

Enjarre™

(n-har-ray)

Application Instructions.

Full architectural specs can be found at www.enjarre.com

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Overview

All surfaces require 3 major steps to complete the plastering:

1. Substrate preparation
2. Product application
3. Compression or Brushing

Substrate Preparation

Maintain room temperature between 10° and 32° C (50° and 90° F) during application, as well as 3 days before and after it.

Wall Preparation Checklist

1. Check Substrate Preparation List for instructions specific to your substrate.
2. Complete General Preparation Steps.
3. Prime outside corners with two (2) coats of American Clay Sanded Primer.

Substrate Preparation List

Adobe – sun-baked or pressed-block, unplastered

Preparation will depend on the depth of the mortar joints.

- **Mortar joint depth 9 mm (3/8") or less:** walls will not need a brown coat, nor will they need Sanded Primer Elite on outside corners. However, walls with joints deeper than 4 mm (3/16") may need a second coat of Enjarre (or a top coat of American Clay Loma or Marittimo) to create a flat wall. Other options: 1) use one coat of Enjarre and enjoy the character of slightly visible mortar joints in the plaster, 2) level wall with an appropriate brown coat of earth, gypsum, lime or cement plaster, then follow with one coat of Enjarre. Follow manufacturer's specifications for brown coat product used. Check preparation requirements for the new substrate.
- **Mortar joint depth greater than 9 mm (3/8"):** walls need an appropriate brown coat of earth, gypsum, lime or cement plaster to level the surface prior to Enjarre application. Follow manufacturer's specifications for brown coat product used. Check preparation requirements for the new substrate.

Aerated, Autoclaved Concrete Block – AAC – (e.g. Hebel, E-Crete, SafeCrete)

Preparation will depend on the depth of the mortar joints.

- **Mortar joint depth 9 mm (3/8") or less:** walls will not need a brown coat, nor will they need Sanded Primer Elite on outside corners. However, walls with joints deeper than 4 mm (3/16") may need a second coat of Enjarre (or a top coat of American Clay Loma or Marittimo) to create a flat wall. Other

options: 1) use one coat of Enjarre and enjoy the character of slightly visible mortar joints in the plaster, 2) level wall with an appropriate brown coat of earth, gypsum, lime or cement plaster, then follow with one coat of Enjarre. Follow manufacturer's specifications for brown coat product used. Check preparation requirements for the new substrate.

- **Mortar joint depth greater than 9 mm (3/8"):** walls need an appropriate brown coat of earth, gypsum, lime or cement plaster to level the surface prior to Enjarre application. Follow manufacturer's specifications for brown coat product used. Check preparation requirements for the new substrate.

Blueboard - see Wallboard

Brick – sealed, unsealed, painted or unpainted

If paint or sealer is glossy, see also Sealed surfaces.

Preparation will depend on the depth of the mortar joints.

- **Mortar joint depth 9 mm (3/8") or less:** walls will not need a brown coat. Painted or sealed brick will need two coats of Sanded Primer Elite on their corners. Walls with joints deeper than 4 mm (3/16") may need a second coat of Enjarre (or a top coat of American Clay Loma or Marittimo) to create a flat wall. Other options: 1) use one coat of Enjarre and enjoy the character of slightly visible mortar joints in the plaster, 2) level wall with an appropriate brown coat of gypsum, lime or fibered-cement plaster, then follow with one coat of Enjarre. Follow manufacturer's specifications for brown coat product used. Check preparation requirements for the new substrate.
- **Mortar joint depth greater than 9 mm (3/8"):** walls need an appropriate brown coat of gypsum, lime or fibered-cement plaster to level the surface prior to Enjarre application. Follow manufacturer's specifications for brown coat product used. Check preparation requirements for the new substrate.

Cement Board (e.g. Durock®, Hardiebacker™) – see Wallboard

Cement plasters / Cement stucco – sealed, unsealed, painted or unpainted

If paint or sealer is glossy, see also Painted or Sealed surfaces, as appropriate.

Preparation depends upon the smoothness of the cement.

- **Cement plasters/stuccos with texture of 6 mm (1/4") or less:** Walls do not need a brown coat. Scraping off excess texture will save on materials costs. Painted, sealed, or slick plasters/stuccos need 2 coats of Sanded Primer Elite on all outside corners.
- **Cement plasters/stuccos with texture greater than 6 mm (1/4"):** If texture cannot be scraped back to 6 mm (1/4") or less, apply a cement brown coat to level the wall. Follow manufacturer's specifications for product used..

Clay Plaster – see Earth Plaster

Cob, unplastered

Unplastered cob needs to be plastered with an appropriate brown coat of earth plaster, gypsum plaster, lime plaster or fibered-cement plaster to level the surface

prior to Enjarre application. Follow manufacturer's specifications for brown coat product used. Check preparation requirements for the new substrate.

Compressed Earth Block – see Adobe

Concrete, unsealed monolithic (poured)

The condition of the walls will dictate the preparation needed:

- **Maximum texture 6 mm (1/4") and maximum combined texture and joint depth 9 mm (3/8"):** Walls do not need a brown coat. Scraping off excess texture will save on materials costs. Unpainted, unsealed concrete needs no Sanded Primer Elite on outside corners.
- **Texture exceeding 6 mm (1/4") or combined texture and joint depth exceeding 9 mm (3/8"):** apply a fibered-cement to level the wall. No Sanded Primer Elite is needed on corners for cement brown coat. A gypsum-based brown coat may also be used, but will require a full coat of a No VOC primer and 2 coats of Sanded Primer Elite on corners prior to Enjarre application. Follow manufacturer's specifications for product used. Check preparation requirements for the new substrate.

Comment [MSOffice1]: I rephrased this so that we did not end up with 1/4" texture AND 3/8" mortar joints...ok?

Concrete block (CMU), sealed, unsealed, painted or unpainted

If paint or sealer is glossy, see also Painted or Sealed surfaces, as appropriate. Preparation will depend on the depth of the mortar joints.

- **Mortar joint depth 9 mm (3/8") or less:** walls will not need a brown coat. Sealed or painted block will need two coats of Sanded Primer Elite on protruding corners. **Note:** walls with joints deeper than 4 mm (3/16") may need a second coat of Enjarre (or a top coat of American Clay Loma or Marittimo) to create a flat wall. Other options: 1) use one coat of Enjarre and enjoy the character of slightly visible mortar joints in the plaster, 2) level wall with an appropriate brown coat of gypsum, lime or cement plaster, then follow with one coat of Enjarre. Follow manufacturer's specifications for brown coat product used. Check preparation requirements for the new substrate.
- **Mortar joint depth greater than 9 mm (3/8"):** walls need an appropriate brown coat of gypsum, lime or cement plaster to level the surface prior to Enjarre application. Follow manufacturer's specifications for brown coat product used. Check preparation requirements for the new substrate.

Diamond® Plaster (a.k.a Diamond® Finish) - see Gypsum plasters

Drywall – see Wallboard

Drywall mud – see Joint Compound

Earth Plasters, unsealed

Sanded Primer Elite is not required on protruding corners of stable, unsealed earthen plasters. (If the surface has been sealed, water drops splashed on the plaster will sit on the surface instead of soaking in immediately. If that is the case, see Sealed Surfaces.)

Dusty earth plasters need some attention prior to Enjarre application. Attempt to remove dust with a vacuum or a barely damp sponge. If dusting continues, Enjarre will have a hard time bonding to the earth plaster. We recommend painting or misting the wall with a natural binder such as our Mud Glue™ solution prior to Enjarre application (for instructions on making a Mud Glue™ solution, see “Mix Mud Glue™” instructions in the “Enjarre with Mud Glue™” section below).

E-Crete - see Aerated Autoclaved Concrete Blocks

Foam Building Form Blocks – see Insulated Concrete Forms (ICF)

Gypsolite - see Gypsum Plasters

Gypsum Plasters (e.g. Structo-Lite®, Gypsolite, Imperial®, Diamond®, Kal-Kote®, Plaster of Paris and Red Top®)

Check to see if the wall is already sealed. (Mist wall lightly. If water beads on surface, the wall is sealed. If the water quickly soaks into the wall surface, the wall is not sealed). See Sealed Surfaces if your wall is sealed.

For unsealed gypsum plasters, complete any General Preparation steps needed to bring your surface to a level, dust-free surface. Then roll or spray a primer or sealer over the entire wall. There are three options:

1. Spray on American Clay Penetrating Sealer diluted 1:1 with water.
2. Prime with a conventional No VOC paint primer like a PVA.
3. Prime with American Clay Sanded Primer Elite.

After priming/sealing the entire wall, all protruding corners, bullnoses and other vulnerable areas need two coats of Sanded Primer Elite prior to Enjarre application.

Hardboard (a.k.a. Medium Density Fiberboard or MDF)

MDF surfaces must be covered with wallboard or other sheathing prior to any Enjarre application. Follow manufacturer’s specifications for product used. Check preparation requirements for the new substrate.

Hardwood – see Tongue and Groove

Hebel – see Aerated Autoclaved Concrete Blocks

Imperial® Plaster – see Gypsum Plasters

Insulated Concrete Forms (ICF’s) a.k.a Foam Building Form Blocks, (e.g. Poly-Steel®)

These surfaces require a brown coat of fibered cement or drywall or other sheathing recommended by the manufacturer to level and/or strengthen the surface (by providing impact resistance). Follow manufacturer’s specifications for product used. Check preparation requirements for new substrate.

Joint Compound (a.k.a. drywall mud) – see Wallboard with Joint Compound.

Lime Plaster – unsealed

Check to see if the plaster is sealed (mist lightly—if plaster has been sealed the water will sit on the surface instead of soaking in immediately). If it is sealed, see the instructions for Sealed Surfaces. If the lime plaster was sealed with a soap (Tadelak plaster), contact American Clay for more information.

Brown coats of unsealed lime plasters need no Sanded Primer Elite prior to Enjarre application.

Slick or polished unsealed lime plasters will need 2 coats of American Clay Sanded Primer Elite on protruding corners, bullnoses, and other vulnerable areas.

Medium Density Fiberboard (MDF) – see Hardboard

OSB (Oriented Strand Board, a.k.a. “chip board”)

OSB must be covered with wallboard or other sheathing prior to any Enjarre application. Follow manufacturer’s specifications for product used. Check preparation required for new substrate.

Painted Surfaces

Painted surfaces need to be stable and dust free. Complete all General Preparation steps, including the light sanding of glossy paints with .08 mm (150 grit) sand paper (to scratch the surface so that the plaster can bond to it.) Plaster applied over un-sanded glossy paint tends to peel off as it dries. Be sure to sand every square inch. Remove all dust from the surface with a vacuum or a damp cloth.

Then apply two coats of American Clay Sanded Primer Elite on all protruding corners, bullnoses and other vulnerable areas. The rest of the surface does not need Sanded Primer Elite.

Remodel considerations: Remove all flaking paint. If you have any concerns about the stability of the wall, wash it down with very warm water. If any bubbling or delaminating develops, remove those layers of paint. If the wall is dusting, wash the wall with a 25% Penetrating Sealer – 75% water solution. Be sure to do all appropriate “General Preparation” steps listed in the instructions.

On walls with significant texture: Texture 6 mm deep will drop Enjarre coverage from 18.5 sq. m. to 14 sq. m. or less per bag, increasing materials cost. (English equivalent: texture ¼” deep can drop coverage from 200 sq. ft. per bag to 150 sq. ft. or less per bag.)

To reduce materials costs, remove as much texture as possible with a scraper, and/or fill texture with an appropriate material. (Joint compound is an inexpensive filler—see Joint Compound Substrate section for suggestions on appropriate types of joint compound and for substrate preparation needed by joint compound.)

New construction: Some new homes receive no primer and only one coat of paint directly over the wallboard. When plastering these walls it is common to see one or two small sections of plaster peel off the wall as the second coat dries. This is because the paint does not have as solid a bond to the wallboard. It is hard to prevent, but easy to fix—see Maintenance Manual.

Paneling

Paneling must be covered with wallboard or other sheathing prior to any Enjarre application. Follow manufacturer’s specifications for product used. Check preparation steps required for new substrate.

Perform Wall® - see Rastra®

Plaster of Paris – See Gypsum Plasters

Plasterboard – see Wallboard

Plywood

Plywood must be covered with wallboard or other sheathing prior to any Enjarre application. Follow manufacturer's specifications for product used. Check preparation steps required for new substrate.

Poly-Steel® – see Foam Building Form Blocks

Porous Stone (e.g. cleft stone), unsealed

Porous stone needs no American Clay Sanded Primer Elite prior to Enjarre applications. Complete all General Preparation steps needed to bring this substrate to a stable, dust-free surface.

Rammed earth, unplastered

Preparation will depend on the depth of the voids and joints.

- **Voids and joint depth 9 mm (3/8") or less:** walls will not need a brown coat, nor will they need Sanded Primer Elite on outside corners. However, walls with voids and joints deeper than 4 mm (3/16") may need a second coat of Enjarre (or a top coat of American Clay Loma or Marittimo) to create a flat wall. Other options: 1) use one coat of Enjarre and enjoy the character of slightly visible subsurface texture in the plaster, 2) level wall with an appropriate brown coat of earth, gypsum, lime or cement plaster, then follow with one coat of Enjarre. Follow manufacturer's specifications for brown coat product used. Check preparation requirements for the new substrate.
- **Voids and joint depth greater than 9 mm (3/8"):** walls need an appropriate brown coat of earth, gypsum, lime or cement plaster to level the surface prior to Enjarre application. Follow manufacturer's specifications for brown coat product used. Check preparation requirements for the new substrate.

Rastra® or Perform Wall®

Preparation will depend on the depth of the voids and joints.

- **Voids and joint depth 9 mm (3/8") or less:** walls will not need a brown coat, nor will they need Sanded Primer Elite on outside corners. However, walls with voids and joints deeper than 4 mm (3/16") may need a second coat of Enjarre (or a top coat of American Clay Loma or Marittimo) to create a flat wall. Other options: 1) use one coat of Enjarre and enjoy the character of slightly visible subsurface texture, 2) level wall with an appropriate brown coat of earth, gypsum, lime or cement plaster, then follow with one coat of Enjarre. Follow manufacturer's specifications for brown coat product used. Check preparation requirements for the new substrate.
- **Voids and joint depth greater than 9 mm (3/8"):** walls need an appropriate brown coat of earth, gypsum, lime or cement plaster to level the surface prior to Enjarre application. Follow manufacturer's specifications for brown coat product used. Check preparation requirements for the new substrate.

Comment [MSOffice2]: Do we want to create a longer substrate section for Enjarre where we can address advantages and disadvantages of different brown coats?NO

Red Top® – see Gypsum Plasters

SafeCrete – see Aerated Autoclaved Concrete

Sealed Surfaces – any surface sealed with an acrylic sealer.

If the surface has been sealed with wax, see Waxed Surfaces.

Sealed surfaces need to be stable and dust free. Glossy surfaces need to be lightly sanded with .08 mm (150 grit) sand paper to scratch the surface so that the plaster can bond to it. Plaster applied over un-sanded glossy sealer tends to peel off as it dries. Be sure to sand every square inch. Remove all dust from the surface with a vacuum or a damp cloth.

Apply two coats of American Clay Sanded Primer Elite on all protruding corners, bullnoses and other vulnerable areas.

Sheetrock® – see Wallboard

Slick Surfaces (polished plasters and cements and smooth or polished stone)

Check to see if the plaster is sealed (mist lightly—if plaster has been sealed the water will sit on the surface instead of soaking in immediately). If it is sealed, see the instructions for Sealed Surfaces.

If it is an unsealed gypsum plaster (e.g. Structo-Lite®, Gypsolite, Imperial®, Diamond®, Kal-Kote®, Plaster of Paris and Red Top®), see the instructions for gypsum plasters

For other unsealed surfaces, follow all General Preparation steps needed to create a stable, dust-free surface.

Smooth troweled cement, lime, as well as smooth/polished stone, all need two coats of Sanded Primer Elite on protruding corners, bullnoses and other vulnerable areas. The rest of the wall needs no Sanded Primer Elite.

Stone – see Porous Stone or Slick Surfaces as appropriate

Straw Bale, unplastered

Unplastered straw bale needs to be plastered with one or more coats of earth plaster, gypsum plaster, lime plaster or fibered-cement plaster to level and strengthen the surface prior to Enjarre application. The last coat should be a brown coat. Follow manufacturer's specifications for brown coat product used. Check preparation requirements for the new substrate.

Straw Clay (a.k.a. Light Clay), unplastered

Unplastered light clay needs to be plastered with an appropriate brown coat of earth plaster, gypsum plaster, lime plaster or fibered-cement plaster to mesh all wood and to level the surface prior to Enjarre application. Follow manufacturer's specifications for brown coat product used. Check preparation requirements for the new substrate.

Structolite® - see Gypsum Plasters

Tile

Tile must be covered with wallboard or other sheathing prior to any Enjarre application. Follow manufacturer's specifications for product used. Check preparation steps required for new substrate.

Tongue and Groove Wood

Tongue and Groove must be covered with wallboard or other sheathing prior to any Enjarre application. Follow manufacturer's specifications for product used. Check preparation steps required for new substrate.

Wallboard with Joint Compound (a.k.a. drywall, plasterboard, Sheetrock®, etc.)

Other common names for wallboard are Gyprock®, gypsum board, blue board, green board, cement board, Fiberock®, and QuietRock®

1. **Wallboard seams must be taped and mudded with joint compound** (see *Recommended Joint Compounds* and *Joint Compound Application* below)
2. **Complete any "General Preparation"** steps needed to bring this to a level, dust-free surface.
3. **Prime all joint compound or the entire surface with a No VOC paint primer or spray on a coat of American Clay Penetrating Sealer, diluted 1:1 with water.**
4. **Apply 2 coats of American Clay Sanded Primer Elite** on protruding corners, bullnoses and other vulnerable areas. The rest of the wall does not need Sanded Primer Elite.

Comment [MSOffice3]: This is a list of primers I was able to find, but some are low VOC not no VOC . PLEASE double check this list and remove any you don't want!

Recommended Joint Compounds

Follow wallboard manufacturer's recommendations for joint compound.

Discussion: USG recommends setting joint compounds for bedding tape under veneer plasters. (Examples of setting joint compounds are Durabond 90 and Easy Sand 45 Setting Joint Compound). Multipurpose joint compound can be used on top of bedding compounds. Lightweight joint compounds (e.g. USG Plus-3 or Murco M-100*) or topping compounds other than multipurpose may cause the plaster to delaminate, while setting joint compounds, also known as hot muds (any powdered, quick-setting joint compound) may cause ghosting, particularly when fresh. In new construction, it is not uncommon to have a combination of multi-purpose joint compound and hot muds. For this reason we require installers to prime the joint compound or the entire surface with a conventional No VOC primer or spray on American Clay Penetrating Sealer diluted 1:1 with water prior to Enjarre application.

***We do suggest Murco M-100 for chemically sensitive clients.** To avoid delamination, you must apply a No VOC paint primer over M-100 prior to Enjarre application. **Test all materials for sensitivity prior to use.**

Joint Compound Application:

Wallboard seams must be taped and mudded with joint compound (level 1 - 2). In other words:

- Fasteners **do not** need joint compound
- Seams **do** need tape and joint compound.
- Extra passes may be needed at corner bead or where additional leveling is necessary.
- Joint compound **does not** need to be sanded but high points **do** need to be scraped off:
- Slight ridges and depressions (+/- 3 mm or 1/8") are acceptable.

Comment [MSOffice4]: Is this true?

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.

Potential Issues:

The walls must be dust free prior to Primer and Enjarre application or plaster could 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 25% American Clay Penetrating Sealer / 75% water solution.

Use a joint compound that is appropriately thick. Do not add additional water to pre-mixed joint compound, and add only the recommended amount of water to powdered joint compounds. Loose or wet joint compound can cause the seam to crack (air checking).

Fill all gaps between wallboards. Failing to fill the gaps can cause cracking to appear on the seams as the plaster dries.

Taper the butt joints (cut edges of sheet rock) to a 45 degree angle, removing all loose and torn paper before hanging. Fill joint with joint compound then tape and bed joint. This ensures that the cut ends are fully isolated and that water cannot migrate into the joint, causing air checking.

Wallpaper

There are two options with wallpaper. 1) It can be removed completely (the wall beneath it must be completely stable and dust-free). Check substrate preparation requirements for whatever substrate is revealed once the wallpaper has been removed. 2) It can be covered with wallboard. Follow manufacturer's specifications if using wallboard and check substrate preparation requirements for wallboard.

Walls with a Combination of Materials

Because the pigment goes where the water goes, different absorption (backsuction) rates in the substrate can result in color variations called ghosting, particularly with the deeper colors. When different suction rates exist or are suspected, spray American Clay Penetrating Sealer diluted 1:1 with water over the entire wall, or prime the wall with a conventional primer (PVA works well). Both options will even out the suction. Follow manufacturer's specifications for product used.

On smooth substrates, two coats of American Clay Sanded Primer Elite are needed over protruding corners, bullnoses and other vulnerable areas. No Sanded Primer Elite is needed over the rest of the wall.

Waxed Surfaces

No new material—including Enjarre—can be put over wax. Wax must be removed completely by sanding the surface. Once the wax has been sanded off,

remove all dust from the surface. (If surface remains dusty, wash the surface with a 25% acrylic sealer / 75% water solution. If the dusty surface is a gypsum based plaster, wash the surface with a 50% acrylic sealer / 50% water solution.)

Double coat all protruding corners, bullnoses and other vulnerable areas with two coats of American Clay Sanded Primer Elite.

General Preparation for All Substrates

Maintain room temperatures between 10° and 32° C (50° and 90° F) during application, as well as 3 days before and after it. Lack of heat is a common problem on job sites. Cold walls will slow drying times. Freezing temperatures will cause crumbling and delamination of fresh wet plaster. Make sure you have sufficient heat and bring the materials into the room 24 hours before mixing to acclimate them to the ambient temperature.

Protect floors with drop cloths or plastic.

1. Scrape off any loose or flaking paint or other surface material until you reach a well-bonded surface.
2. Knock down high points or protrusions of more than 3 mm (1/8") on a flat substrate or 6 mm (1/4") on a deeply textured wall.
3. Clean and fill any mortar joints and depressions deeper than 9 mm (3/8") with a filler that bonds to the substrate, leveling them with the surface. For assistance in determining the appropriate filler, see the instructions for the substrate.
4. Lightly sand any high-gloss paint or glossy sealed surface with .08 mm (150 grit) sandpaper to provide a "tooth" for the plaster.

******* 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.

5. Remove any dust with a vacuum or wash wall with a sponge and a 25% penetrating sealer / 75% water solution.
6. Wash sooty or greasy surfaces with a TSP substitute cleaner of your choice. Let dry.
7. Prime all joint compound with a conventional zero VOC paint primer to avoid possible color variations caused by different backsuction rates (see "Substrate Preparation / Wallboard" for more information).
8. Thoroughly protect adjacent surfaces with painters tape and other appropriate materials. Leave tape 3 mm or 1/8" (more if the plaster will be thicker) from the edge of the surface to be plastered so that the tape pulls off cleanly.

Applying American Clay Sanded Primer Elite to Corners

Wet primer must not freeze. Store container in climate-controlled area.

Stir Sanded Primer thoroughly, scraping the bottom of the container so that all sand is integrated into the primer. The sand is critical—it strengthens the plaster's bond to the wall.

Double prime protruding corners and other vulnerable areas: All new corner bead, painted or primed surfaces, slick surfaces or sealed surfaces will require a double coat of Sanded Primer Elite over outside corners and other vulnerable areas. The rest of the surface does not need Sanded Primer Elite. To confirm the need for Sanded Primer Elite on corners, check the Substrate Preparation list.

Primer may be rolled, brushed or sprayed on. Backroll primer that is sprayed on.

Allow first coat to dry, then apply second coat.

Coverage is approximately 18.5 – 25.5 sq m (200 - 275 sq ft) per gallon, depending on substrate.

Clean up: Clean tools with soap and warm water immediately.

Enjarre Application

Enjarre Plaster comes in 36.3 kg (80lb) bags.
Add-Mix comes in 5 gallon containers.

Comment [MSOffice5]: 5 gallon buckets?

Mix Add-Mix:

One part Add-Mix is always diluted with 4 parts water.

1. Pour 4 liters (1 gallon) of Enjarre Add-Mix into a 28 liter (7 gallon) or larger container.
2. Add 16 liters (4 gallons) of water and mix solution with a plaster mixing paddle for 30-60 seconds.
3. Use this solution to mix Enjarre Plaster. Remix prior to use.

If you use a smaller container cut amounts in half

Enjarre Add-Mix should be used within 10 days of diluting with water.

Enjarre may be mixed with American Clay Mud Glue instead of Add-Mix. For discussion and directions, see the instructions after "Cleanup" and "Sealing".

Mix Plaster

1. Remix water/Add-Mix solution.
2. Pour 6 liters (1 ½ gallons) water/Add-Mix solution into a 28 liter (7 gallon) or larger container.

3. Pour one half bag of Enjarre into solution. Mix with a heavy-duty drill and plaster paddle,
4. Alternate adding all of the remaining dry plaster and as much solution as needed until the plaster has reached the consistency of soft serve ice cream.
5. Let plaster stand for 30 minutes, remix, check consistency and add more water/Add-Mix solution if plaster has stiffened.

If you are using a smaller container, cut amounts in half.

Enjarre can be mixed up to 24 hours prior to application.

General Application Instructions

To prevent dry bonding and to extend work time, heavily mist unsealed CMU's, concrete, cement plasters, AAC and cured lime plasters prior to Enjarre application.

The recommended thickness is 1.5 - 3 mm (1/16"-1/8) over level I (as specified in Substrate Preparation) drywall prep.

Textured substrates should receive slightly more more plaster than the depth of the texture, due to .4mm (1/64") shrinkage. Maximum texture is 6 mm (1/4").

Spray with rotor-stator driven texture machine to desired thickness and back-trowel for desired texture. Let dry. Sprayed applications that are not backtroweled may develop spider checking.

Enjarre coverage ranges from:

- 18.5 sq m (200 sq ft) per bag over level 1 drywall prep to
- 14 sq m (150 sq ft) or less over 1/4" texture
- 7 sq m (75 sq ft) per bag over walls with heavy texture and mortar joints that are 9 mm (3/8") deep.

Compression and Brushing

Walls must be compressed or brushed.

Comment [MSOffice6]: Croft, are you ok with this right now?

Compression is recommended. Although the product is hard enough without compression, compression compacts and strengthens the plaster, reduces trowel marks and spider checking, evens out color variations, prevents dusting, and makes the wall more repairable. If the plaster is not compressed, spider checking will remain visible, repair patches will be more visible, other variations in color may be visible, and the plaster will not be as strong. Dusting will not be an issue as long as the wall is brushed as directed.

Compression Instructions: Compression is easiest within 24 hours of drying. After the application has dried, mist the surface so that it is evenly damp. **Do not use so much water that it is dripping down the walls.** Re-trowel or float with a dry tile sponge or stucco float, using varying circular strokes. Re-wet and rework the whole wall in this fashion.

If the wall is not compressed, it must be brushed to remove loose sand.

Comment [MSOffice7]:

Brushing Instructions: 1-14 days after application, walls that have not been compressed must be brushed with a soft broom to remove any loose sand.

Cleanup

Tools should be cleaned immediately with water. Dry unused plaster by spreading a thin coat on a sheet of plastic. When fully dry, place in a sealed package to be used for later repairs (rehydrate with water/Add-Mix solution).

Sealing

Sealing is optional except in areas that may be exposed to splashing water (around sinks without backsplashes, or shower stalls, or at the bottom of walls without baseboards), or cooking oils. Please see product labels and application instructions for American Clay Penetrating Sealer and American Clay Gloss Sealer at americanclay.com

Comment [MSOffice8]: Ok, are you bring this back? Are you advertising it? If not, lets not include here...

Enjarre with Mud Glue

Enjarre may be mixed with Enjarre Mud Glue™ —a combination of traditional natural binders—instead of Add-Mix.

Mud Glue™ is available in 20 kg (44 lb) buckets.
Enjarre Plaster comes in 36 kg (80 lb.) bags.

Using Mud Glue will slightly lighten the color, and will be less likely to spider check.

Comment [MSOffice9]: Any other differences you want to include? Should I take out spider checking?

Mix Mud Glue™

Mud Glue™ is highly alkaline (has a high PH). Mix in a well ventilated area, try to minimize Mud Glue™ dust in the air, and wear eye protection, an N95 dust mask, protective clothing and gloves. Once this binder is mixed with the clay, the alkalinity returns to an acceptable level and protective items are no longer needed.

One scoop of Mud Glue (1.36 kg or 3 lbs) is always diluted with 5 gallons of water

1. Add 8 L (2 gallons) clean, cool water to a 26 L (7 gallon) bucket.
2. While agitating the water, empty one scoop of Enjarre Mud Glue™ into the water.
3. Continue mixing for two minutes at low speed, whipping as little air into the mix as possible.
4. Add 12 L (3 gallons) of water and mix briefly.
5. Use this solution to mix Enjarre Plaster. Remix prior to use.

The Mud Glue solution is best used the day it is mixed and must be used within 2-4 days. Store in a cool place with a loose fitting lid to retard spoiling.

Mix Plaster

1. Remix Mud Glue solution, which tends to settle to the bottom of bucket.
2. Pour 8 liters (2 gallons) Mud Glue solution into a 28 liter (7 gallon) or larger container.
3. Pour half a bag of Enjarre into solution. Mix with a heavy-duty drill and plaster paddle.
4. Alternate adding remaining plaster and more solution as needed to bring plaster to a soft serve ice cream consistency. Total solution content will vary depending on humidity level. Scrape sides and continue mixing until all lumps disappear. Add the last solution slowly, as plaster can quickly become soupy. If it does become soupy, add more plaster.
5. Let plaster stand for 30 minutes, remix, check consistency and add more Mud Glue solution if plaster has stiffened.

Hot water will ruin Mud Glue™. Do not use water from a hose sitting in the sun without checking the temperature first.

Enjarre with Mud Glue™ is best used the same day it is mixed. It is strongest on the day it is mixed. When it sits, it will tend to get gummy and harder to work. Remixing is often all that is needed to return plaster to a workable consistency. Always remix and recheck consistency before adding more water.

Store in a cool place with a loose lid until used. Mud Glue™ is a natural polymer and could start to spoil within two days of mixing depending on storage conditions. Warmer temperatures, higher humidity and airtight containers will accelerate this process. Keeping the Mud Glue™ solution and the plaster cool and storing them with loose lids will minimize spoilage and extend the usable life of the material. . Five-day-old or older material and material that has started to spoil should be spread out in a thin film on a sheet of plastic to dry. The dried out material will not continue to spoil and when re-hydrated with Mud Glue™ solution can be utilized for all Enjarre applications and repairs.

If Enjarre with Mud Glue is going to be painted, it needs to be sealed before the paint is applied.

Follow regular Enjarre Application and Compression Instructions.

Note: Enjarre with Mud Glue will not need nearly as much water during compression. Heavily saturating the wall during compression may lead to delamination.

Applying American Clay Earth Plasters over Enjarre

Enjarre may be covered with a coat of American Clay Earth Plaster to upgrade the finish and change the color. Over a substrate of Enjarre, coverage of American Clay Earth Plasters will drop 20%.

There are 43 standard colors available in each of the three different plasters (Loma, Porcelina, and Marittimo). Go to americanclay.com to determine the color and the type of plaster.

Installation instructions for American Clay top coats over Enjarre are found at enjarre.com

Comment [MSOffice10]: This is going to be longer than either of us expected, again. I made it a separate document for this reason (and so that we remember to update it when we update other stuff). I'm working on it and will get it to you probably by Thurs.

Plaster Log Instructions

Leave a copy with the client, along with repair plaster. Conventional building practice is to reserve 10% of all materials used for repair.

Record for each room or wall the color of the Enjarre plaster, the type of binder used (Add-Mix or Mud Glue) and any additional top coats. Record the type of sealer used, if any.

Below is an example of how the Plaster Log should be filled out:

Room/Wall	Enjarre Color	Binder (Add-Mix or Mud Glue)	Additional Top Coat (Color, Type of Plaster, and Application System)	Sealer/ Type
Entry	Agate	Add-Mix	None	AC Penetrating Sealer
Conference Room/East Wall	Calcite	Add-Mix	Tucson Gold Loma Dos Manos with Add-Mix	None
Conference Room/Other Walls	Calcite	Add-Mix	None	None

Maintenance Manual

Plaster Log

Room	Enjarre Color	Add-Mix or Mud Glue	Additional Top Coat (Color, Type of Plaster, and Application System)	Sealer/ Type

Enjarre is far easier to repair than gypsum or cement plasters. Nevertheless, larger repairs take experience to blend into the wall. It may be faster to recoat the wall.

Repairs will be more visible on walls that have not been compressed (re-wet and reworked).

Walls that are sealed are harder to repair. A wall has been sealed if water beads on the surface. Use the directions appropriate for sealed walls.

Maintaining and Repairing Unsealed Walls

Enjarre with Add-Mix will need a significant amount of water to rehydrate the plaster for repairs. For small scratches and dings, mist wall lightly, let set for 30 seconds, and repeat 5 times, so that the plaster becomes more saturated with water. This will make repairs easier.

Cleaning - sponge out any marks with a barely damp sponge.

Scratches - sponge out with a barely damp sponge.

Permanent marker - sponge out with a barely damp sponge.

Stains - sponge wall with a barely damp sponge as soon as possible after stain happens. If stain remains, remove stained plaster and replace with plaster saved for repairs.

Nail holes - push in plaster, match texture. (Galleries like American Clay for this reason.)

Shallow nicks and dings - determine how deep the damaged area is. If the damage is shallow, and the surface has not been treated or sealed, then the area may only need to be misted with water several times (wait 30 seconds in between mists) and sponged or troweled to remove the ding. Small amounts of rehydrated plaster may be added to nicks and dings and blended in with a trowel or sponge (depending upon compression technique used on the rest of the wall).

Larger or deeper repairs - larger repairs take experience to make them blend into the rest of plaster. It may be easier to recoat the wall with another coat of plaster. If you choose to repair the plaster, follow as many of the step-by-step instructions below that are needed to complete your repair.

1. **Read through entire instructions** to determine the tools and materials needed for this repair.
2. **If there is a top coat of American Clay** over the Enjarre, see American Clay repair instructions. These instructions are for Enjarre only.
3. **If the drywall needs repair**, cut it back to the studs, remove 2"-3" (5-8 cm) of the surrounding plaster, and replace drywall. Tape and mud seams. Prime area with a PVA primer to even out suction rates. Go to step 6.
4. **If a damaged substrate is not drywall**, repair the substrate with a material appropriate for that substrate that maintains even suction rates. Go to step 6
5. **If the substrate has not been damaged**, clean the area with a soft brush and check to see if the Sanded Primer Elite has been damaged. If you even suspect that it has been damaged, go to step 6. If the Sanded Primer Elite is intact or it was not exposed, go to step 7. If Sanded Primer Elite was not necessary, go to step 7.
6. **Brush on** American Clay Sanded Primer Elite to exposed substrate.
7. **Tape the edges of the clay patch** with blue painters tape.
8. **Locate plaster that was saved for repairs** (plaster should have been dried out and saved for repairs.) If no material was saved, contact your applicator or your local dealer for materials or contact American Clay with color name and type of plaster used. If you do not know this information, send American Clay a 1"x1" (3x3 cm) chip of the plaster. American Clay will sell you a 5# bag to match the color.
9. **Determine whether Add-Mix or Mud Glue™ was used as the binder** (see log).
10. **Crumble dehydrated plaster and rehydrate with the appropriate solution.** If Add-Mix was the binder, mix 1 part Add-Mix to 4 parts water and use to rehydrate the crumbled plaster. If Mud Glue™ was the binder, mix 272 g (9.5 oz) of Mud Glue into 4 L (1gallon) water and use to rehydrate the crumbled plaster.
11. **If the repair is more than 3 mm or 1/8" deep**, apply a thin coat of Enjarre and let dry. Reapply as many coats as needed to bring the surface to 3 mm or 1/8" below the finished surface. (Skip this step if repair is less than 3 mm or 1/8" deep). Let dry.

Comment [MSOffice11]: How many parts water?

12. **Apply a final coat of Enjarre, leaving it "proud"** (higher than surrounding wall). Do not try to feather it into the surrounding wall.
13. **Let patch dry.** (This is critical! It is a good time to shift over to working on other areas needing repair.)
14. **When patch is dry, remove tape.**
15. **Shave off excess** with a sharp trowel or drywall blade, so that patch is level with the surrounding plaster.
16. **Mist the damaged area with water and use a sponge to blend the edges into the finished wall.** Let this dry completely.
17. **Re-wet and compress** the patch and the surrounding area with the same technique used on the rest of the wall. Note: it is easy to over-polish (thus burnish) the edges of a patch. Work with a soft plastic trowel to avoid this.

Maintaining and Repairing Sealed Walls

Cleaning—use a barely damp sponge

Stains, permanent marker, etc.—if a barely damp sponge does not take out a stain, remove stained plaster and replace with patching plaster saved for repairs (see steps 5-10 below)

Small nicks and dings, scratches, etc—remove sealer for 2-4" around damaged area by sanding with fine sand paper. If the damage is shallow, the area may only need to be lightly misted with water several times (wait 30 seconds in between mists) and sponged or troweled to remove the ding. Small amounts of rehydrated plaster may be added to nicks and dings and blended in with a trowel or sponge (depending upon compression technique used on the rest of the wall). Let patch dry thoroughly and go to step 20 to repair sealer.

Major or deep repairs—

1. **Read through entire instructions.**
2. **If there is a top coat of American Clay** over the Enjarre, see American Clay repair instructions. These instructions are for Enjarre only.
3. **If drywall needs repair**, cut it back to the studs, remove 2"-3" (5-8 cm) of the surrounding plaster, and replace drywall. Tape and mud seams. Prime area with a PVA primer to even out suction rates. Let dry. Go to step 6
4. **If a damaged substrate is not drywall**, repair the substrate with a material appropriate for that substrate and that maintains even suction rates. Let dry. Go to step 6.
5. **If the substrate has not been damaged**, clean the area with a soft brush and check to see if the Sanded Primer Elite has been damaged. If you even suspect that it has been damaged, go to step 6. If the Sanded Primer Elite is intact or it was not exposed, or it is not necessary for that substrate, go to step 7.
6. **Brush American Clay Sanded Primer Elite** onto exposed substrate. Let dry.
7. **Sand through sealer** for 2"-4" (5-10 cm) around the patch.
8. **Tape the edges of the patch** with blue painters tape.

9. **Locate plaster that was saved for repairs** (plaster should have been dried out and saved for repairs). If no material was saved, contact your applicator or local dealer for materials or contact American Clay with color name and type of plaster used. If you do not know this information, send American Clay a 1"x1" (3x3 cm) chip of the plaster. American Clay will sell you a 5# bag to match the color.)
10. **Determine whether Add-Mix or Mud Glue™ was used as the binder** (see log).
11. **Rehydrate plaster with the appropriate solution.** If Add-Mix was the binder, mix 1 part Add-Mix with 4 parts water and use to rehydrate the plaster. If Mud Glue™ was the binder, check expiration date and obtain fresh Mud Glue if it has expired. Mix 272 g (0.6 lb or 9.5 oz) of Mud Glue into 4 L (1gallon) water and use to rehydrate the crumbled plaster.
12. **If the repair is more than 3 mm or 1/8" deep**, apply a thin coat of Enjarre and let dry. Reapply as many coats as needed to bring the surface to 3 mm or 1/8" below the finished surface. (Skip this step if repair is less than 3 mm or 1/8" deep). Let dry.
13. **Apply a final coat of Enjarre, leaving it "proud"** (higher than the surrounding wall surface). Do not try to feather it into the surrounding wall.
14. **Let patch dry.** This is critical. (It is a good time to shift over to working on other areas needing repair).
15. **When patch is dry, remove tape.**
16. **Shave off excess** with a sharp trowel or drywall blade, so that patch is level with the surrounding plaster.
17. **Mist the damaged area with water and work with a sponge to blend** the edges into the finished wall. Let this dry completely.
18. **Re-mist the surface and compress, using the same technique** used on the rest of the wall. Note: it is easy to over-polish (thus burnish) the edges of a patch. Work with a soft plastic trowel to avoid this.
19. **Allow to dry thoroughly.**
20. **Dilute sealer** (see log for sealer used) with 1-2 parts water (the more water used, the less the sealer will change the color of the plaster patch).
21. **Spray sealer** on patch and on a 4'x4' (10x10 cm) irregular area around the patch, troweling or sponging off any excess sealer or drips that may have formed. Additional coats may be needed to thoroughly seal the patch.

Comment [MSOffice12]: How many parts water?

NOTE: Patches on sealed surfaces are extremely hard to blend in with the rest of the wall, even for an experienced applicator. If the plaster, pigment, sealer and the finishing techniques are not the same as the original materials and techniques, significant variations in color and gloss may occur. It may be easier to recoat the entire wall with 1-2 new coats of plaster, depending on the desired effect.

Glossary

Backsuction: the rate at which the substrate absorbs water (e.g. from a fresh top coat of plaster). A.K.A. Initial Rate of Absorption (IRA).

Comment [MSOffice13]: This is a guess at a definition. Is it ok?

Brown Coat: a thick base coat of gypsum, lime, clay or cement plaster used to strengthen and/or level a wall surface. Brown coats are rubbed with a float to give them a sand paper texture that helps Enjarre finish coats adhere to the surface.

Burning: Friction between plaster and a steel trowel heats up the steel, leaving gray "burn" marks in plaster.

Burnishing: Highly compressing the clay and aggregate together, creating mottling and reflectivity.

Compression: The final step in applying American Clay Earth Plasters. In compression, the final coat of plaster is allowed to dry and then is re-wet and reworked to mechanically harden the surface, prevent dusting, even out color variations and make it easy to repair the surface. Compression is necessary because chains of water molecules form cylinders or tubes in the wet plaster. As the plaster dries, the water evaporates, leaving tiny open cylinders in the clay's surface. Rewetting and reworking the wall during compression stabilizes the plaster by pressing the aggregate and clay into the cylinders, flattening out the surface and making it more dense.

Delamination: Clay plaster not sticking to the substrate; plaster peeling off the wall. Related to "bubbling" of plaster.

Drybonding: A weak or nonexistent bond between substrate and plaster caused by excessive substrate backsuction (absorption of water from the fresh plaster). Excessive backsuction causes the plaster to dry so quickly it shrinks away from the substrate and cannot make a chemical or mechanical bond.

Comment [MSOffice14]: Another stab at a definition. Is it ok?

Drywall: A rigid board made of layers of fiberboard or paper bonded to a gypsum plaster core, used instead of traditional lath and plaster or wood panels in construction to form walls. It may also be called gypsum board, plaster board, wall board, blue board, Sheetrock™ and Gyprock™.

Ghosting: a color variation caused by one section of substrate (e.g. hot mud) absorbing more water—and therefore pigment—than the rest of the substrate (e.g. wallboard).

Green chemistry: The design of chemical products and processes that reduces or eliminates the use and generation of hazardous substances.

Hot Mud: any powdered, quick-setting joint compound.

Leather hard: A stage in drying when the plaster is still damp, but firm enough that you cannot leave a thumb print in it when you push on it. This is a good time to remove unwanted texture and create a very smooth surface. Also known as "in love."

LEED: Leadership in Energy and Environmental Design, a national green building certification program. Enjarre contributes to __ LEED points

Comment [MSOffice15]: Does Enjarre yet have LEED points?

In love: When the plaster is still damp enough to compress but not so wet that you can easily move any plaster on the surface. It is the easiest time to create a very smooth surface. Also called "leather hard."

Spider checking, crackling or crazing: Light surface cracking that radiates in an uneven pattern.

VOC: Volatile Organic Compounds. In other words, harmful chemicals which are readily released into the air. VOCs are regulated by the US government to reduce smog. Enjarre is zero VOC, and contain no known carcinogens.

Comment [MSOffice16]: I just noticed that we say it contains no known carcinogens, but then we have the free silica warning on the next page saying known carcinogen in California... Is there a way to phrase more clearly?

Product Warnings and Precautions

WARNING: This product contains free silica.

Prolonged exposure may cause lung injury (silicosis). IARC Monograph Vol 68 (1997) concluded that there is sufficient evidence that inhaled crystalline silica in a dry state causes cancer in humans. This product contains a chemical (see official warning free silica content less than 2% by volume) (silica) known to the state of California to cause cancer when present in a dry state. Eye irritant.

Comment [MSOffice17]: "exposure" needs to be more specific

Comment [MSOffice18]: confusing

Comment [MSOffice19]: confusing

Rewrite:

Prolonged inhalation of product dust may cause lung injury (silicosis). IARC Monograph Vol 68 (1997) concluded that there is sufficient evidence that inhaled crystalline silica dust causes cancer in humans. This product contains a chemical (silica) known to the state of California to cause cancer when present in a dry state (see official warning: free silica content less than 2% by volume). Eye irritant.

PRECAUTIONARY MEASURE: Use common sense when handling this product to reduce likelihood of inhaling dust. Limestone (marble sand) may cause eye and skin irritation. Provide eye protection and avoid breathing dust (use N95 dust mask for mixing and spraying or other times when dust is present). Protect skin from prolonged contact. Wear suitable clothing and personal protective equipment.

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FIRST AID: If product comes in contact with eyes, flush with water. If irritation continues, see a doctor. This material is non-flammable and non-explosive.

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Product Warranty: American Clay products are guaranteed to give satisfactory performance only if used as recommended. Liability shall be limited to refund of purchase price or the replacement of a defective product. There are no other warranties expressed or implied.

Peligro: La Caolinita? Contiene Silica Libre.

Una exposicion prongada* pueda causar danos pumonates* (silicosis). Este producto* se contiene quimmico comprorto por Estado de California que se causa cancer. Se sospecha pueden ser carcinogonicos. Existe evidencia suficiente que los cristales de silica pueden introducir cancer en los seres humanos (Monografia IARC Vol 68 (1997)). Irritante ocular.

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MEDIDAD DE PRECAUCION: Utilice el sentido comun* al manejar este producto. caliza* (harena de marmol) puede causar la irritacion del ojo y de piel. Proporcione la proteccion de* ojo cuando en el estado seco Evite de respirar el polvo. Proteja la piel contra contacto prolongado. Use la ropa cinveniente.?

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PRIMERO AUXILIOS: Si contacto con los ojos, lava con agua. Si la irritacion continua, entre en contacto con a* doctor. Este material es incombustible e, Inexplosivo.
Precaucion: Evite el contacto con la ropa. Ciertos pigmentos pueden manchar permanentemente telas*.

Garantia Del Producto: Los productos American Clay estan garantizados dan* funcionamiento satisfactorio solamente si estan utilizados segun lo recomendado. La responsabilidad sera limitada at reembolso del precio de compra o al reemplazo de un producto defetuoso. No hay otras garantias expresadas o implicadas.

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American Clay Enterprises, LLC Product Warranty

American Clay Enterprises, LLC expressly warrants that, for a period of (2) two years from the date of first sale, (Enjarre, ADD-MIX, American Clay Penetrating Sealer, American Clay Gloss sealer, American Clay Sanded Primer Elite) will be reasonably free of defects in materials, and that when properly handled and applied, will conform to applicable manufacturing specifications. This limited warranty only applies to products that are stored, handled and applied v in the manner recommended by American Clay Enterprises, LLC. Due to the variety of uses and applications for American Clay brand products, AMERICAN CLAY CAN MAKE NO WARRANTY THAT THESE PRODUCTS ARE SUITABLE FOR ANY PARTICULAR PURPOSE AND CAN MAKE NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, OTHER THAN THOSE SET FORTH ABOVE.

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