



External Lime Render & Internal Lime Plasterwork over Hempcrete and Other Alternative Building Substrates:

Use this outline as an initial guide for estimating material and applying LimeWorks.us Plaster System over hempcrete, strawbale, concrete block, ICF blocks, poured concrete walls, Durisol[®], FoamGlas[®], Faswall[®], or Rastra[®]. If adhering strictly to the Uniform Building Code for external stucco applications that result in a 7/8" thick lime render, all the detailing for control joints including all flashing details must be properly installed.

Material estimates for a 1,000 ft² exterior wall with two base coats and one finish coat:

- 32 —50 lb. bags [Ecologic™ Plaster TAKCOAT® Platinum](#) @ 1/4"
- 74 —50 lb. bags [Ecologic™ Plaster TOPCOAT™ Platinum Coarse \(G\)](#) @ 3/8"
 - **OR** 96 — 38.5 lb. bags of [Ecologic™ Mortar SCG \(G\) Coarse](#) @ 3/8"
 - **OR** 17 — 55 lb. bags of [Saint-Astier® Natural Hydraulic Lime - 3.5](#) and 69 50 lb. bags of Ecologic™ Dried & Graded Sand Blends – Coarse (G) mixed 1:2 (lime:sand) @ 3/8"
- 25 —50 lb bags [Ecologic™ Plaster TOPCOAT™ Platinum Fine \(F\)](#) @ 1/8"
 - **OR** 37—50 lb. bags [Ecologic™ Plaster TOPCOAT™ Platinum Coarse \(G\)](#) @ 3/16"
 - **OR** 15 — 38.5 lb. pails [Ecologic™ Plaster TOPCOAT™ Extra Fine \(XF\) Exterior](#) @ 1/16"

Two to Three Coat Exterior Base Coat System

First Coat:

Recommended Products:

- [Ecologic™ Plaster TAKCOAT® Platinum](#) @ a 1/4"
- Fiberglass Mesh at 9.5" x 150' and Fiberglass Mesh which comes in 38" x 150' lengths (sold by LimeWorks®.us)

Mix [Ecologic™ Plaster TAKCOAT® Platinum](#) to the consistency of pancake batter or loose cream cheese and trowel on 1/8" directly onto the pre-dampened (no standing water remaining) hempcrete, strawbale, concrete block, ICF blocks, poured concrete walls, Durisol[®], FoamGlas[®], Faswall[®], or Rastra[®].

Immediately embed Fiberglass Mesh at 9.5" x 150' or Fiberglass Mesh 38" x 150'. * Overlap the sheets by 2" on flat walls and 6" around corners. Place the fiberglass to cover the joints between the blocks or span thinner hempcrete over studding. Doing so ensures that the joints do not transfer a crack out to the finish coat of the render or stucco.

Immediately double-back and skim over the sheets with another 1/8" thick coat of [TAKCOAT® Platinum](#) so that the mesh is completely covered over creating a 1/4" total "pricking up" base coat also called the transition coat.

Note: Because the mesh can sometimes move around while doubling-back wet-on-wet, some plasterers like to embed their mesh in the first pass and let the material set overnight and then double back on cured TAKCOAT[®] Platinum with a second coat of TAKCOAT[®] Platinum the next day after 18 hours of drying time.

***Fiberglass Mesh Methodology:** TAKCOAT[®] Platinum can be used directly on hempcrete where Ecologic™ Hempcrete Binder Platinum was used properly to make hempcrete. But since all buildings move, not using a mesh increases the risk that cracks may form over time especially in areas prone to cracking such as where studs are buried in the hempcrete, between lifts of hempcrete, or on corners.

Fiberglass Mesh placed over the entire coverage area of HempCrete and alternative building materials makes the best installation for anything named here that is not Sheetrock® or MgO board. Installing Detail Fiberglass Mesh over just the joints is the minimum plan for crack control to inhibit the translation of cracks from the blocks or panels out to the finish surface of the lime plaster/render due to movement, especially for exteriors which is the first line of defense to a sound building envelope using alternative building substrates for creating reliable and robust exterior sheltering using a lime render (stucco) finish.

Second Coat:

Recommended Products:

- [Ecologic™ Plaster TOPCOAT™ Platinum Coarse \(G\) @ 3/8"](#)
 - [OR Ecologic™ Mortar SCG \(G\) Coarse @ 3/8"](#)
 - [OR Saint-Astier® Natural Hydraulic Lime 3.5](#) mixed 1:2 (lime:sand) @ 3/8"

Natural materials like hempcrete or strawbale are not always perfectly even and often need a thicker base coat to achieve a flatter surface over an undulating substrate. To achieve a thicker basecoat, consider applying a 3/8" scratch coat or leveling coat of [Ecologic™ Plaster TOPCOAT™ Platinum \(G\)](#) or [Ecologic™ Mortar SCG \(G\) Coarse](#) over the cured TAKCOAT® *Platinum*.

If this is the final base coat before moving on to the finish coat, then use a devil float (a wood float with a nail slightly through one corner) to flatten this coat so that a uniform thickness can be achieved when applying your finish coat. Using a devil float with a 1/8" nail tip leaves a slight key scratch for the final coat to adhere to grab onto instead of leaving a deeply cross-hatched scarified scratch coat using a scotch or plaster comb.

Wait at least 5 days after finishing this coat and between all subsequent coats. During the first 72 hours, dampen 3-4 times a day to ensure a slow, even cure. Protect exterior work with wet burlap held off the wall 1" to 6" to protect the work from wind, sun, and driving rain. Do not apply material when temperatures are expected to fall below 40°F during the first 72 hours after application (including nighttime temperatures).

Note: Because of the large amount of material needed in three base coat systems, if working on a tighter budget consider using [Saint-Astier® Natural Hydraulic Lime 3.5](#) and Ecologic™ Dry & Graded Sand Blends Coarse (G) mixed 1 part lime to 2 parts sand. Applicator would be required to source sand and responsible for consistently mixing material on site. Allow 4-5 days between coats for curing time.

(Optional) Third Coat (If required by local building codes, or desired by client):

Recommended Products:

- [Ecologic™ Plaster TOPCOAT™ Platinum \(G\) Coarse @ 3/8"](#)
 - [Ecologic™ Mortar SCG \(G\) Coarse @ 3/8"](#)
 - [Saint-Astier® Natural Hydraulic Lime 3.5](#) mixed 1:2 (lime:sand) @ 3/8"

Pre-dampen previous work and ensure no standing water remains before troweling begins. Apply the third leveling coat between 1/4"- 3/8". Follow procedures from Second Coat for finishing and curing.

Fine or Extra Fine Exterior Finish Coat

Recommended Products:

- [Ecologic™ Plaster TOPCOAT™ Extra Fine \(XF\) Exterior @ 1/16" – 1/8"](#)
 - [OR Ecologic™ Plaster TOPCOAT™ Platinum Extra Fine \(XF\) Interior @ 1/16" – 1/8"](#)
- [Ecologic™ Plaster TOPCOAT™ Platinum Fine \(F\) @ 1/16" – 1/8"](#)
 - [OR Ecologic™ Mortar SCG \(F\) Fine @ 1/16" – 1/8"](#)
- [Ecologic™ Plaster TOPCOAT™ Platinum \(G\) Coarse @ 3/16"](#)
 - [OR Ecologic™ Mortar SCG \(G\) Coarse @ 3/16"](#)

- Other binders, aggregates, and finishes are available through the Ecologic™ Plaster TOPCOAT™ *Customized* product line if desired, including custom colors of any recommended products.

Pre-dampen cured brown coat and ensure no standing water remains before troweling begins.

Apply your fine finish coat between 1/16" – 1/8". Use a stainless-steel trowel to avoid black burn marks or optimally a canvas resin or wood float to leave the plaster pores open and allow the lime to carbonate.

When applying your finish coat do not overwork the material by floating too much of the lime cream to the surface. Overworking will tend to make the finish coat crack since the cream will "case-harden" on the surface with too much water and fines in the surface and potentially leave a sandy underside to the finish coat.

Keep the work dampened 3-4 of times a day for the first 72 hours to slow cure the lime plaster. Protect work during this time with burlap to guard against wind, sun, and driving rain. Do not start any plastering when temperatures will fall below 40°F for 72 hours from the actual application time (including nighttime temperatures).

Walls can be further finished with a variety of LimeWorks.us' line of breathable mineral paints available in stock and custom colors. Products include:

- [Ecologic™ LimeWash Platinum](#)
- [Saint-Astier® Lime Paint](#)
- [Ecologic™ Colorwash Stain](#)
- [Ecologic™ Potassium Silicate Paint](#)

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