

# Green Building Waterless Technology (ECO RENDER+) for Masonry, Plasters and Repairs

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**Abstract** – The main aim and scope of this paper is to put light on the concept of “Green Construction”. In the current century, the construction world has progressed a lot technologically and innovatively. The shortage to power, water and the impact on the environment has diverted the focus of construction industry to Green Buildings. A Green Building, which is also known as a sustainable building is designed to meet some objectives such as occupant health, using resources efficiently.

The paper puts light on an innovative, environment friendly material which can be used in plasters and repairs works. The Ministry of New and Renewable Energy have adopted a national rating system called GRIHA. They allocate points out of 100 to buildings according to the environmental practice of a building according to the construction list provided by GRIHA.

**Key Words:** Eco Render+, Waterless, Green Construction, GRIHA, Environmentally friendly.

## 1. INTRODUCTION

In construction works we generally use cement-mortar mixture for plastering of internal and external walls. To prevent cracks in plastering works, we use Chicken Mesh at junctions of different material such as between walls and column junction where the coefficient of thermal expansion of different material is different and due to the chances of cracks occurring in these junctions, we use chicken mesh.

As a substitute for this practice of conventional plastering work, we have **Eco Render+**. Eco Render+ is a ready to use, self-curing, cement free, wet mix Plaster for facades of any kind. It is ecofriendly, ready to use and easy to apply kind and does not need dilution with water or any additives. The product is designed to save water, labor and time needed for conventional mortar. Eco Render+ is applied with very less efforts. The application of the product can be done by any mason, who does wall construction, using same tools as in practice. It is well suited to be applied as protective back coat for Gypsum plaster, putties and paints and offers water resistance surface with excellent bonding.

## 1.1 Recommended Application Area

- Protective back coat on interior surface, before POP or Gypsum application to avoid rising dampness.
- As a plastering mortar on RCC Facades internal as well as external surfaces.

## 1.2 FEATURES AND BENEFITS

### UNIQUE FEATURES:

- Eco Render+ gives a better bonding strength.
- No need of any additional material like Chicken Mesh for better strength at junctions.
- No need of water for post curing.
- Good replacement for conventional cement-sand mortar.
- Cracking does not take place.

### ADVANTAGES:

- It is eco-friendly when compared to conventional cement-mortar mix.
- It saves on labour as application does not require a highly skilled labour and can be applied with the same tools as in practice.
- Energy saving
- It is time saving as there is no need to mixing water with Eco Render+ because it already comes in a slurry state.
- As it is already packed in a slurry state there is no need of mixture of water.
- There is no wastage of materials.

## 2. PROPERTIES

Sr. No.	Test Name	Properties
1	Appearance	Gray paste
2	pH	8-10 units
3	Application	Notch trowel
4	Consistency	Thick viscous paste
5	Density	1.5 - 1.7 kg/L
6	Compressive Strength (@28days)	Approx. 8 - 9 N/mm <sup>2</sup>
7	Shrinkage	0.07%

8	Thinning	not recommended
	Disposal	Dried material can be disposed in a Municipal Disposal
9		
10	VOC limits	< 0.4%

**COVERAGE - 30KG Bucket**

Internal Back coat Notch finish - 100sq. ft.  
 External roller / dabba finish - 40 - 50Sq. ft.  
 Application is done for a thickness of 5-7 mm 2 coat application.

**3. METHODOLOGY**

**PREPARATION-**

- Clean the façade with a brush to remove loose dust particles.
- Do not pre-wet the surface.

**MIXING-**

- Material is ready to use.
- Do not add or mix any additives or water.

**APPLICATION-**

- It either comes in a bucket or a bag. Open the packing and remove the required material into a container. With the help of a spatula, stir the mixture well.

**As a back coat before POP/Gypsum**

- Apply in 3 to 5 mm on the brick/block or RCC surface.
- Spread with the help of notch trowel to create a back coat in case of application before POP/Gypsum.

**As plastering coat on external side**

- Apply first coat with plain trowel.
- Second coat to be applied after 24 hrs. in either roller finish or spray gun finish.
- Render the wall & go ahead for next work.
- Clean tools & equipment with water after use.

**3.1 SETTING AND CURING**

The product sets initially by Dry curing in approximately 3 to 4 hours and the next activity can be taken up after 72 hours of application.

**Tools used for Application**



Fig. 3.1-V-Notch Trowel



Fig. 3.1-Plain Trowel

**4. MISCELLANEOUS INFORMATION:**

**Packaging & Storage conditions**

- Standard packaging is done in 30kg buckets.
- Pack the leftover material in the closed bucket
- Store in cool & dry places away from dampness and to be stores safely for next use.

**Pot life**

6 to 8 hours in shade (not under direct sunlight)

**Shelf life**

120 days from the date of manufacturing in standard storage warehouse.

**Health and Safety**

- Avoid prolonged contact with eyes and skin.



**Fig 4.1-** Eco Render+ application with V-notch trowel



**Fig 4.2-** Eco Render+

## 5. CONCLUSION

With the help of Eco Render+ the construction industry takes a step further in being more Eco friendly and Environment friendly. It takes the construction practices much closer to making a proper “Green Building”. The previous use of conventional mortar needs to go now as we are at a phase where use of Eco friendly goods is appreciated at all levels and even Government Organizations are encouraging us to take necessary steps to go green.

The best part about use of Eco Render is it is cost saving. For an application of conventional plaster vs Eco render we can save up to Rs. 250 for a 100 Sqft area. There is no need of special tools of labors for applying Eco Render+. All these points are a clear indication of using Eco Render+ plaster in construction practices.

## 6. REFERENCE

Green Build Products Pvt. Ltd.

S. No. 135 & 136, Plot No. 49, Prashant co-op Hsg. Soc, Paud Road, Near Krishna Hospital, Kothrud, Pune, Maharashtra.

[www.greenbuildproducts.com](http://www.greenbuildproducts.com)