

Euromix® Renders on Polystyrene (EPS)

Euromix® Renders are acrylic modified cement renders formulated to provide weather resistant, decorative finishes over most building material substrates, including Polystyrene (EPS).

Manufactured using specially blended mineral fillers and additives, Euromix® Renders provide excellent crack resistance and a degree of flexibility that is not found in traditional renders.

Euromix® Render is a multipurpose render, suitable for use both as a base coat where finishing renders, texture coats, etc. or architectural finishes (like tiles) are to be applied and as a finish coat, where a high quality sponge finish is required. It can be applied by hand or by machine, in layers ranging from 2mm to 6mm at a time.

Euromix® Cream Render is often used as a base render coat. Cream Render formulation has higher polymer content than Euromix® Render and fewer 'fines' in the sand, making it suitable for application by machine and allowing a thicker build per coat (up to 10-12mm). Cream Render can be applied by hand also.

Euromix® Skim is designed for use as a top or finishing coat. The smaller sand grain used in Skim and high proportion of fines in the mix ensure that a quality flat or 'sponge' finish can be achieved. Skim should be applied by hand, in one layer, ranging from 2mm to 4mm thickness.

This document provides general guidelines for the application of Euromix® Renders over polystyrene panel systems (EPS). Users should also refer to the EPS manufacturer/supplier's recommendations for the application of render over their substrate.

1. Level 3 Finish

The guidelines summarised in the following pages are for a Level 3 Finish, where:

- Substrate surface imperfections have been patched.
- A base coat of render is applied to a nominal thickness of ~ 3mm, with some make-good of variations in level / alignment of substrate, as allowed by the thickness of render being applied.
- A finish coat of render is applied to a nominal thickness of ~ 4mm and finished ready for a textured decorative finish (1-1.5mm thickness) or paint.

Such a finish will hide most surface imperfections. Minor structural imperfections, misalignment of walls, etc, will be hidden and major imperfections will be reduced, depending on their severity. This is the minimum finish recommended most panel wall systems.



2. General Information

Euromix® Renders are designed for use as a decorative finish, they are not meant to be used in 'engineered' applications (where special strength, movement, hardness or other performance characteristics are required). Euroset recommends that Euromix® Renders be applied by trades people experienced in rendering.

3. EPS Substrate Preparation

Ensure that all elements to be rendered have been constructed and fixed in accordance with the project plans and specifications and the EPS sheet manufacturer's recommendations - topics to be considered include:

- EPS Sheets should be fixed using the correct size, number and location of fasteners / washers recommended by the EPS manufacturer.
- All EPS sheet joints should be structurally sound with face surface levels on each side of the join aligned.
- Internal and external corners should be 'true' and well constructed (unlikely to move or otherwise come apart).
- Identify any surface irregularities in the EPS sheet alignment and agree the method and extent of any 'make good' with the project manager.
- Identify any areas of substrate that are affected by dust, loose / friable material or adhesion inhibiting materials – remove or otherwise 'make-good' these contaminates.
- Locate expansion joints and control joints and agree the rendering treatment for these with the project manager.
- Locate any damp courses, these cannot be bridged by the render finish. Ensure the treatment of these is agreed with the project manager.
- Agree the rendering treatment of widow and door openings and other penetrations.
- Agree the treatment of floor / floor junctions, these are probable sources of cracking and may be treated as expansion joints.
- Mask windows, doors, roofing, flooring and other building elements to protect them and to reduce clean up time.

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4. Fixing PVC Corners & Trims

If PVC trims are to be used they should be fixed in position before any rendering is commenced;

- Mask or otherwise cover windows, doors, roofing, flooring and other building elements to protect them from wet Patch and to reduce clean up time.
- Lay Euromix® Patch Coarse into the corners or onto the EPS Sheet faces and then fix the required PVC Trim into position, ensuring that they are plumb and aligned with the appropriate EPS Sheet surface (positive fasteners may be required to ensure the Trims stay in place while the Patch is applied). Once the Trims have been embedded in the Patch Coarse, apply a skim coat of Patch Coarse to finish off flush with the surface of the EPS Sheet.
- For internal corners lay Patch Coarse into the corner and the bed 55mm or 100mm wide alkali resistant fibreglass mesh tape into the corner. Once the fibreglass internal corners have been embedded in the Patch Coarse, apply a skim coat of Patch Coarse to finish off flush with the surface of the EPS sheet.
- Work on Trims progressively to ensure that the Patch Coarse bedding coat does not set before the skim coat of Patch Coarse is applied. Make sure that any excess compound is removed from all edges, while the material is still wet - Euromix® Patch Coarse cannot be sanded after setting.
- Allow at least 24hrs-curing time for Patch Coarse before applying any render or other coating (cold and / or damp weather conditions may extend the curing time, for the Patch Coarse past the normal 24hrs).
- The renderer should make certain he has the correct instructions from the Project Manager as regards to the treatment and placement of expansion joints. These must extend through the rendered surface into the expansion joint provided by the builder on the substrate.

Note: Patching of fixings is not required before render is to applied over the surface of the EPS Sheet.

The EPS walls should now be ready for the application of the Euromix® Render.

5. Mixing Render

Euromix Renders should be prepared with a mixture of Euromix Bond and water, using a suitable drill or traditional concrete mixer. The required amount of Euromix Bond and clean, mains supply, water should be prepared in a mixing bucket and then steadily added to the Render powder until it is smooth and lump free.

In normal use approximately 4 litres of Bond / water mix is required for 1 bag (20 Kg) of Euromix Render. The Euromix Bond / water ratio for the first coat over EPS is 1:4 (1 Part Bond to 4 Parts Water).

6. The First / Base Render Coat

Mask or otherwise cover windows, doors, roofing, flooring and other building elements to protect them and to reduce clean up time.

Apply a first coat of Euromix® Render (mixed in a gauge of 1 part Euromix® Bond to 4 parts water) to a minimum thickness of 2mm with hawk & trowel. While this coat is wet, trowel in a continuous layer of alkali resistant fibreglass mesh (use 1.0M or 1.2 M wide sheet) taking care to leave a 50mm overlap wherever the mesh joins. Stop the fibreglass mesh sheet at the edge of any Trims, where they have been used (as per Section 4).

Make sure all necessary preformed expansion or movement relief joints are put in place. An alternative approach to the use of preformed expansion joints is to cut joints after rendering (using an appropriate saw or disc grinder). The renderer should make certain he has the correct instructions from the builder, architect or engineer etc. as regards to the type and placement of these joints. The renderer must make sure that expansion joints extend through the rendered surface into the expansion joint provided by the builder on the substrate, do not merely score the surface over where an expansion joint is called for.

Note: Spillage and partially set material should not be re-tempered with water and should instead be discarded. Tools and equipment should be cleaned with water immediately after use.

7. The Second / Finishing Render Coat

Once the first / base coat of render has dried (at least 24 hours in normal conditions) prepare Euromix® Render with a gauge of 1 part Bond to 18 parts water, then apply this to a nominal thickness of 4mm, using a trowel and straight edge to achieve true and level finish.

It is important that adequate coverage of at least 6mm (total thickness including base coat) is achieved over the joins in the EPS Sheets and any areas of make-good.

It is possible that some shrinkage of the first / base coat may have occurred, in situations where the thickness applied varies, due to the variations in the substrate level, where chasing has occurred or with architectural features. Here it is recommended that another coat of Euromix® Render be screeded and left for sufficient time for the shrinkage to occur before applying the second coat of Euromix® Render.

It is possible that some shrinkage of the applied product may occur in situations where the thickness applied varies, due to the variations in the substrate level or where significant chasing has occurred. Here it is recommended that the first coat of Euromix® Render be screeded and left for sufficient time for the shrinkage to occur before applying a second coat of Euromix® Render.

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8. The Final Render Coat

Once the second / levelling coat of render has dried (at least 24 hours in normal conditions) prepare Euromix® Skim with a gauge of 1 part Bond to 18 parts water then apply this to a nominal thickness of 2mm, using a trowel and straight edge to achieve a true and level finish. Rule off the Skim coat and finish with polystyrene, wood or plastic floats ready for a towelled-on acrylic coating or paint.

Alternatively the Skim Render can be sponge finished after floating and made ready for the application of a suitable paint system.

9. Curing

Ensure adequate protection from the drying effects of direct sunlight, wind and low humidity or a combination of these elements. Rapid drying of the surface can cause cracking and result in a low strength / friable render. Do not apply Euromix® Renders when conditions will be above 35°C, especially if windy, nor where the temperature is below 5°C or where the chill factor is high.

Ensure that the curing render is protected from rain, extreme frosts and other sources of excess moisture (e.g.; overflowing gutters and down pipes).

10. Typical Drying Times

The times quoted below are for normal weather conditions, at 25°C and 50% Relative Humidity.

Surface dry	Four (4) hours.
Recoat with Render	One (1) day.
Texture Coating	Three (3) days.
Paint	Three (3) days for acrylic paints. Twenty-one (21) days for oil / alkyd based paints.

11. Parapet, Fence, Pier (& other) Horizontal Surfaces

It is advisable to prepare horizontal surfaces in the following manner:

- Coat the horizontal face with a 'bedding coat' (1-2mm thickness) of Euromix® Render, mixed with 1 part Euromix® Bond: 4 parts water.
- After the surface has been covered with the bedding coat and while it is still wet, trowel in alkali resistant fibreglass mesh, ensuring that it is covered completely by the Euromix® Render.
- After this first coat of Euromix® Render has cured apply the following coats of render (to achieve the specified / desired thickness and finish) in accordance with the guidelines above, ensuring that a slight, uniform slope is achieved to negate 'ponding' of moisture on the surface. This slope normally runs to the internal side of the building element and / or gutter.

12. Paint / Texture Finishing Coat

Once the rendering is finished and after it has been allowed to cure for the required time, the wall is ready for the application of paint or texture.

Follow the relevant instructions for the system being used – a quality prime coat that is compatible with the paint or texture coat should always be used.

13. Structural / Building Material Cracking

Movement of building elements in buildings is commonplace (causes include foundation settlement, seismic displacement and the behavior of materials in relation to changes in temperature or moisture content). These movements usually result in visible cracking of the building claddings / linings (as well as other potentially more damaging modes of failure).

Sound building design and construction methods recognise the likelihood of structural and material movements and allow for them to be managed through the placement of control joints (often called expansion joints) and the use of design features that hide or may even highlight these control joints or the areas where cracking is likely to occur.

Any building movement that results in visible cracking of the building claddings / linings will also be sufficient to cause cracking of the decorative finish – this is the case for both potential new and pre-existing building movement cracking.

Euromix® systems will not hide cracking caused by structural movement and / or shrinkage / expansion of substrates caused by temperature and moisture associated movement.

14. Health and Safety

Precautions Keep exposure to dust as low as practicable, to minimize health problems such as skin, eye and respiratory irritation. Avoid repeated skin contact with both the dry powder and the wet mixture.

If preparation of the substrate requires cutting or grinding of masonry then ensure that goggles and respirators are available and that they are worn. It is also recommended that suitable hearing protection be worn when cutting or grinding

Health Effects Refer to the current MSDS for the material – available through Euroset Manufacturing Pty Ltd.

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15. Limitations and Special Precautions

Special Use Euromix® Render is designed for use as a decorative render finish. Where special performance outcomes are required of the render, like high inter-laminar bond strength to cope with exceptional surface loadings or possible structural movement, it is critical that the potential use be discussed with Euroset prior to application.

'Build up' element When used for design element 'build up' it is important that each coat be allowed to thoroughly dry before the next coat is applied.

Control Joints Cracking in rendered walls and other substrates that is a result of structural movement, cannot be prevented by using renders. Faulty or improper construction can lead to substrate cracking and fracturing and in turn can crack the render.

Control joints should be formed between every level and between different substrates to allow for building movements and minimize potential cracking.

The information contained in this guide is typical and does not constitute a full specification, as conditions and specific requirements will vary from project to project. All purchasers and intending users of the products covered in this document must, prior to use, assess and control the risks arising from use of the products, as they relate to their project.

16. Handling & Storage

Handling Euromix® Render and Skim are supplied in 20 kg bags - recognised local safe lifting methods should be used.

Storage / Transport Drivers of trucks and forklifts transporting Euromix® Renders should ensure that the sacks are properly restrained.

Store Render off the floor, in a dry place, in the original bags.

Render and Patch are not classified as Dangerous Goods according to the criteria of the Australian Dangerous Goods Code (ADG Code).