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METALLIC MIRAGE

INSTALLATION GUIDE

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, 2therefore 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.
- 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 METALLIC MIRAGE polymeric systems. Concrete substrates must be sound, clean and have a minimum compressive strength of 25 MPa, a minimum surface cohesive 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 organised with sufficient room for operation.

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

SYSTEM PRIMER

Equipment: Mixing of the COVE-RES™ mortar can be accomplished with a mechanical mixing 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. Selection of primer colour is dependant on desired finished effect. Black, White and Koala Grey are the most common primer colours. Consult Alluvius METALLIC MIRAGE Primer Colour Recommendation Guide for further details.

PRIMER APPLICATION: After selection of METALLIC MIRAGE system primer, homogeneously mix and applicate 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.

METALLIC MIRAGE BODY COAT

For the purpose of this document, we will assume that the body coat is applied with EP-2020 and the standard METALLIC MIRAGE Pigment loading of 40 grams per litre of resin (Part “A”) is used.

SANDING: If unsatisfactory smoothness caused by contaminates and out gassing from the primer exist, lightly sand/screen the primer with 100 -150 grit sanding screens. If METALLIC MIRAGE body coat is applied outside the recoat window of the primer sanding/screening will also be necessary. After sanding, meticulously clean all contaminates from the surface with a high quality micro fibre applicator and Alluvius PREP-CLEAN. Do not proceed until all contaminates have been removed.

METALLIC MIRAGE Pigment Loading: Due to the nature of the METALLIC MIRAGE Pigment, there is some discrepancy as to the amount of pigment required. 40 grams per litre of resin (Part “A” in the case of EP series epoxies) should be used as a general guide line. Adding more or less pigment will alter the visual effect of the system.

METALLIC MIRAGE Pigment Pre Wetting/Mixing: If agglomerates, often referred to as "comet trails" are not desired in the final finish of the system, pre wetting or mixing will help to dramatically reduce this effect. Pre mix 40 grams of METALLIC MIRAGE Pigment to each litre of EP-2020 Part "A" or other optional resin to be used for the METALLIC MIRAGE Body Coat for 4 minutes 24 hours prior to use. Example: If 30 litres is required for METALLIC MIRAGE Body Coat, pre mix 400 grams of METALLIC MIRAGE Pigment into 20 litres of EP-2020 Part "A" 24 hours prior to use.

COVERAGE RATE: In order to achieve the full effects of the METALLIC MIRAGE Pigment, body coat coverage rate should be no greater than 1.6 m^2 per litre. Typical coverage rates are from 0.8 m^2 to 1.6 m^2 per litre when using 100% solid EP series epoxies. Variance in coverage rate will dictate the final result.

BODY COAT APPLICATION: Multiple techniques can be employed to create desired results. This document will outline the 3 most common METALLIC MIRAGE Body Coat techniques.

1. **Standard Effect:** After mixing both Part "A" and "B" homogeneously together as specified, pour a long large "ribbon" of the mixed components onto the primed surface. With a notched squeegee, pull the ribbon of METALLIC MIRAGE to cover the surface at the designated coverage rate (Typically 0.8 to 1.6 m^2 per litre). While wearing spiked shoes, walk out on to the epoxy and back roll with a high quality lintless roller cover. After back rolling you will see that the METALLIC MIRAGE Pigment softens and the roller lines disappear. In order to achieve a deeper perception of depth, use a lintless roller, looped roller or squeegee to randomly swirl and "flip" the METALLIC MIRAGE body coat just as the product begins to "gel" which typically is 10-40 minutes (substrate temperature and atmospheric conditions will dictate the amount of time) after initially pouring the METALLIC MIRAGE coat on to the primer coat. If manipulating the product outside of this window, the material may not self level and will leave prominent application marks.
2. **Marble Effect (Multiple Colours):** After mixing both Part "A" and "B" homogeneously together as specified, pour a long large "ribbon" of the mixed components onto the primed surface. With a notched squeegee, pull the ribbon of METALLIC MIRAGE to cover the surface at the designated coverage rate (Typically 0.8 to 1.6 m^2 per litre). While wearing spiked shoes, walk out on to the epoxy and back roll with a high quality lintless roller cover. After back rolling you will see that the METALLIC MIRAGE Pigment softens and the roller lines dissipate. Mix "highlight" METALLIC MIRAGE colour(s) in a separate batch and pour directly on to the freshly applied "primary" METALLIC MIRAGE body coat and then gently massage the highlight colour into the primary colour as desired to create "highlight" or "marbling effects".
3. **Hammered Crater Effect:** After mixing both Part "A" and "B" homogeneously together as specified, pour a long large "ribbon" of the mixed components onto the primed surface. With a notched squeegee, pull the ribbon of METALLIC MIRAGE to cover the surface at the designated coverage rate (Typically 0.8 to 1.6 m^2 per litre). While wearing spiked shoes, walk out on to the epoxy and back roll with a high quality lintless roller cover. After back rolling you will see that the METALLIC MIRAGE Pigment softens and the roller lines dissipate. While wearing spiked shoes, walk on the gelling body coat and lightly spray from a hand held pump up sprayer drops of XY-SOLVE or ACE-SOLVE (CAUTION! Solvents are highly flammable and can also cause adverse effects to the final cured properties of the system if applied in excess so as to cause solvent entrapment in the cured material). Larger drops will create larger "craters" while small drops or mist will create a lighter hammer tone or shattered safety glass effect. Timing is critical for this method. If the solvent is sprayed too early the effect will dissipate, voiding the technique.

If sprayed too late, separation or "fish eyes" can potentially appear as large surface imperfections exposing the primer. Note that this technique may not entirely self level. As with all finishes, testing and evaluation of techniques should be conducted on sample boards (typically cement sheeting).

As you can see, there are multiple techniques to apply METALLIC MIRAGE. It is advised to experiment on sample boards as there is a learning curve to each and every application. Samples should also be made at the site off application to compensate for differential environmental factors.

OPTIONAL DEFENCE TOP COAT

After the application of the METALLIC MIRAGE body coat, an optional DEFENCE TOP COAT may be applied if greater wear and UV resistance is required.

PREPARATION: If imperfections are present in the METALLIC MIRAGE body coat or the "recoat window" has been missed, lightly screen/sand the surface with 100-150 grit sanding screens (some thin coatings may require multiple coats to fill deeper voids caused by sanding or require a higher grit level so as not to scratch as deeply). After sanding, meticulously clean all contaminates from the surface with a high quality micro fibre applicator and Alluvius PREP-CLEAN. Do not proceed until all contaminates have been removed.

APPEARANCE: Gloss, satin, matte options are available as well as slip resistance additives (adding a slip resistant additive will decrease the level of gloss).

SLIP RESISTANCE: All slip resistant levels can be achieved, however gloss will be sacrificed as well as ease of maintenance/cleaning in extreme cases.

MATERIAL SELECTION:

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.