



AMERICAN CLAY®
Naturally Beautiful Walls™
U.S. PATENT 7485186

Lime Gauging Instructions Using American Clay Lime Putty

What You Will Need

- Required safety equipment: safety goggles and safety gloves
- Painters tape
- Drop cloths
- Pump-style garden sprayer or airless sprayer
- 5 gallon bucket
- Paint roller with covers (very short nap or smooth foam)
- Paintbrush
- Tile sponge
- Stainless steel trowel
- Lexan plastic trowel (*for use with Lomalina™ and Porcelina™ finishes)
- Plaster hawk
- Spade handle 1/2" gear-driven low-speed mixing drill and plaster paddle
- These instructions

Lime Putty Disclaimer

These instructions are for Artisans/contractors who have experience with American Clay plasters, including American Clay Lime Putty. Handy homeowners and first-time applicators should not use American Clay Lime Putty.

Important Notes

1. Ensure American Clay Lime Putty is covered with a layer of water in bucket to help to store indefinitely.
2. Lime Gauging will lighten the color on the wall significantly.
3. The primary purpose of American Clay Lime Putty is to harden a clay plaster surface.

4. American Clay Lime Putty cannot be used in the same mixture as Forté plasters or Original plasters mixed with Up & EZ! / PlasterPlus or Mud Glue when Lime Gauging.
5. Once American Clay Lime Putty is mixed into the clay plaster, it must be applied within 12 hours.
6. Ultramarine based pigments, when combined with lime, will quickly degrade. Use any lime mixture quickly as the color will change dramatically over the course of 12 to 24 hours. This change is permanent. When using color pigments with an ultramarine base use in smaller portions in order for the product to be used within the proper timeframe. Standard color pigments with ultramarine include:
 - i. Barefoot Beach, Bluefield, Breezy Point, Catalina, Chesapeake Bay, Crystal Cove, Desert Plum, Fairfield Green, French Quarter, Glacier, Grace Bay, Havasu, Islamorada, Jasper, Kentucky Moon, La Jolla Shores, Lake Tahoe, Painted Desert, Powder River, Rio Grande Pecan, Santa Barbara Verde, Snake River, Taos, Toledo, Treetop, and Verde Valley.
 - ii. Also, any color blend that uses the standard color pigments above is not lime safe and must be used within the appropriate timeframe.

Overview

All surfaces require 4 major steps to complete the plastering:

1. Substrate and general preparation
2. Base coat application
3. Finish coat application
4. Compression

Substrate Preparation

"Substrate" refers to the wall surface you will plaster over.

You will need to follow the General Preparation and Priming instructions below for painted or sealed surfaces (flat or slightly textured), slick or smooth cement finishes, and gypsum plasters (e.g. Structolite®, Gypsolite, Imperial®, Diamond®, Red Top®, Kal Kote® etc.).

New wallboard and unsealed joint compound also use the General Preparation and Priming instructions below, but prior to that, please see the specific recommendations for joint compound application and preparation below.

Other substrates (brick, concrete block, adobe, brown coat cements, brown coat lime stuccos and all other substrates not listed above) have different preparation requirements. Please check the [American Clay Substrate Preparation](#) document for in-depth information on prepping your particular substrate or call 1-866-404-1634 for more information.

Wallpaper, ceramic tile, foam, OSB, wood, plywood and paneling are examples of substrates over which plaster is not acceptable. These surfaces must be removed or covered using an

appropriate surface. Please check the *American Clay Substrate Preparation* document for in-depth information on prepping your particular substrate or call 1-866-404-1634 for more information.

Wallboard (Drywall) and Joint Compound Preparation

Wallboard is commonly referred to as drywall, plasterboard, Sheetrock®, paperless drywall, Gyproc®, gypsum board, blue board, green board, Fiberock® and QuietRock®. Paperless drywall is treated the same as paper-faced drywall.

Setting-type joint compound is recommended for tape and bedding. Examples of setting-type joint compounds are Durabond® 90 and Sheetrock® Easy Sand 45 Minute Setting-type Joint Compound. Setting joint compounds are also known as “hot muds”.

For non-setting and unknown joint compounds, prime the entire surface with an approved multipurpose, transitional or stain-blocking paint primer (see list below) prior to proceeding to Priming directions below. When lightweight, pre-mixed and topping compounds are used to achieve a Level 4 or Level 5 finish, the surface may require additional preparation to avoid peeling issues. A sealing primer, like Gardz®, DrawTite™ or Rx35®, would be used.

Wallboard seams must be taped and mudded with joint compound according to the recommended level for walls that will receive conventional texture treatments: Level 2 for all plaster applications except Porcelina™. Level 3 for Porcelina™ applications. This is the minimum recommendation. If a higher level of quality is required, please proceed as needed.

The following are general guidelines to follow:

1. Screws and fasteners **do not** require joint compound.
2. Seams **do** need tape and joint compound.
3. Extra passes may be needed at corner bead or where additional leveling is necessary.
4. Joint compound **should never** be sanded.
5. High points **do** need to be scraped off or knocked down.
6. Mesh tape with setting-type joint compound is preferred. If you use paper tape, be sure the work is well done and that no air is trapped behind the paper, as it will cause the plaster to delaminate as it dries.

The surface must be dust-free prior to proceeding to priming. Failure to remove dust can cause the plaster to delaminate as it dries. If dust has been produced anywhere in the house that may have coated the walls, remove dust with a vacuum or wash the wall with a tile sponge.

General Preparation

Maintain temperatures between 45 and 90 degrees Fahrenheit [7 and 32 degrees Celsius] for 3 days before, during, and 3 days after application. Maintain humidity levels below 50% humidity during application to facilitate drying. For humid climates, dehumidifiers and fans can be used to aid this.

Adhesion Test for Paint: For both newly painted walls and walls with many layers of paint, it is good to check the paint adhesion. This simple test could save you labor by identifying potential substrate weakness early in the process. Using a utility knife, make several light cuts in the paint 5 inches apart, then apply a strip of white masking tape perpendicular to the cuts. Press the tape firmly and then peel it off. The paint should remain firmly attached to the wall. If it does not, check with your local paint supplier for recommendations on making the surface sound.

Do any “General Prep” steps required to bring the surface to a relatively flat, dust free, well-bonded surface.

1. Scrape off any loose or flaking paint or other surface material.
2. Clean and fill any depressions deeper than 1/16" for all plaster applications except Porcelina™. Clean and fill any depressions deeper than 1/32" for Porcelina™ applications. Use a filler that bonds to the substrate.
3. Knock down high points higher than 1/16" for all plaster applications except Porcelina™. Knock down high points higher than 1/32" for Porcelina™ applications.
4. Lightly sand any high-gloss paint or glossy sealed surface with 150-grit (.08 mm) sandpaper to

WARNING: If you scrape, sand, or remove old paint, you may release lead dust. Lead is toxic. Exposure to lead dust can cause serious illness, such as brain damage, especially in children. Pregnant women should also avoid exposure. Wear a NIOSH-approved respirator to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the National Lead Information Hotline at 1-800-424-LEAD or log on to www.epa.gov/lead.

- provide a “tooth” for the primer.
5. Remove any dust with a vacuum or clean with a tile sponge.
 6. Wash sooty or greasy surfaces with a TSP substitute cleaner of your choice. Let dry.
 7. Protect floors with drop cloths or plastic. Tape all adjacent surfaces. Keep tape 1/8" away from the surface being plastered, so tape does not pull off any plaster when tape is removed.

Priming

Priming may be required for application, depending on your substrate (see above or check the American Clay Substrate Preparation document).

Prime the entire surface with an approved multipurpose, transitional or stain-blocking paint primer (*See below for a list of approved primers.) mixed with American Clay Primer Sand.

*The following is a list of primers that have been approved in our test applications. **You must use a primer from the list below.**

Zero-VOC Primers

- American Pride or Mythic® Multipurpose Primer
- Benjamin Moore® Natura® Interior Waterborne Paint (513) Eggshell Finish
- Kilz® Clean Start™
- Life Paint Company ENVIRO-LIFE® 100% Acrylic Stain Blocking Primer (EL-75)
- Mythic® PRIME Interior/Exterior All-Purpose Primer (MP730)
- Mythic® PRIME Interior/Exterior Premium Hide and Multi-Purpose Primer (MP720)
- Mythic® Tintable Accent Primer
- ROMA BioGrip Medium
 - *Diluted per manufacturers recommendations to a paint-like consistency*
 - *American Clay Primer Sand additive not required*
- Safecoat® Transitional Primer
- Sherwin-Williams® Harmony® Wall Primer
- Sherwin-Williams® ProMar® 200 Interior Latex Primer
- YOLO® Base Primer
- YOLO Colorhouse® Multi-Purpose Interior Primer

Low-VOC Primers

- Benjamin Moore® Fresh Start® Multi-Purpose Interior/Exterior Latex Primer
- BioShield® Healthy Living Paints
- Bondz® Maximum Adhesion Primer
- Sherwin-Williams® Multi-Purpose Water-Based Acrylic-Alkyd Primer

Conventional Primers

- Dunn Edwards® Ultra Grip™ Premium
- Kilz® 2
- Hamilton Coatings® Prep-Tex

Stir primer completely prior to mixing. Add one package (1 lb.) of American Clay Primer Sand additive per gallon of primer and mix thoroughly. As you are mixing, scrape the bottom of the

container so that all sand is integrated into the primer. The sand is critical—it enables the plaster to bond to the wall.

***Note:** if the container of primer is too full to add the sand, remove a small portion of primer initially and set aside for later use.

All outside corners should receive two coats of primer mixed with American Clay Primer Sand additive.

Lime Gauging Coverage

1 gallon of American Clay Lime Putty per 2 bags of 50 lb. or 63 lb. bags of plaster (or 1 gallon of American Clay Lime Putty per 1 bag of 80 lb. bag of Enjarre).

Mixing Plaster With American Clay Lime Putty

Original finishes:

- You must use Loma™ plaster for your base coat.
- If using Enjarre™ for a single coat plaster application, a base coat is not necessary.
- Enjarre™ plaster is also suitable as a base coat. If your surface is highly textured (more than 1/16"), Enjarre™ will cover the surface more evenly and aid in making the finish coat application step easier.

Forté finishes:

- You cannot use Lime Putty with Forté plasters when Lime Gauging.

WARNING: Always begin by using safety glasses (or goggles) and safety gloves when working with American Clay Lime Putty.

1. Mix in a 5 gallon bucket with a ratio of 5 lbs. (or ½ gallon) of American Clay Lime Putty to a minimum of 1 ½ gallons water. (*See notes below if using 80 lb. bags of Enjarre™)
2. Mix with a spiral drill mixer. Mix thoroughly until completely dissolved and no clumps exist.
3. Consistency of the lime gauged solution should be similar to skim milk.
4. Add color if desired. For standard colors, the ratio of color is 1 color pack to the lime gauged solution. For blended colors, follow the formula listed with the name (i.e.: 2 Kentucky Moon color packs + 1 Verde Valley color pack = Seabrook) and mix with the lime gauged solution. Mix until pigment is fully dispersed. (*See notes below if using 80 lb. bags of Enjarre)
5. **Add 1/3 bag plaster** and mix using a spade handle 1/2" gear-driven low-speed mixing drill and plaster paddle.
6. **Slowly add remaining plaster and more water** to bring plaster to a soft-serve ice cream consistency. Total water content will vary depending on humidity levels. Scrape sides of bucket and continue mixing until all lumps disappear.

7. Let plaster sit for at least 30 minutes, and remix prior to application.

NOTE: The following color packs are now recommended for use in the finish coat only: **Sugarloaf White, Treetop, Glacier and Estancia.** These particular pigments, when used in both coats, can lead to chalking problems which can lead to delamination.

If you wish to tint the base coat:

- You may use 1/2 the color pack in the plaster when using Treetop, Glacier or Estancia.
- You may use Chalk Creek in the plaster when using Sugarloaf White.
- When using Sugarloaf White as part of a color blend you may use Chalk Creek and either a full color pack or 1/2 color pack of the second color pigment in the blend in the plaster.
 - *Example:* If using Arcadia (1 Sugarloaf White + 1 Havasu) you may use 1 Chalk Creek + 1 Havasu -OR- 1 Chalk Creek + 1/2 Havasu)

You may also choose not to use color pigment in the base coat.

*****Note: If mixing American Clay Lime Putty into 80 lb. bags of Enjarre™, a solution of 10 lbs. (1 gallon) of American Clay Lime Putty to 2 gallons of water should be used when beginning the mixing process. If mixing color into the lime gauged solution:**

- **For standard colors – add 1.25 color packs to the lime gauged solution.**
- **For blended colors – follow the formula listed with the name, then adjust for the correct ratio (i.e.: 2.5 Kentucky Moon color packs + 1.25 Verde Valley color packs = Seabrook), and mix with the lime gauged solution.**

Base Coat Application

1. **Using a hawk, trowel the material as evenly as possible.** Apply plaster in vertical strips with irregular edges. Maintain a wet edge at all times and go from one edge of the wall to the other without breaking. Trowel in all edges (around floors, ceilings, etc.) to leave a clean application.
2. Let dry completely prior to applying finish coat plaster.
3. **Apply the Loma™ plaster as thin as one CREDIT CARD.**

Finish Coat Application

Original finishes:

- You may use Loma™, Lomalina™, Marittimo™, or Porcelina™ plaster for your finish coat over a Loma™ base coat.

OR

- You may use Enjarre™ for a single coat plaster application over a properly prepared substrate.

Forté finishes:

- You cannot use Lime Putty with Forté plasters when Lime Gauging.

1. **Lightly wet** the surface prior to applying the finish plaster over the Loma™ base coat. Misting the wall lightly prior to applying the second coat will give you more working time because it slows the plaster's drying speed. The key is to mist lightly: over-wetting will cause problems! **Do not mist the primed surface if using Enjarre™ in a single coat plaster application.**
2. **Using a hawk, trowel the material as evenly as possible.** Apply plaster in vertical strips with irregular edges. Maintain a wet edge at all times and go from one edge of the wall to the other without breaking. Smooth the surface, or leave drag marks and trowel marks if desired. Trowel in all edges (around floors, ceilings, etc.) to leave a clean application.
3. **Apply:**
 - a. Loma™ as thin as one CREDIT CARD
 - b. Lomalina™ a bit thinner than one CREDIT CARD
 - c. Porcelina™ as thin as one BUSINES CARD
 - d. Marittimo™ between one to two CREDIT CARDS thin
 - e. Enjarre™ as thin as two CREDIT CARDS.
4. **Plaster may craze** (spider check) as it dries. Troweling while the plaster is leather hard (still damp, but no longer tacky) will reduce this.
5. **Adjust the texture if desired:** When wall is leather hard, you may smooth the wall by hand troweling, remove trowel marks with a dry sponge, or create an evenly rough surface by rubbing the entire surface with a dry sponge.

Compression

For your walls to impress, you must compress!

1. **Important: Once the clay reaches leather hard, compress the entire surface and allow to dry using one of the techniques explained below.**
2. If the surface is not finalized, perform a second compression over the entire surface within 24 hours of initial application by wetting and re-working with the appropriate technique to achieve the desired surface.
3. Your wall should now be finished. Rub fingers across the wall and check for chalkiness. If it is chalky, work the surface with a barely damp sponge being careful not to introduce too much moisture.

You MUST use one of these compression techniques to compress and stabilize the surface, prevent dusting, and even out color variations in the plaster. Compression makes the finish surface repairable.

Sand Finish (sponged): Rub the surface with a tile sponge using varying circular-like strokes. The tile sponge should be damp, not dripping with water. To remove excess water from the sponge, wring it out as best as possible. If the wall gets too wet, the color will lighten as the sponge rubs the surface. Stop rubbing with the sponge and allow the wall to dry for a short period of time. Also, wring out your sponge prior to continuing if the problem persists.

As you move across the wall, the tile sponge will become dry and will begin to accumulate pigment on the surface. Simply, dip your sponge into a bucket of water and wring it out before resuming compression. Brush any excess sand off the wall as you go with a brush or dry tile sponge.

The wall should feel slightly rough, but stable and not sandy, dusty or “hairy” when you finish.

Matte finish (hard troweled): Trowel with a stainless steel trowel*. Trowel the whole surface, and then move to a new section. Working in a two foot by two foot section or smaller is recommended.

If the wall is too wet, the color will lighten as you trowel. This is known as “raising the cream” or “pulling fat”. Let the cream (fat) absorb back into the wall, and continue troweling. Mist less, or use a finer mist, to prevent this problem in the future.

The wall should feel smooth and stable, not sandy, dusty or “hairy” when you finish.

***Note: A Lexan plastic trowel is recommended for compression with Lomalina™ and Porcelina™ finishes, especially in whiter or lighter colors.**

If you have questions about compression, or need a fuller explanation of how to do it effectively, please call 1-866-404-1634.

Cleanup

All cleanup can happen with water. Tools and plaster that has dropped on the floor can be cleaned up with warm water. Sanded Primer must be cleaned when still wet.

When working with darker colors, especially reds, allow the plaster to dry, then rub or scrape off as much plaster as possible. This will remove most of the pigment from the area. Then finish cleanup with a damp sponge. If pigment stains any surface clean up can be achieved with white vinegar.

Storing Plaster

Clay plaster mixed with American Clay Lime Putty may not be stored for use at a later time. American Clay Lime Putty can be stored -- ensure it is covered with a layer of water in the bucket to help to store indefinitely.

Does the Plaster Need to Be Sealed?

American Clay recommends not sealing most American Clay plasters because sealers reduce the positive benefits of the clay, make the wall harder to maintain, and sealers can be difficult to apply. For instructions and further questions or discussion, please call 1-866-404-1634.

Technical Information & Warnings

1. Lime gauged plaster will develop increased hardness over time. It will be at near maximum hardness in six months and will continue to "carbonize" until all of the lime has returned to limestone.
2. Lime gauged plaster remains repairable up to one month after installation. However, after one month, the lime gauged plaster causes it to be less repairable than non-gauged American Clay plaster.
3. Lime gauged or washed American Clay plaster cannot be used in direct water applications such as showers or steam rooms. Lime gauged plaster does not insure water repellency, it does resist water penetration.
4. Lime gauged or lime washed American Clay plaster cannot be applied directly over painted or sealed surfaces. Proper preparation of the surface must be done prior to application.
5. American Clay Lime Putty can be hand applied or sprayed on and back troweled.
6. Using American Clay Lime Putty when gauging requires the use of American Clay Primer Sand additive mixed with an approved primer.
7. American Clay Lime Putty must be used in both the base coat and finish coat when gauging when using Loma™, Lomalina™, Porcelina™ or Marittimo™ plasters.
8. American Clay Lime Putty cannot be used in the same mixture as Forté plasters or Original plasters mixed with Up & EZ! / PlasterPlus or Mud Glue when Lime Gauging.
9. Adding American Clay Lime Putty, when gauging, will increase the square footage of coverage by approximately 10%.
10. Lime wash can be applied over lime gauged plaster. It will further increase the surface hardness over time. When using both application methods on one surface, lime gauged application must be completed entirely before lime wash application begins.
11. The results of American Clay Lime Putty must be tested before final approval by the customer. Artisans/contractors should have prior experience with American Clay Lime Putty prior to attempting a project.

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