

# Installation Procedures for DuPont™ LiquidArmor™ QS Flashing and Sealant

## SYSTEM OVERVIEW

### Description

DuPont™ LiquidArmor™ QS Flashing and Sealant is a quick-skinning, innovative, liquid flashing solution designed to provide commercial buildings advanced moisture and air sealing protection. When used as an alternative to flashing tapes in DuPont’s commercial wall systems, LiquidArmor™ QS can decrease the amount of labor needed for the job. With faster skinning time than other LiquidArmor Flashing and Sealant products, this allows greater flexibility in installation.

LiquidArmor™ QS Flashing and Sealant is a key component of both the Ultra Wall System and Thermax™ Wall System.

### Sizes

LiquidArmor™ QS Flashing and Sealant is available in 5 gallon pails, weighing approximately 49 lbs. See Table 1 for the yield per pail at the recommended 50 ±5 wet mils application thickness. 50 +/- 5 wet mil application thickness.

**TABLE 1: LiquidArmor™ QS Flashing and Sealant Theoretical Yield**

Application Width (inches)	Theoretical Yield Pail at 50 wet mil (linear feet)
2	794
3	529
4	397
6	265
8	198

**TABLE 2: Suggested Commercial Sprayer and Tips**

Sprayer	Tip	Recommended Use
Graco TexSpray Mark IV	Graco XHD325	Board Joints, Small Penetrations, Windows
Graco GMAX 5900	RAC X521	Board Joints, Small Penetrations, Windows
Titan Impact Series 1140	RAC X521	Large Openings Requiring Greater Coverage Widths
	TR2 213	Board Joints, Small Penetrations, Windows
Titan Advantage GPX 130	TR2 519-521	Large Openings Requiring Greater Coverage Widths

## EQUIPMENT GUIDELINES

### Sprayer Selection

To spray apply LiquidArmor™ QS Flashing and Sealant, a sprayer with at least a maximum pressure delivery rating greater than or equal to 3,300 psi, a pump motor that is 2.2 hp or greater and a throughput of at least 1.1 gpm is recommended. Sprayers that do not meet all these minimum recommendations may work. For optimal application, though, select a sprayer meeting these specifications. Table 2 names four commercially available sprayers that meet the recommended specifications.

### Sprayer Tip Selection

Once a sprayer is selected for use with LiquidArmor™ QS Flashing and Sealant, select appropriate spray tips for the job. Generally, spray tip nomenclature consists of three numerical digits. The first digit communicates the relative spray width. The second and third digits provide information about the spray tips orifice size. A larger orifice size will deliver more material through the spray tip nozzle over a given time period. Such larger sized orifices work well around large opening and greater coverage widths like around penetrations or window rough openings. A smaller orifice size is recommended around small penetrations and board joints.

Table 2 provides a list of suggested sprayer tips for first time LiquidArmor™ QS applicators. With application experience, installers typically develop their own preferences for specific sprayer tip size to reach product thickness and width targets. Variables such as actual spray pressure, spray nozzle orientation, application nozzle movement speed and application distance control many of the same parameters as the spray tip size such as product throughput and thickness.

\* LiquidArmor™ QS Flashing and Sealant Brand is a former product of The Dow Chemical Company.

## Brush Selection

While DuPont™ LiquidArmor™ QS Flashing and Sealant is primarily spray applied, a paint brush is a convenient tool to have on hand to smooth out areas of over application. A 3-inch Chip Brush is recommended, providing adequate bristle strength to spread the highly viscous LiquidArmor™ QS.

## Wet Mill Gauge

A wet mil gauge will help ensure LiquidArmor™ QS Flashing and Sealant is applied at 50 +/-5 wet mils, optimizing product yields and product performance.



## INSTALLATION INSTRUCTIONS

### Safety and Conditions of Use

1. *Before you begin spraying, prepare the jobsite.*

- As with any construction site, follow basic safety practices, reading and following all equipment and SDS instructions.
- LiquidArmor™ QS Flashing and Sealant is not a hazardous chemical, and does not pose a respiratory hazard when used according to instructions. It is recommended that you spray in a well ventilated area to ensure optimal product curing.
- Always wear safety glasses with side shields or goggles. Note that while LiquidArmor™ QS washes off skin and equipment with water. Once cured, it adheres well to clothing, work boots and gloves.
- Gloves are recommended, but not required. Prolonged exposure may cause dryness and discoloration of skin.
- Check current outdoor temperatures and forecasted weather for the day.
- Surface and ambient temperatures should be 40°F and rising and below 120°F during the application of LiquidArmor™ QS. Do not apply the product on surfaces with standing water or frost. While LiquidArmor™ QS tolerates rain 5 hours after application, avoid installing on days with a high probability of significant rainfall.

### Surface Preparation

2. *Check & Prepare All Installation Surfaces*

- LiquidArmor™ QS Flashing and Sealant can span gaps up to ¼". Seal any gaps ¼" or greater with Great Stuff Pro™ Window & Door Polyurethane Foam Sealant.
- If the facer on the Thermax™ insulation boards was damaged during installation, be sure to note so that LiquidArmor™ QS can be sprayed over the damaged areas once spraying has begun.

### Application

3. *Flash Foam Board Joints, Penetrations, Rough Openings and/or Counterflash*

- As you first begin, it is helpful to first spray a pass or two of material on scrap piece of foam board or OSB to dial an appropriate sprayer pressure and check for good flow through the spray tip
- Proceed to flash board joints, penetrations and/or fenestration openings as detailed by the project drawings by spray applying LiquidArmor™ QS Flashing and Sealant at 50 ±5 wet mils in these areas. A popular technique to attain 50 ±5 wet mils is to apply the product in two passes. This is not required, and the target application thickness can be attained in one pass.
- Be sure to follow project drawing details and any other relevant installation guides to ensure air and water tightness. LiquidArmor™ QS is a critical component of the building envelop. Proper installation is required for the flashing to protect the building from air infiltration and water penetration as well as meet all code requirements.

#### **Foam Board Joints**

Apply 3 inches (±1 inch) over the joint, making sure that a minimum of 1 inch of LiquidArmor™ QS covers each side of the joint. Fasteners and washers along the board joints should also be completely covered with LiquidArmor™ QS. Brick anchors can be installed after the application of LiquidArmor™ QS and may need to be treated with LiquidArmor™ QS Flashing and Sealant after their installation.

#### **Rough Openings**

Extend LiquidArmor™ QS a minimum of 3 inches onto the sheathing face, completely covering the sheathing board edge. Then, extend LiquidArmor™ QS a minimum of 3 inches back onto the rough opening substrate. It is recommended that LiquidArmor™ QS be installed at least 1 inch behind the primary water/air seal.

#### **Penetrations & Counterflashing**

Apply LiquidArmor™ QS a minimum of 2 inches onto the sheathing face and a minimum of 2 inches onto the penetration substrate or primary flashing substrate.

## Inspection

4. *Inspect work shortly after DuPont™ LiquidArmor™ QS Flashing and Sealant is applied.*

### **Thickness Check**

Use a wet mil thickness gauge to ensure proper installation thickness. A paint brush can be used to even out product application thickness. If product is consistently below minimum thickness, apply another layer.

### **Missed Spots & Fastener Washer Coverage Check**

Check for missed spots along board joints, penetrations and rough openings. Inspect LiquidArmor™ QS Flashing and Sealant around fasteners and brick ties to ensure coverage where required and that the flashing is free of pinholes. Either re-spray or touch up using a brush.

### **Curing**

5. *Allow product to cure.*
  - LiquidArmor™ QS Flashing and Sealant will typically cure “dry to touch” within 1 to 4 hours after application. Depending on the humidity, temperature, sun exposure and wind direction, this time can be longer.
6. *Inspect work after LiquidArmor™ QS Flashing and Sealant is cured.*
  - At 50 (±5) wet mils, LiquidArmor™ QS will cure to a dry thickness of approximately 30 mils.
  - Again, check for missed spots and areas where the product may have been applied too thin. While very rare, note any pinholes found in the LiquidArmor™ QS. If any of these items are found, repair by applying more LiquidArmor™ QS.

## Exposure & Storage Information

Once installed, LiquidArmor™ QS Flashing and Sealant can remain exposed to sunlight with no exterior cladding for 12 months.

Unused LiquidArmor™ QS can be stored for up to 12 months.





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**COMBUSTIBLE:** Thermax™ products should be used only in strict accordance with product application instructions. Thermax™ products, when used in a building containing combustible materials, may contribute to the spread of fire. For more information, consult (M)SDS and/or call DuPont at 1-866-583-BLUE (2583). In an emergency, call 1-989-636-4400.

**WARNING:** Thermax™ insulation does not constitute a working walkable surface or qualify as a fall protection product.

Styrofoam™ Brand Spray Polyurethane Foam contains isocyanate, hydrofluorocarbon blowing agent and polyol. Read the instructions and Safety Data Sheets carefully before use. Wear protective clothing, gloves, goggles and proper respiratory protection. Supplied air or an approved air-purifying respirator equipped with an organic vapor sorbent and a particle filter is required to maintain exposure levels below ACGIH, OSHA, WEEL or other applicable limits. Provide adequate ventilation. Contents under pressure. Styrofoam™ Brand SPF should be installed by a trained SPF applicator.

**CAUTION:** When cured, these products are combustible and will burn if exposed to open flame or sparks from high-energy sources. Do not expose to temperatures above 240°F (116°C). For more information, consult MSDS, call DuPont at 1-866-583-BLUE (2583) or contact your local building inspector. In an emergency, call 1-989-636-4400 in the U.S. or 1-519-339-3711 in Canada.

Building and/or construction practices unrelated to building materials could greatly affect moisture and the potential for mold formation. No material supplier including DuPont can give assurance that mold will not develop in any specific system.

LiquidArmor™: Read the instructions and (Material) Safety Data Sheets (M)SDS carefully before use. It is recommended that spray applicators and those working in the spray area wear eye protection. Contact with exposed skin may cause skin discoloration and dryness. Gloves are recommended for prolonged exposures. Ensure adequate ventilation during spray applications

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