



Installation Instructions

Tools Needed

1. Staple gun (for attaching felt)
2. Hammer (for attaching lath)
3. 6 cubic ft. wheelbarrow (for missing mortar)
4. Pointed shovel (for shoveling sand into the mortar mix)
5. Mortar hoe (for mixing mortar)
6. 12" rectangular trowel (for applying scratch coat)
7. Pointed trowel (for sticking stone)
8. Nippers (for cutting stone)
9. 4' level (for leveling stone)
10. Grout bag (for filling joints)
11. Tuck pointer (for striking the joint)
12. Plastic bristled brush or whiskbroom (for cleaning the stone)

Material Needed

1. 15 lb. Asphalt felt or approved vapor barrier
2. Staples
3. 2 ½ lb. Galvanized expanded metal lath
4. 1 ¾" Roofing nails or 1" x 2" staples
5. Type M or S Mortar (for scratch coat and applying stone)
6. Mason sand
7. Water
8. Type N mortar (for grouting joints)
9. Landmark Stone veneer stone

Calculating Mortar and Sand

Scratch Coat – 1 bag of Type "M" or "S" mortar per 100 FT²

Applying Stone – 1 bag of Type "M" or "S" mortar per 100 FT²

Grouting – 1 bag of Type "N" mortar per 100 FT²

Note: Do not use Type M mortar for grouting purposes.

Sand – 2 parts sand per 1 part mortar



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Types of Mortar

Type M: high compression strength

Type M has the highest proportion of Portland cement, with 3 parts Portland cement, 1 part lime and 12 parts sand. Type M has a high compressive strength (at least 2,500 psi) and is recommended primarily for walls bearing heavy loads, but also, due to its durability, for masonry below grade or in contact with the earth: foundations, retaining walls, sidewalks and driveways.

Type S: compression and tensile strength

Type S is sometimes specified for masonry at or below grade, but offers another quality. S has high compressive strength (1,800 psi) and adds high tensile bond strength. S contains 2 parts Portland cement, 1 part hydrated lime and 9 parts sand, and yields maximum flexural strength to fight wind, soil pressure or earthquakes.

Type N: for exterior, above-grade walls

Type N is a medium compressive-strength (750psi) mortar made of 1 part Portland cement, 1 part lime and 6 parts sand. Type N is recommended for most exterior, above-grade walls exposed to severe weather, including chimneys.



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Step I. Determining and preparing the surface

Landmark Stone may be applied to any structurally sound bearing wall surface. Non-bearing walls may require alterations and we recommend you consult with a construction engineer. Landmark Stone may be applied directly to clean untreated porous concrete and masonry surfaces. All other surfaces must be covered with a 2.5# galvanized diamond expanded metal lath. An approved **vapor barrier** must be placed under all exterior applications with concrete and masonry surfaces being an exception. Lath should be applied horizontally across the wall, with the small cups pointing upward. This can be determined by running your hand across the lath. Starting at the top, the lath should feel smooth. In the opposite direction it should feel rough. Apply lath as tight to the surface as possible with a one-inch overlap on perimeter edges.

Wood surfaces: nail metal lath into the studs on 6" centers vertically and not more than 16" centers horizontally, using 1 3/4" galvanized roofing nails or 1" crown x 2" galvanized staples. Apply fasteners with a minimum of 90 lbs. of air pressure when using pneumatic fastening tools. Wrap continuous metal lath a minimum of 16" around corners in adjacent wall applications or as much as possible in corner application with no return.

Metal studs or metal buildings: (18 gauge minimum), use #8 galvanized self-tapping screws to penetrate 1/4" into metal. Screw metal lath on 6" centers vertically to studs or high point of metal siding, and horizontally at not more than 16" centers.

Masonry surfaces: painted, sealed or treated, use 1" masonry nails at 6" centers vertically and 16" horizontally. Fastener may need to have a small-galvanized washer added to help hold the mesh.



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Step II. Applying the bed coat over lath

Mix thoroughly 1 part Type M or S mortar to 1 ½ part clean mason sand (12 gallons) in a 6 cubic ft. wheelbarrow using your pointed shovel. Add clean potable water (approximately 2 ½ gallons) to achieve a trowelable mixture. Use a 12" trowel and spread mixture over metal lath, enough to cover lath approximately ½" thick. After drying for approximately 24 hours, this will provide a rigid backing and assure firm bonding of the Landmark Stone.



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Step III. Applying Landmark Stone

Landmark Stone is packaged before the drying process is complete. As natural stone, Landmark Stone will look darker if moisture is present. Before cause for alarm, examine the stone for moisture. If in doubt, place a few stones on an oven rack, in the middle of an oven at 160 degrees, for several hours. Allow the stones to cool before removing them from the oven. The stones will lighten to their true color as moisture dissipates.

To assure color quality, check the run dates on the outside of the boxes. Blend stone from several boxes and/or run dates during the application process.

During warm weather, the bed coat may need to be moistened to prevent water from being drawn too rapidly from the applying mortar. Dry mortar doesn't stick well. No mortar additives are necessary. During cold weather, use only non-chloride accelerators and follow all guidelines set forth by the Construction Masonry Institute concerning cold weather masonry. *Any additive in the grout mixture may cause a color change. We advise for owner approval in this case.*

Use nippers, hatchet, brick hammer, brick trowel, or a dry concrete blade in an electric circular saw to trim stone. If corner pieces are required, set them first for easy fitting. Start at the top and work sideways and down to keep stones clean. *When installing Dry Stack products, start at the bottom and work sideways and up.* Horizontal lines should be broken every 8' to 12' during limestone application. Use a minimal amount of small pieces as fillers. Use a 4' lever to keep lines and stone level. For the first timer, you can achieve this by starting slowly and getting the so-called "feel". Speedy installation will occur quickly into the project. Using your pointed trowel and the same mixture as the bed coat, apply approximately 1/2" of mortar, covering the entire back of the stone. By using gentle pressure and a slight wiggling action while applying the stone to the bed coat, you will assure a good bond.



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Step IV. Grouting Joints

Note: Steps 4-6 are not required when installing dry stack stone

The grouting mixture shall consist of one part Type N mortar to 2 parts sand and clean potable water. This mixture is to be thoroughly mixed to provide a heavy cream-lime consistency. Place the mixture in a plastic grout bag (somewhat like a cake decorating bag). Snip the pointed end to create a hole about the size of a penny and no larger than a quarter. Fill the bag to within 8" from the top, twist the top and hold tight. With slight pressure from the other hand and twisting from the top, place opening in the joint somewhat like using a caulking gun, and fill the joint flush with the stone. Do not get mortar on the finished faces of the stone. If mixture seems too wet and messy, add only mortar to the mix until it flows evenly and smoothly with no dripping. Let mortar set until it is firm yet workable.

Caution: Be sure you can finish the entire grouting area before mortar sets.

Step V. Finish Joint Procedure

When mortar joints become firm, the use of a wooden striking tool carved just a little smaller than the joint width or metal margin trowel may be used. The goal is to press gently and smoothly as to fill grout voids and remove excess mortar to desired depth. When using a metal margin trowel, the joint must be scratched after striking to roughen joint surface. This can be achieved by turning metal striking tool over and using the tip to scratch the joint.

Note: the mortar should be firm enough not to strain stone. If the mortar is struck too quickly, the joint will look like toothpaste or appear creamy, wait for the mortar to dry more.



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Step VI. Brushing Joints

This should be done within 2 hours after tooling the joints. The best way is with a clean whiskbroom or any plastic bristled brush. Do not use a metal bristled brush. Do not let mortar set overnight before tooling or brushing and do not brush wet mortar, as it will smear and look unsightly.

Cleaning

Never use acidic based cleaners. If mortar dripping occurs, use a clean wet sponge within 4 hours of grouting. After 48 hours, it may be cleaned with a mild solution of warm water and tri-sodium phosphate. First, wet the wall thoroughly with water. Second, scrub the wall with T.S.P. solution using a stiff plastic bristled brush. Finally, rinse the wall thoroughly. If you need further assistance, contact your dealer or call Landmark Stone Products.

Sealing

Sealing is unnecessary on most projects. A sealed surface is much easier to clean than an unsealed surface. If you have conditions that could discolor or stain the stone, sealing is an option. If you have questions about sealing, contact your dealer or Landmark Stone Products for assistance.