

# APPLICATION INSTRUCTIONS

## SOPRASEAL® LM 204 VP

SOPRASEAL LM 204 VP is a one-part, high solids, liquid applied, vapor permeable air barrier used in high performance wall assemblies to control water, air and moisture flow. SOPRASEAL LM 204 VP utilizes STPE polymer technology for excellent freeze-thaw performance and great adhesion to most common exterior gypsum boards, OSB, concrete and CMU without the use of a primer.

### JOBSITE CONDITIONS

Monitor weather during the application of materials including air temperature, surface temperature, surface moisture, sun, and relative humidity. Ensure conditions are satisfactory to begin work and ensure conditions remain satisfactory during the installation.

Ensure ambient and surface temperatures are at or above 25°F (-4°C) during application and until the product is dry. Do not apply materials to frost or ice covered surfaces. Product temperature should be maintained at no less than 70°F (21°C) during application.

### STORAGE AND HANDLING

Keep from freezing. Product must be stored indoors in a cool, dry environment. Material should be stored between 40°F (4°C) and 100°F (38°C). At the jobsite protect the product from extreme heat and direct sunlight.

### PRODUCT PREPARATION

**DO NOT THIN.** Do not mix SOPRASEAL LM 204 VP with water, alcohols or other solvents. The product should be applied from the original container. If separation is visible at the top of the container, stir the material for 30 seconds with a mixing stick or low-speed mechanical mixer, being sure to not create a vortex on the surface that could introduce unneeded air into the material.

### PRIMER

Priming is not required with SOPRASEAL LM 204 VP. Adhesion should be confirmed for all substrates, especially when applying to older or pre-existing materials.

### SUBSTRATE PREPARATION

Verify substrate conditions before application. Applicators should protect all surfaces that are not to be coated. Mask off sensitive areas such as windows and clean off any drips or overspray before the material hardens using a water-free solvent. The substrate must be clean, dry to the touch, free of any voids, pits, bug holes, oxidation, oils, waxes, standing water or other release agents that may interfere with adhesion. Irregular or abraded surfaces are acceptable but must also be clean and sound.

When applying to poured concrete walls or CMU walls refer to ASTM D4258, Standard Practice for Surface Cleaning Concrete for Coating, or D4261, Standard Practice for Surface Cleaning Concrete Masonry Units for Coating.

For green concrete applications concrete should cure a minimum of 3 to 7 days depending on ambient conditions, be dry to the touch, and free of standing water.

### ACCESSORY PRODUCTS

**SOPRASEAL LIQUID FLASHING** – A 100% solids, low odor, polyether sealant designed for detailing critical rough openings and joints.

### SPRAY EQUIPMENT START-UP

Prior to starting up spray equipment, ensure that all equipment is clean. Carefully read and follow the equipment manufacturer's operating and safety instructions and familiarize yourself with equipment features. Ensure that all components and accessories have a capacity and pressure rating meeting the pump manufacturer's specifications. When required, apply band type pail heater to maintain product temperature above 70°F (21°C) during application. Always use a test area to adjust spray settings and application distance prior to starting the job. Pressure directly affects the spray pattern and typically requires adjustment to match field conditions. Set the pressure so that the gun provides a clean spray pattern about 16 inches wide at the point of contact with the substrate when sprayed from a distance of approximately 2 feet.

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## SELECTING SPRAY EQUIPMENT

SOPRASEAL LM 204 VP is a medium to high viscosity product (up to approx. 60,000cps) for use with high-pressure and high volume spray equipment that is designed to handle material with a high solids content. SOPRASEAL LM 204 VP can be applied with any spray system with the following requirements, understanding that some variations may be needed to accommodate colder or warmer environments such as shorter hoses, increased psi, and smaller IDs when temperatures are lower:

Pump Models:	GRACO® GH933 or GRACO® 675DI
Gun:	XTR7
Pump Pressure:	6,750psi - 7,250psi
Pump Volume:	1.5gpm - 2.5gpm
Tip:	XHD
Tip Orifice:	0.031" - 0.041"
Tip Flow Rate:	
GRACO® GH933:	1.03gpm - 1.98gpm
GRACO® 675DI:	1.3gpm
Tip Guard:	XHD RAC Guard
Fan Width:	10" - 24" at 12" from surface
Hose Length:	50ft
Hose Pressure Rating:	7,250psi
Hose ID:	3/8" max.
Whip Hose Length:	15ft
Whip ID:	3/8"
Whip Pressure Rating:	7,250psi

Spray equipment not evaluated by SOPREMA may also provide acceptable performance. Please consult the equipment manufacturer for their recommendations and application guidelines. SOPREMA recommends referring to the equipment manufacturer's recommendations for appropriate use and maintenance of all spray equipment and accessories.

Contractor must use his or her own knowledge, experience and judgment when selecting equipment and accessories for application of SOPRASEAL LM 204 VP and all SOPREMA products.

## DETAILING

### JOINTS

Fill joints in exterior sheathing properly fitted closed cell backer rod and seal with SOPRASEAL LIQUID FLASHING minimum ¼" deep over center of backer rod. Apply more SOPRASEAL LIQUID FLASHING in a zigzag pattern across the joint and trowel the material smooth so that it overlaps onto the face of the sheathing at least 2" on both sides of the joint.

### VOIDS/BUG HOLES

Fill voids and bug holes larger than 1/8" diameter and 1/8" deep with SOPRASEAL LIQUID FLASHING and immediately tool flush with the surface. A cementitious parge coat can also be used for large areas needing repair.

### PENETRATIONS

All penetrations need to be well secured on both sides of the wall to keep movement to a minimum. For gaps around penetrations greater than ¼" install properly fitted closed cell backer rod and apply SOPRASEAL LIQUID FLASHING into the joint between the penetration and the wall a minimum ¼" deep while creating a cove bead a minimum ½" onto the penetration and ½" on to the face of the wall on both sides of the joint. Backer rod is not required for gaps ¼" or less.

### BRICK TIES

Brick ties that are attached with fasteners can be treated with SOPRASEAL LIQUID FLASHING at the time of install around the fastener. After brick tie is installed butter the fastener heads and metal tie at the wall with SOPRASEAL LIQUID FLASHING being sure to trowel material into any gaps and then out onto the air barrier at least 2".

Refer to SOPREMA standard flashing details for wall system applications found on our website at [www.soprema.us](http://www.soprema.us).

Wet-on-wet application of SOPRASEAL LIQUID FLASHING is acceptable. Wet-on-cured is also acceptable as long as the cured SOPRASEAL LIQUID FLASHING is clean and dry.

Allow SOPRASEAL LIQUID FLASHING details to skin (typically 30 minutes) before proceeding with the application of SOPRASEAL LM 204 VP.

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## AIR BARRIER APPLICATION

Apply SOPRASEAL LM 204 VP to the specified thickness to the properly prepared substrate using a roller, brush or airless sprayer. The recommended dry film thickness (DFT) is 20mil.

Spray applications should be done in a cross hatch pattern using a left-right-left application followed by an up-down-up application to ensure quality coverage and obtain a uniform mil thickness over the entire surface.

For additional techniques using gas powered airless sprayers such as the GH833 Big Rig feel free to check out [www.graco.com](http://www.graco.com).

After each coat check the material for thickness, blisters and pinholes. Apply additional material to thin areas and pinholes after the first coat has skinned. Blistering should be evaluated based on the size and the number of blisters that form as this could indicate substrate moisture or surface contamination that may need to be addressed before continuing with the application of the air barrier.

Allow the finished coats to cure for at least 1 hour at 70°F (21°C) and 50% RH before continuing with wall assembly. Wait longer if temperatures are lower. SOPRASEAL LM 204 VP should be covered within a few months of application. After 3 months inspect the membrane for wear and tear and repair any areas by cleaning the membrane and recoating as needed with additional material.

## CURE TIME

Full cure through time can vary from minutes to hours depending upon the applied film thickness, temperature and relative humidity (RH). Typical full cure is 2 hours for 20 mil application at 70°F (21°C) and 50% RH. Cold and dry conditions will slow curing, while hot and wet conditions will accelerate curing. All supplemental coats should be performed within 72-hours of the initial application.

## SPRAY EQUIPMENT CLEANUP

Follow the spray equipment manufacturer's cleaning recommendations. It is important to flush the spray equipment after use with ALSAN RS Cleaner or acetone. If other solvents are desired for flushing and storage consult your SOPREMA sales representative and your pump manufacturer for recommendations. Pumps should be flushed completely by flushing the pump until product is no longer exiting the gun and only clear flushing solvent remains for at least 1-2 minutes. Cured SOPRASEAL LM 204 VP inside the pump is difficult to remove and will affect subsequent equipment performance. To prevent poor spray pump performance it is recommended to flush pumps after every work day and not allow material to sit in the lines overnight. For best practices on daily use, cleaning and storage of spray equipment, please contact your pump manufacturer.

## CONSUMPTION/COVERAGE RATES

For smooth and relatively non-porous surfaces, the coverage rate of material to achieve a 20mil dry film thickness (DFT) is approximately 78 ft<sup>2</sup>/gal.

## LIMITATIONS

SOPRASEAL LM 204 VP can be exposed up to 180 days however discoloration may occur and the product should always be covered as soon as possible after application. The applicator is responsible for ensuring conditions are appropriate to proceed with proper application methods. Refer to SOPREMA product data sheets and guide specifications for additional information. Materials and methods should be adjusted as necessary to accommodate varying project conditions and should not be installed when conditions are unacceptable to achieve the specified results.