

FUNDAMENTALS

Prior to commencing installation, attentively study all available product(s) and system(s) information and carefully read and comprehend all applicable Safety Data Sheets (SDS). Do not commence installation until a thorough understanding of the product(s) and system(s) has been reached. Work site safety is priority, the use of Personal Protective Equipment (PPE) as outlined in the SDS must be worn and used at all times. Successful installations start from the ground up, therefore surface preparation is key to the longevity and performance of the final product. Do it right and do it once.

SURFACE & SITE TESTING

The following surface and work site testing should be carried out;

- ▶ **Moisture.** Concrete substrates must be tested for moisture. In-situ RH testing to the most recent revision of AS 1884-2012 or ASTM F2170 must be performed.
- ▶ **Atmospheric Conditions.** Check that atmospheric temperature and dew point are within products allowable limits. Consult Dew Point Calculator at www.alluvius.com.au or see Alluvius Dew Point Calculation Chart.
- ▶ **Surface Temperature.** Determine if surface temperature is within product limitations.
- ▶ **Tensile Bond.** Test tensile bond strength of primer as per the latest revision of AS/NZS 1580.408.5 or ASTM C1583.
- ▶ **Surface Profile.** Putty replica may be visually compared to ICRI Concrete Surface Profile Samples, in accordance with ASTM D 7682- 10 Method A. Surface profile may also be measured using a specially designed micrometer to quantitatively ascertain the actual profile range of the sample according to ASTM D 7682 Test Method B.

Consult Alluvius Technical Bulletin - Standard Test Methods for further information.

SURFACE PREPARATION

The longevity and performance of this system is directly associated with surface preparation, improperly prepared surfaces will be prone to failure. The number one cause of system failures is inadequate bond/adhesion to the substrate. A thorough inspection and evaluation of the surface to be coated must be carried out. Two vital conditions must be met for successful adhesion to the host surface:

1. Substrate must be structurally sound and clear of any notable defects or irregularities.
2. The surface must be clean and free of any contaminants, curing agents, compounds or barriers that will interfere with adhesion.

A Concrete Surface Profile (CSP) of 2-4 is required for Alluvius INFUSION-FLAKE polymeric systems. Concrete substrates must be sound, clean and have a minimum compressive strength of 25 MPa, a minimum surface tensile bond strength of 1.5 MPa and maximum substrate moisture content of no greater than 4% (If readings are greater than 4% but less than 8%, consider EP-MVP).

Repair all cracks, pop outs, spalls, gouges and all other surface irregularities.

Consult Alluvius Technical Bulletin SP#1 for further details.

MIXING STATION

Setup a mixing station as close to the site of application as possible. Protect the floor from splashes and spills. Stage materials in succession of use but in such a way as to not mistake similarly packed material. Have all required tools, accessories, documents and materials readily available. Mixing station should be organized with sufficient room for operation.

Consult Alluvius Technical Bulletin - Mixing Of Multiple Component Polymeric Materials for further details.

SYSTEM PRIMER

Primer Selection: EP-2020 is the standard system primer, however EP-MVP may be required if site testing dictates or the applicator or owner wants to take extra measures to prevent osmotic blistering and disbandment. Faster setting primers are also available to expedite application as well as flexible membranes. Selection of primer colour is dependant on desired finished effect. Black, White and Koala Grey are the most common primer colours. See Alluvius Epoxy Colourant Chart.

Primer Application: After selection of INFUSION-FLAKE™ system primer, homogeneously mix and apply the primer as specified in the products Technical Data Sheet (TDS). If pinholes and bubbling appear, it may be necessary to apply a second coat of primer.

*Broadcasting into the primer may achieve the desired results in an economical format, however it is beyond the scope of this application guide.

FULL COVERAGE INFUSION-FLAKE™ BROADCAST BODY COAT

* An optional clear or pigmented coat of EP-2020 or PA-85 may be used for higher film build systems. Apply this optional coat at the desired film thickness but within the products specifications.

COVERAGE RATE OF INFUSION-FLAKE™: Typically 1 kg of blended INFUSION-FLAKE™ will fully cover 2 m² on horizontal broadcasting applications. When estimating material consumption and coverage rates of INFUSION-FLAKE™, it is advised to assume a 10% to 20% "wastage factor" so as not to fall short of material during application.

1. If using multiple colours, blend the INFUSION-FLAKE™ in a compost mixer or other gentle tumbling device so as to evenly distribute the solid colour flakes (manual hand mixing in a larger box or barrel is also an appropriate blending method) . After tumbling/mixing the required amount of flake, put the flake in a 10 or 20 litre bucket that can be easily carried out on to the floor for application. See Alluvius INFUSION-FLAKE™ Colour Chart.

2. Mix and apply broadcast coat of clear or pigmented EP-2020 at 3-5 m² per litre or PA-85 at 4 to 6.5 m² per litre in the case of rapid curing applications.
3. While wearing spiked shoes, broadcast the INFUSION-FLAKE™ out, up and into the air (this broadcasting method is frequently compared to “feeding the chickens”) so as to land uniformly into the wet Alluvius Body Coat. Mechanical blowing devices are recommended for use in larger areas. With the exception of vertical applications, do not throw the INFUSION-FLAKE™ directly into the wet surface coating as this can cause undesired buildups and clumping in isolated sections which will leave an uneven distribution, resulting in an uneven finish. For full coverage, broadcasting should be done to the point of “rejection”.
4. After the polymeric coating has cured, blow and sweep all residual flake into a corner or off of the surface.
5. With a trowel or floor scraper, remove all high spots and protruding INFUSION-FLAKE™ that has not been submerged into the Alluvius Body Coat - this step may also be accomplished with mechanical sanding equipment. Blow and sweep all residual material into a corner or off of the surface, being sure to clean and remove all surface contaminants.
6. Visually inspect the surface to determine if a double broadcast is required. If applying a double broadcast, repeat the previous 5 steps in sequence.

FULL COVERAGE INFUSION-FLAKE™ BROADCAST BODY COAT

STANDARD METHOD A: PA-85. This DEFENCE-TOP-COAT™ should be used for applications that are subject to continuous and direct ultra violet rays or for fast track installations. The coverage rate of PA-85 over Full Coverage INFUSION-FLAKE™ systems is 3 to 5 m² per litre. This application can be done in a single coat but is recommended to be applied in multiple coats for added durability. After homogeneously mixing component “A” and “B” together, immediately pour a ribbon of PA-85 on the prepared INFUSION-FLAKE™ surface. The first coat may be applied by tightly pulling with a solvent resistant rubber squeegee the ribbon of PA-85 across the surface with a second “roller man” immediately back rolling in the opposite direction. Another method is to apply the PA-85 with a Padco style applicator. When using the Padco applicator, you are pushing a “puddle” of PA-85 across the surface rather than pulling. Take caution when using PA-85 as this is a rapid curing polymeric material that has a very short window of application.

METHOD B: The economical standard Top Coat for a Full Coverage Alluvius INFUSION-FLAKE™ system for interior applications is EP-2020. Apply EP-2020 at 2 to 3.5 m² per litre. This coverage rate will produce a hard, thick film coating that cannot be compared to inferior and conventional thin film flake systems. EP-2020 may be further protected with the following DEFENCE-TOP-COATS™ for greater wear and UV resistance;

PUR-66 A high gloss solvent based aliphatic polyurethane with light eggshell texture.

PUR-95 A satin or matte low VOC aliphatic polyurethane with exceptional scratch and wear resistance. Recommended for commercial settings with high volume traffic.

PA-85 A high gloss, low VOC, rapid curing polyaspartic with exceptional wearing properties chemical and UV resistant.

EXPECTATIONS

Although it is possible to achieve a glass like finish, it is rarely the case that there is no imperfections in the finished coating. Due to factors related to coating applications in uncontrolled environments, it is next to impossible to have a 100% imperfection free finish. Contaminates that freely circulate in the air settle on coatings that are still curing, permanently adhering to the coating causing imperfections that seem to jump out and blemish an otherwise perfect floor. Fine particles from “lintless” roller covers are a common culprit off surface contamination. Invisible contamination, particularly silicones, can wreak havoc, causing separation, “fish eyes” and other aesthetic surface defects in the coatings cured film. Try to eliminate as much as possible any source of contamination prior to installation. Telegraphing or ghosting of over coated joints and cracks may appear in film coatings under 6 mm dry film thickness. Always explain these circumstances and characteristics of the finished material to your customer prior to accepting and agreeing upon a system to avoid false or unrealistic expectations.

DISCLAIMER

The information provided in this installation guide is given to the best of our knowledge based on laboratory testing and practical experience. This installation guide does not represent a guarantee for the properties of the product(s) described in terms of the legal warranty regulations. If clarification or further information is needed to ensure that an appropriate assessment can be made, the user should contact this company. All Alluvius Pty Ltd products are manufactured to controlled specifications and we can only guarantee the quality of the product itself. Since we have no control over the conditions under which these products are transported, stored or handled and cannot anticipate or control the conditions under which the products may be used, each user must, prior to usage, review the technical data sheet and safety data sheet in the context of how the user intends to handle and use the product and to thoroughly test them before adapting them to their own uses. We reserve the right to change the given data without notice.