



# Substrate Preparation and Product Application Information

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## For RSA Coating Systems Over Concrete and Low Porosity Substrates

*Masonry, Traditional and EP Render* are all suitable for application over correctly prepared concrete slab edges, off-form concrete and concrete tilt panels. **Note:-** Only *EP Render* is suitable for application over sound previously painted (acrylic) surfaces (see LIMITATIONS).

### PREPARATION

**Cleaning:-** Ensure all surfaces to be coated are sound, clean, dry, free from dust, oil, release agents, loose material, efflorescence and/or other contaminants. Remove all mortar dags and protrusions and either brush down with a stiff broom or wash/pressure clean substrate as required, prior to the application of any products.

**Masking:-** For all surfaces not to be coated (windows, doors, roofs, finished floors etc) we recommend masking, covering or otherwise protecting the surface prior to any application.

**Note:** For masking, we recommend only the use of high quality long life masking products.

**Cleaning During Application:-** Should any RSA product get onto surfaces that are not to be coated, clean the surface immediately with clean water. It is the applicator's responsibility to use the correct cleaning technique and product/s for each surface and to ensure the product is removed without damaging the surface. **Note:** The clean up process must be carried out during each stage of the application of product/s.

### SUBSTRATE PREPARATION

Correct treatment of the building substrate assists the development of high early hardness, reduces the likelihood of shrinkage cracking, and assists the render to achieve full strength and long term integrity when applied correctly.

The process starts prior to the application of render coats by using the correct substrate preparation technique.

It is absolutely critical to correctly seal or hydrate all masonry surfaces prior to the application of render. Sealing or hydrating the substrate not only ensures adhesion to the substrate, but forms a 'key' for subsequent coats. In turn, correct treatment of the substrate keeps the water in the freshly applied render (reducing the likelihood of 'plastic shrinkage cracking') and eliminates the need to cure the render after application.\* See CURING section.

**Note:- Best results are achieved when the substrate has been stabilised and uniformity of porosity has been achieved prior to the application of render coats. This is simply and economically achieved by sealing the substrate.**



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### Sealing and Keying

Sealing of concrete slab edges, off-form concrete, tilt panels, sound acrylic coated walls and low suction substrates should be carried out as follows:-

- 1) Mix a 1:1 solution of *RSA Render Bond* and water, then add *RSA Set and Prep* powder to make a slurry/sealer (e.g. into 15 litre bucket pour 4 litres of water and 4 litres of *RSA Render Bond* and stir together. Then whilst gently stirring with a mechanical mixer, add **2 X 4 litre buckets full of Set and Prep powder**).
- 2) Apply the slurry/sealer by roller or brush agitating the mix continually whilst applying, and re-stir solution every few minutes during application.
- 3) The slurry/sealer must be allowed to dry for a minimum of 24 hours prior to the application of render.

### CORNER BEADS AND TRIMS

For detailed installation information refer to the RSA document - *Substrate Preparation and Application for Bead, Mesh, Trim and Skim Applications Using Set and Prep*.

3.5 or 4.5mm corner beads and trims can be installed, or may be required as part of a substrate coating specification. In either case *RSA Set and Prep must be used to install* high quality, RSA approved, UV resistant PVC corner beads and trims.

### MIXING RENDER

**Note:- If the mixing process is not followed the render may:-**

- **Set up fast and be difficult to apply.**
  - **'Go off' too quickly on the wall.**
  - **Be difficult to float and finish.**
1. For pump use, mix render according to pump manufacturer's recommendations. If the machine requires you to add dry mix, please do so-however a ventury feed system will be required to add *RSA Render Bond* to the mix for applications over these substrates. For wet mix machines, refer to point two below.
  2. Mix gauging water with 10% *Render Bond* (350ml *Render Bond* to 3.5 litres of water) which is enough for one bag of render. Alternatively, where more than one bucket needs to be mixed, mix 1.3 litres of *Render Bond* to 13 litres of water to make a gauging solution.
  3. Slowly add render to 3.7 to 4 litres of gauging solution whilst vigorously stirring with a suitable mechanical mixer (drill and paddle).
  4. **Mix the render for at least 3 minutes to activate additives.**
  5. **Allow render to stand for a minimum of 5 minutes to ensure that the chemical reaction of additives occurs.**
  6. Remix the render for 1 minute whilst adjusting the consistency, via addition of water or render as required.

**Pot life:-** The pot life of mixed render when left in the shade is 2-2.5 hours.



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### APPLICATION INFORMATION

All RSA Renders can be applied in one or multiple coats depending on substrate requirements. For single coat applications, it is important to note that if floating is done too early, shrinkage may occur - highlighting mortar joints, substrate imperfections and promoting 'plastic shrinkage cracks' in the finish. Also, when floating is done too soon the bond of the render to the substrate may be reduced or can be eliminated completely resulting in unsound 'drummy' sections of render.

#### Hand Trowel

All RSA renders are ideal for hand trowel applications and are designed to be easy to apply, straighten, screed and float finish. Due to the extended pot life/'hang time' of the product the plastering crew can mix more bags at a time, apply and finish more area and enjoy increased productivity, render strength and integrity.

#### Render Pump

All RSA renders are ideal for all machine (render pump) applications and are designed to pump consistently, respond well to darbying and screeding and remain easy to float. Due to the extended pot life/'hang time' of the product the plastering crew can apply and finish more area and enjoy increased productivity, render strength and integrity.

#### Application Over Correctly Prepared, Sealed Concrete and Low Suction Substrates

Application can be by render pump or by hand using conventional hawk and trowel techniques.

**As a single coat system:-** Mix render as previously described and apply 2-3mm. Then float and finish. Alternatively, where a two coat application is preferred either leave the first coat to dry for a minimum of 8 hours or apply a second coat as follows:

**As a two coat system:-** Apply the first coat as above and allow to dry for at least 8 hours. Alternatively, the first coat can be replaced with a 'tight coat' (1-1.5mm) of *Set and Prep* and either allowed to dry for 2-4 hours or left until firm, prior to application of render. For the second coat, mix render with the addition of 5% *RSA Render Bond* and apply 2-3mm. To finish, float and leave ready to receive a coat of selected RSA acrylic render or trowel-on texture product and two coats of *955 Impact Paint*. Alternatively, float and sponge finish the render ready to receive two coats of RSA roll-on texture or *955 Impact Paint*.

#### Notes:

- Total render coating thickness must not exceed 6mm.
- Control/expansion/movement joints in all substrates must be carried through the trowel-on coating system to a minimum width of 10mm.



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- As per standard solid plastering practice, it is important to **apply render in even coats** e.g. 3-4mm or 4-6mm. **Do not apply from 2-6mm in a single coat** to remedy poor substrate straightness. When render is applied at varying thicknesses on the same surface the render will dry out at different rates increasing the chances of 'plastic shrinkage' (where cracks may be visible in the render finish).

### \*CURING

Due to sealing of the substrate prior to application of render coats, curing is only necessary when it is applied in hot, dry (low humidity) and/or windy conditions and where high early/overnight hardness of the finish has not been achieved. In these instances it is necessary to assist the curing process by soaking the render once or twice a day for the first two days.

### OVER-COATING

When over-coating with RSA trowel-on acrylic renders or textures, application may commence 24 hours after completion of the RSA render finish. Prior to the application of RSA paints such as *955 Impact Paint* or roll on texture coatings, the substrate must contain less than 15% Wood Moisture Equivalent (WME).

### CLEAN UP

Clean all equipment immediately with water.

### LIMITATIONS

- When applied as a thin section render, the product cannot be expected to hide substrate imperfections. The products will not remedy poor quality substrate installations.
- When applied over previously painted/coated acrylic surfaces no guarantee is implied in regard to the soundness or suitability of the surface where an application of render is required. It is the responsibility of the person applying the coatings to assess suitability of the substrate and to advise their clients as required, to the possibility of failure of the previous coating system.
- RSA products are not a substitute for good solid plastering trade practices. It is the plasterer's responsibility to assess each project to determine 'best practice'. If in doubt, phone **07 3287 6444**.

### PRECAUTIONS

- RSA products should only be applied when weather conditions allow.
- Protect freshly applied products from high winds, freezing and temperatures below 5°C for 48 hours after application. The products should also be protected from rain for up to 48hrs after application.
- RSA products should only be applied within a temperature range of 5-35°C.