

## FUNDAMENTALS

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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

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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](http://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

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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 1-4 is required for Alluvius RES-GUARD™ 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

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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

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**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. For economical, thin film applications, EPW-1010 is a viable water based solution for minimal cost per m<sup>2</sup>.

System primer may be clear or coloured. See Alluvius Epoxy Colourant Chart for colour options.

**Primer Application:** After selection of RES-GUARD™ 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. If colouring the primer, see Epoxy Colourant TDS for loading and mixing instructions.

## BODY COAT OR MIDDLE COAT

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Selection of the Body or Middle Coat is dependant on the required performance of the RES-GUARD™ system. Variables that will dictate the selection of this coat include site accessibility, environmental restraints and conditions, budget, ongoing maintenance cost, required performance parameters, aesthetics, project down time and turn around time.

The standard RES-GUARD™ system consist of a clear or pigmented coat of EP-MVP and a clear or pigmented Body Coat of EP-2020. Consult each products individual TDS for coverage rates, limitations and their specific guidelines. Standard coverage rate is from 3 to 4 m<sup>2</sup> per litre (330 - 250 µm wet film thickness).

**NON SLIP Method A:** For a non slip finish, broadcast aluminium oxide, carborundum or kiln dried silica sand in the selected grade at the required coverage rate to achieve desired coefficient of slip. After the product has cured, remove access broadcasted material and topcoat within the products recoat window. Failure to topcoat a broadcasted system will greatly reduce the ease of maintenance as well as creating an environment that can potentially allow for bacteria to manifest. Back rolling after broadcasting may be a necessary step if broadcasting under the point of rejection (100% coverage of broadcast material).

**NON SLIP Method B:** After application of the RES-GUARD™ Primer or Body Coat, installation of a slip resistant DEFENCE-TOP-COAT™ can meet less aggressive slip ratings. Consult individual TDS for product coverage rates, limitations and their specific guidelines.

**TOP COATING NON SLIP:** If Top Coating the the non slip broadcast system, a polymeric coating should be applied to seal

## OPTIONAL DEFENCE TOP COAT

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After the application of the RES-GUARD™ Body Coat, an optional DEFENCE-TOP-COAT™ may be applied if greater wear and UV resistance is required.

**PREPARATION:** If aesthetic imperfections are present in the RES-GUARD 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

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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

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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.