Application of Air & Water Barrier Using Sprayers and Power Rollers TDS 410M

Air & Water Barrier can be effectively sprayed or power rolled to increase productivity on large projects. In addition to the conventional means of applying Air & Water Barrier, (see Air & Water Barrier Installation Instructions - DS 661.5) airless spraying and power rolling techniques can be used as alternate means of application. The following are the guidelines for these procedures. Most airless spray units can be used to apply the Air & Water Barrier. This procedure will refer to the use of the Graco Mark IV Electric Airless Sprayer®, Mark V Electric Airless Sprayer, and the 5900 HD Gas Powered Airless Sprayer. These sprayers are designed for spraying the contents from a 5 gallon (19 l) pail. Many airless sprayers are similar in design and will accomplish the same purpose. The power roller is an accessory to the airless sprayers and can be a great advantage for areas where overspray is not permitted.

Mark IV Electric Airless Sprayer

Mark V Electric Airless Sprayer

5900 HD Gas Powered Airless Sprayer

Description	Graco Part Number	Max Tip Size	Max GPM (LPM)	Max PSI (MPa)
Mark IV	249636	.025 (0.63 mm)	0.95 (3.6)	3300 (22.8)
Mark V	258730	.031 (0.79mm)	0.95 (3.6)	3300 (22.8)
5900 HD	248699	.043 (1.09 mm)	1.6 (6.0)	3300 (22.8)

A good understanding of the equipment set up, delivery and cleanup procedures are required in order to effectively spray the Air & Water Barrier.

Airless Spray Tip Characteristics: It is important to remember that the orifice size, in conjunction with the fan width size, determines the spray characteristics of the tip.

Examples: As the orifice size increases, while maintaining the same fan width size, the greater the volume of coating will be applied to the same area. Conversely, the larger the fan width size, while maintaining the same orifice size, will result in the same amount of material being applied over a greater surface area.

Typical LTX Sprayer Nozzle

Tip Size: LTX525 – has an orifice of 0.025” (0.6mm) and a fan width of 10" (250 mm) holding the nozzle 12” (300 mm) away from the substrate.

Tip Size: LTX631 – has an orifice of 0.031” (0.8mm) and a fan width of 12” (300mm) holding the nozzle 12” (300mm) from the substrate.

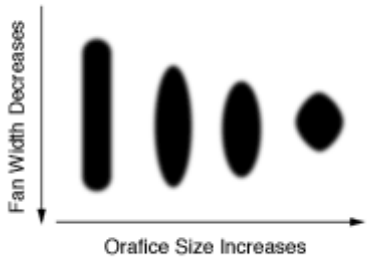
The use of spray tip with a smaller orifice will result in less product being delivered to the substrate requiring multiple passes to ensure a complete coating with optimum thickness.

Understanding Tip Wear

When beginning a project, choosing the right tip size and fan width will determine how effective the spraying process will be. The correct tip size will have a direct bearing on how much material is dispensed. However, spray tips will wear with normal use. Older, worn tips will increase delivery time and product consumption. Therefore, changing the spray tips often will result in greater productivity.

Choosing the right spray tip is essential for ensuring a quality finish. It’s important to replace a tip when it gets worn to ensure a precise spray pattern, maximum productivity and quality finish. When a tip wears, the orifice size increases and the fan width decreases. This causes more liquid to hit a smaller area, which wastes waterproofing membrane and slows productivity. Tip life varies by coating, so if a tip is worn, replace it. Extend tip life by spraying at the lowest pressure that breaks up the coating into a complete spray pattern (atomize). Do not increase the pump pressure; it only wastes waterproofing membrane and causes unnecessary pump component wear.

The example below demonstrates the spray pattern of new and worn spray tips. As wear occurs, the pattern size decreases and the orifice size increases. As a rule of thumb, it is best to replace the spray tips after spraying 30-45 gallons (114-171 liters) of Air & Water Barrier.



Spray Guns
Follow the specific airless sprayer and spray gun manufacturer's written instructions when using their specific equipment. The Graco Silver Gun Plus® is depicted in the following photo. This spray gun can be used for both vertical and horizontal applications. Some Spray Guns will allow filtering in the gun handle. The filters will need to be periodically cleaned and changed to ensure proper liquid flow through the spray gun and tip.

Silver Gun Plus

Application of Air & Water Barrier
Follow all surface preparation requirements outlined in Data Sheets 661.0 and 661.5. The sprayer should produce a maximum of 3300 psi (22.8 MPa), with the pressure set at 2500 psi (17.2 MPa), with a flow rate of 0.95 to 1.6 GPM (3.6 to 6.0 LPM) using a 0.525 or a 0.631 reversible tip. Keep the unit filled with Air & Water Barrier to ensure continuous application of liquid. The hose length should not exceed 100' (30 m) in length and 3/8" (9mm) in diameter.

Apply a continuous Air & Water Barrier film with an overlapping spray. The wet film has a sage green appearance and dries to a darker olive green color. When the first coat has dried to a uniform olive green color, approximately 45 to 90 minutes at 70˚F (21˚C), visually inspect the coating for any voids or pinholes. Fill any defects with additional material and apply the second coat at right angles to the first. The wet film thickness should be checked periodically using a wet film gauge. Each wet coat should be 15 to 22 mils (0.4 – 0.6 mm) thick. The combined dried coating should be 20 to 30 mils (0.5 - 0.8 mm) thick.

Check application thickness with a wet film gauge periodically as the Air & Water Barrier is being dispensed to ensure that the appropriate thickness and coverage is achieved. Bounce back and overspray will consume more product. To achieve the required film thickness, the coating must be free from pinholes and air bubbles. Do not back roll coating. Allow the Air & Water Barrier to cure in accord with the instructions in Data Sheets 661.0 and 661.5 prior to the installation of the tile or stone finish.

It is important to note that areas not scheduled to receive the Air & Water Barrier should be taped off and protected from any potential overspray. Expansion and movement joints should be honored and treated as outlined in product Data Sheets 661.0 and 661.5.

NOTES: The operator of the spray equipment must have a working knowledge of the equipment used and be able to adapt to the project conditions as the spraying takes place. As the spray tips wear, adjustments will need to be made. Spray tip selection, pressure adjustments and hose length will have a direct bearing on the results achieved. Psi, flow rates and tip sizes may vary depending on equipment used and ambient conditions. Consult with the equipment manufacturer for more detailed instructions.

Spray Equipment Setup, Clean Up and Maintenance
Follow the airless sprayer manufacturer's instructions on set up, operation, clean up and maintenance of their equipment. The airless spraying unit should be flushed, clean and free from any contaminants prior to use with Air & Water Barrier.

Pressure Roller
For applications where overspray is not permissible, a power roller can be used in conjunction with the airless sprayer. Follow the specific airless sprayer and pressure roller manufacturer's written instructions when using their specific equipment. Some Graco Pressure Rollers are depicted in the following photo.

The best operating pressure is the lowest pressure that provides an even paint supply to the roller and typically does not exceed 300 psi (2.1MPa, 21 Bar).

Allow any pre-treated areas to dry to the touch. Apply a liberal coat of Air & Water Barrier using a pressure roller over substrate including pre-treated areas and allow to dry to the touch approximately 1–2 hours at 70° F (21°C) and 50% RH. The wet film thickness should be checked periodically using a wet film gauge. Each wet coat should be 15 to 22 mils (0.4 – 0.6 mm) thick. The combined dried coating should be 20 to 30 mils (0.5 - 0.8 mm) thick. Apply a second liberal coat of Air & Water Barrier over the first coat of Air & Water Barrier. Let topcoat dry to the touch, approximately 1–2 hours at 70˚F (21˚C) and 50% RH. When last coat has dried to the touch, inspect final surface for pinholes, voids, thin spots or other defects and re-apply as necessary. Air & Water Barrier will dry to a uniform olive green color when it's dry to touch. Use additional Air & Water Barrier to seal pinholes, voids, thin spots or other defects and re-apply as necessary. Bring main application of Air & Water Barrier up to all penetrations through the membrane.

Health and Safety

Follow all applicable health and safety requirement when applying Air & Water Barrier. The use of protective clothing, safety glasses and a dual cartridge respirator are recommended. See MSDS Sheet on the Air & Water Barrier for complete information.

Airless spray equipment can be purchased by contacting:

Graco, Inc.
Sales/Distribution/Service
P.O. Box 1141
Minneapolis, MN 5540-1441
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Dealer Locator

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