Coat System is applied to protect from further delamination and to re-elevate the substrate for proper drainage characteristics. Consult with Precision Epoxy for your particular project's needs. (See Santex System and Slurry Coat System for additional information)

9) Uneven / Settling Concrete Sections

Uneven or settling concrete sections will always be separated by an expansion joint or a major stress fracture in the concrete substrate. In most all cases, the difference in elevation between the two sections of concrete is caused by water flow creating soil erosion underneath the slab. When the ground material on which the concrete substrate is resting is washed away, the concrete has no support and settles downward. This process causes changes to the concrete based on the pivot point in the slab section where it is still supported underneath. The change will be downward on one side and upward on the other side of the pivot point or it will simply crack or break off at the pivot point. This situation is best recognized by the creation of a lip or 'Toe Stumper' in what should be a smooth, flat surface. This situation is also self-perpetuating due to the fact that the joint and/or stress fracture is made excessively wider as the settling occurs allowing for more and more water drainage through the opening resulting in more and more soil erosion. Correction of this type substrate problem prior to the epoxy rock overlay application is paramount for a successful and permanent installation.

There are several proven methods for correction of settling concrete based on the severity of the existing problem. The concrete can be cut out, jack hammered, the soil erosion area underneath refilled and new concrete repoured.

The settled concrete can be drilled with a series of core holes and new concrete pumped through the core holes underneath the slab to fill all voids and hydraulically lift the existing concrete slab back to its original position.

In less severe situations, the joint and/or crack can be used to pour sand through to fill any small voids, then the elevation difference between the two sections can be corrected and made even with the Santex System application. Once the elevation correction is made the joint and/or crack is retained and waterproofed with the CFZ Control Joint application and the epoxy rock overlay is ready to install. Remember, all expansion joints and stress fractures in a concrete substrate should be properly treated to prevent them from becoming a drainage point within the deck. If this is done, the chances of future settling problems will be mostly eliminated.

10) Adjoining Structures

Adjoining structures will include buildings, walls, support post, fences, fence post, curbs, permanent planters, raised wooden decks, step risers, raised thresholds, or any other raised item made of concrete, brick, steel, aluminum, PVC or wood that the epoxy rock overlay is applied next to. Remembering that the epoxy rock is a porous overlay brings on a different set of challenges than with non-porous overlays. The most over looked aspect by installers of this situation is that the epoxy rock cannot be waterproofed by caulking on top of the overlay. Being porous and reliant on substrate drainage, means that caulking or other waterproofing techniques applied to the top of the epoxy rock at the vertical edge of the adjoining structure is totally worthless. Furthermore the porous nature of epoxy rock when applied next to steel structures will cause untreated or aging steel to rust or corrode at an accelerated rate. This is also the situation when applied directly against wood structures, the porous aspect of the epoxy rock will cause accelerated water damage or rotting of the wood.

The second consideration when applying epoxy rock against adjoining structures is the expansion and contraction movement created by thermal extremes of hot and cold in an exterior environment. If not recognized and dealt with properly during installation, this movement can cause future damage to the epoxy rock and/or adjoining structure.

The installation of the CFZ Control Joint at the vertical edge of any adjoining structure to separate the epoxy rock from the structure will eliminate any and all of the negative aspects. The CFZ joint will absorb thermal movement, waterproof the seam and/or cold joint, and protect the adjoining structure surface from moisture. The CFZ joint can also be properly re-caulked in the future should the need arise. Other methods are available for proper installation in unusual situations, consult with Precision Epoxy for your particular project. (See CFZ Control Joints for additional information)

11) Outer Perimeter Edges

The outer perimeter edges of a deck, patio or walkway are where the concrete substrate ends and the landscaping begins. Inexperienced or 'Fly by Night' installers will simply trowel the epoxy rock overlay up to the edge of the slab and stop it there, this is so wrong and such a lazy, amateurish technique that is doomed to fail. Understanding the very nature of how epoxy rock works should make it obvious that if your trowel work simply stops with no method of retaining the stones, the outer edge only has bond strength on the inside contact of adjoining stones (half the structural strength). This situation will allow the outer edge to be easily chipped or delaminated causing the stones to fray or chip away with impact from outside sources or from UV degradation. Furthermore this fraying process is a perpetual situation with no way to stop it. Soon the outer perimeter of your Epoxy Rock Deck is a jagged mess with the concrete substrate exposed.

There are two proper methods for finishing the epoxy rock at outer perimeter edges. Retaining the epoxy rock with mounted Zinc Strip Hardware or Wrapping the Edge with the formed epoxy rock system. Installation of the 'L' angle Zinc Strips is done in order to have a structural retaining wall in place to finish the epoxy rock overlay at the outer edge. The Zinc Strips give a neat, clean, professional finish while maintaining the structural integrity of the overlay throughout the life of the epoxy rock decking. Zinc Strips can be mounted to follow any shape or pattern of the substrate and will not hinder drainage. See more on Zinc Strips and recommended mounting techniques in the Riverstone Finishing Components section.

The second method of properly finishing the epoxy rock overlay on the outer edge of a substrate is forming. Forming or wrapping the edge is accomplished by digging the dirt adjoining the slab perimeter down to an even groove about 2 to 3 inches wide to expose the vertical edge of the concrete. The edge is cleaned and profiled for proper bonding and the form boards are cut and prepared by applying a form release agent. Survey stakes are placed as needed between the concrete and form boards to act as spacers. Additional survey stakes are hammered into the ground on the outside of the form boards to hold them in place during application. The vertical epoxy primer is applied and the epoxy rock is filled into the forms removing the spacer stakes as you go. Once the flat work is troweled into place up to the filled form boards, a special edger tool is used to give the epoxy rock a nice quarter round finish at the outer edge for safety and structural integrity.

12) Inner Perimeter Edges

This will be items such as pool coping, free standing objects, decorative displays and/or art statues, plaques, etc. Consult with Precision Epoxy on methods to deal with your particular situation.

13) Drains

Drains and drain covers will need to be retained in the epoxy riverstone overlay in order to be access for cleaning out if needed. Different drain types such as channel drain and single drain intakes have a variety of methods to handle for proper function and cosmetic value. Consult with Precision Epoxy for best results for handling your situation.

14) Skimmers

Pool skimmers need to be raised flush in the epoxy rock overlay for the best function and cosmetic results. All skimmers consist of the various housing and plumbing hardware installed by the pool contractor and encapsulated within the concrete substrate by the concrete contractor. If the epoxy rock overlay is apart of the new construction plans, simply have the pool and concrete contractors leave the skimmer frame and cover raised ½ inch higher than the finished concrete work. Unfortunately, the Epoxy Riverstone Decking is more often used during a remodeling project long after the concrete contractor has gone. Fortunately this is a situation that can be easily handled with some simple and detailed fabrication work. The skimmer cover and frame or collar in which the cover seats is a separate piece from the main access and flow channel housings that feed the filter and skimmer pumps. The skimmer lid collar can easily be gently chiseled loose and lifted out of the concrete while retaining the mounting / alignment marks. The brand name and model number of the skimmer cover and collar will be clearly visible on the underneath side of the skimmer cover and is sold as a set and a new unit is purchased at a local pool supply house. The new frame and cover are installed in the exact mounting location as the old only raised ½ inch higher than the finished concrete work. The Santex System is used as needed for proper installation, waterproofing and drainage considerations. Then the epoxy rock is installed flush with the new skimmer hardware utilizing the new skimmer frame recessed mounting lip to lock the collar into place as had originally been done with the concrete.

15) Meter or Plumbing Access Covers

As with skimmers, all meter and/or plumbing covers need to be raised ½ inch to allow the epoxy rock overlay to be troweled flush with these items. There are many various types of these items and just as many ways to handle there fabrication for the needed results. If a collar extension can be fabricated for the lid or cover to be place ½ inch higher than the substrate, then this will be the route to pursue. On most meter boxes, the lid seats into the housing and will rest on a recessed ¼ to ¾ inch wide lip. The support lip can be easily raised ½ inch with aluminum bar stock or other suitable material which supports the lid and makes it ½ inch taller. The top of the meter box opening is trimmed out with zinc strips using the lid as a pattern guide and you now have a meter box that has been raised flush in the epoxy rock overlay. You do not want to roll the epoxy rock into a meter or plumbing cover's perimeter as this will create a tripping hazard as well has a fraying edge situation. Contact Precision Epoxy with the particular situation of your project for recommended procedures.

16) Pool Cover Anchors

Existing pool cover anchors must always be removed and new ones reinstalled. The new anchors are raised flush in the river rock overlay for proper cosmetics and function. The old anchors can be out dated versions or damaged during removal making them impractical for reusing in most cases. In some situations, ¾" ID copper tubing can be used as an insertion tube for the anchor where extensions in thicker troweled rock areas may be needed or to work

with enlarged anchor holes in the concrete caused by drilling out old anchors. It is also a feasible solution to drill new anchor holes in the substrate directly in front or in most cases behind the existing anchors. This allows for the new anchors to be installed without removing the older ones. The tension on older, stretched out covers is made tighter and the old anchors are simply covered up.

17) Steps

Steps are sometimes apart of an epoxy rock overlay installation and can be handled in two different ways. The first way is to simply form the step riser as you would when wrapping edges at the outer perimeter of a substrate. Using a forming board with a release agent applied, place boards using survey stakes as temporary spacers and hold in place with bags of rock, cinder blocks or some other item that will secure and hold forms boards in place until ready to be removed. At the ends of the form boards where the epoxy rock will stop, the survey stakes should be screw mounted to the board and also have the form release agent applied (a thin film of vaseline works very well). The vertical service of the step riser needs to have an epoxy primer applied and the epoxy rock poured into the formed space pulling out the spacer stakes as the epoxy rock fills in. Tapping the form board with a hammer and properly packing the stone as you go will eliminate any possible ‘Honey Comb’ voids in the vertical surface. Once the riser form work is properly filled up to the tread level, the step tread epoxy rock is troweled into place from the form board to the back riser and allowed to cure. It is highly recommended that a specially fabricated edger tool is used to quarter round the front edge of the tread to remove the sharp front corner of the tread and to strengthen this corner to curtail future chipping. This application method only allows for every other step to be done at a time so once finished, the same forms can be used for the second round of every other step.

The second and ‘High End’ version of step application is to use a cantilever coping form to create a cantilever bull nose step tread for each step. This is accomplished by attaching the cantilever form in the proper location to achieve the desired bull nose thickness, close off the ends to properly retain the epoxy rock and apply the vertical epoxy primer as needed to the exposed vertical surface. The epoxy rock is then troweled into place on the step tread and into the form. The edger tool is used for the top quarter round tooling at the front top edge. This method allows for all the step treads to have the epoxy rock overlay applied at the same time. Once cured the forms are removed and the SG-25 Vertical Exposed Aggregate System is installed on the recessed riser facings to complete the process. The non-skid application is always recommended for steps in all situations.



18) Step Risers

Step risers can be formed or have the vertical exposed aggregate application using the Structural Gel Epoxy SG-25. When using the vertical exposed aggregate method, it is best to form the outer edge of the step tread with cantilever coping forms for the best cosmetics. Regardless of the application, steps are generally an involved process to allow for curing time between each application.

19) Non-Skid application

The epoxy riverstone decking can be slippery in certain situations and will need a non-skid finish as a safety feature. This is easily done by broadcasting a fine sand over the newly troweled, still wet overlay. When done properly, it will bond into the epoxy, be virtually non-noticeable and provide the proper traction to eliminate slip.

Additional items and/or situations may exist other than the ones listed above that may need attention and/or correction as part of an Epoxy Riverstone Decking installation. Contact Precision Epoxy with any questions or special needs to discuss the correct options available.

See Chemical Resistance Chart for complete test listings

Rock Art offers a One Year materials and workmanship warranty on all aspects of our Epoxy Riverstone Decking installations. This warranty is extended to Five Years provided that the owner employs Rock Art to pressure wash and reseal rock work with DS-190 Sealer Epoxy during the second or third year, as conditions warrant, after installation.

Note for Do-It-Yourself Usage:

Precautions: Either component and/or mixture can cause skin irritations. Use protective clothing, wear eye protection and gloves. Have adequate ventilation in work area, do not breathe vapors for prolonged periods. Should contact on skin occur, wash with soap and water. Should contact in eyes occur, flush eyes with clean water for 15 minutes or until removed. Do not take internally.

A particular epoxy may have many proper applications throughout many industries; therefore, a clear understanding of epoxies, their applications and limitations will aid in proper product selection and use. An Epoxy's solid state properties can only be achieved by thorough mixing of Parts 'A' and 'B' at the proper mix ratio. Higher application temperatures will accelerate reaction time reducing pot life, open time and cure time while making the viscosity of the product thinner. Lower application temperatures will make reaction time sluggish extending pot life, open time and cure time while increasing the viscosity of the product.

Statement: Every reasonable precaution is taken in the manufacture of all products and compiling of data to assure that they comply with ROCK ART'S exacting standards. Reliable tests and field experience of these products indicate their utility as described herein. The suitability of a product for an intended use shall be solely up to and the ultimate responsibility of the user/purchaser of that product. You must determine your reliability as an applicator for your specific application. We are not responsible if a product should be used by the user/purchaser in a manner to infringe any patent held by others.

We assume no liability for damages of any kind and no guarantee of results is given using this product or data because every possible variation in the method of its use or conditions under which it is applied cannot be anticipated.

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Precision Epoxy Products

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