QUIK-SHIELD 118 - Quick-Start Processing

PRECONDITIONING

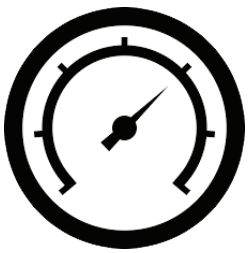
- Material should be 55 - 80°F for optimal performance.

PRIMARY AND HOSE HEATERS TEMPS

Temperature Settings

Summer: 115 - 125°F

Winter: 125 - 140°F



Pressure Settings

Dynamic Pressure:
1000 psi minimum

Static Pressure:
1100 - 1600 psi

For additional processing details refer to the Processing Guide, or call SWD Tech Support at 800-380-2022.

QUIK-SHIELD 118 - Dial-In Guide

In order to maximize expansion and optimize yield on Quik-Shield 118, it is important to dial-in the foam at each jobsite. Dialing-in not only improves yield, but it also improves the quality of the foam, making the job more profitable with fewer issues. Quik-Shield 118 expands greater and faster than most closed-cell foams. It is important stay in front of the rising foam by adjusting your speed and/or spray technique.

As per SWD's recommendations, do the following:

1. Determine temperature settings starting point.

Substrate Temp	Set Equipment Temp At
<40°F	130°F
40-50°F	125°F
50-115°F	120°F
>115°F	115°F

Temperature Settings:

120°F

Standard Starting point

2. Test spray on cardboard to make sure you are making good foam.
3. Start spraying on the jobsite.
4. After spraying approximately six cavities, check expansion time of foam. Adjust equipment temperature settings until rise time is dialed-in. Rise time is definied to be from the time you release the trigger to the time the foam is fully expanded.

Foam Rise Time	Status
<3 sec.	Foam too hot—turn down temp settings
3-3.5 sec	Temp dialed-In Properly
>3.5 sec	Foam too cold—turn up temp settings

Rise Time:

3-3.5 sec

5. Dialing in Pressure—start at 1200 psi. Optimal pressure settings for maximum output of product will likely be 1100-1600 psi. Higher pressure will typically lead to greater performance and fewer issues.

Pressure Settings:

1100 psi

Starting point for new QS118 sprayers

Optimal Pressure Settings:

1100-1600 psi

For Additional Questions, Call 800-380-2022

QUIK-SHIELD 118 - Seasonal Processing Guide

Techniques for optimal Quik-Shield 118 closed-cell foam differs from summer to winter applications. Adherence to these specific techniques will help maximize both the physical and thermal properties of the foam.

Winter (temperatures below 70°F)

Summer (temperatures above 70°F)

STORAGE

Storage temperatures should be 40-100°F (4-38° C). Store out of direct sunlight, in a cool dry place, and avoid freezing.

PRECONDITIONING

A & B liquid components need to be preconditioned in the drums to a minimum of 55°- 80°F (12.8-27°C).

*Do not recirculate

TEMPERATURE & PRESSURE SETTINGS

Hose Heaters	125-140° F (51-60° C)
Primary Heaters (A&B)	125-140° F (51-60° C)
Dynamic Pressure (A&B)	1000 psi minimum
Static Pressure (A&B)	1100-1600 psi

Hose Heaters	115-125° F (46-51° C)
Primary Heaters (A&B)	115-125° F (46-51° C)
Dynamic Pressure (A&B)	1000 psi minimum
Static Pressure (A&B)	1100-1600 psi

*These settings may vary according to specific jobsite conditions and should be maintained to the spray gun by heated hoses. These are recommendations only, individual variations may be needed.

APPLICATION TIPS

- When switching products, flush all hoses with Quik-Shield 118 prior to spraying. Contamination from other products may cause foam quality issues.
- Always hold spray gun perpendicular to the surface being sprayed. Spraying at an angle can cause a lack of adhesion to the substrate and an irregular surface of the foam.
- The ideal distance is approximately 18”.
- Avoid spraying onto rising foam because this can cause displacement of the rising foam, which can lead to excessive dripping.
- Ensure spray equipment is always maintained in proper operating condiditon with a regular maintenace program.

APPLICATION TIPS: LONG-RANGE

- Only Quik-Shield 118, with its Long-Range Application, enables you to spray from up to 20 feet away. This is ideal for spraying roof decks without a ladder or scaffolding, thus saving time and effort.
- For best results we recommend using either ½ inch or 1 inch extension and adapter for a 02 Round mix chamber. For part details, contact SWD Tech Support.
- For best results when using a ½ inch extension tip, apply foam at a distance between 5-10 feet.
- For best results when using a 1 inch extension tip, apply foam at a distance between 8-20 feet.

For additional processing questions, Call SWD Tech Support 800-380-2022

SWD Urethane

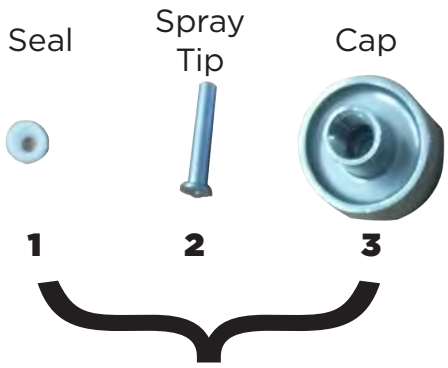
800-828-1394 • swdurethane.com
sales@swdurethane.com

QUIK-SHIELD 118 - Long Range Application

Only Quik-Shield 118, with its Long-Range Application, enables you to spray up to 20 feet away. This is ideal for spraying roof decks without a ladder or scaffolding, saving time and effort.

GUN TIP ASSEMBLY

For best results we recommend using either a ½ inch or 1 inch extension and adapter for a 02 Round mix chamber (AR5252) for a Graco Fusion Gun. For other types of guns, contact SWD Tech Support at 800-380-2022.



1" Kit Part # 248017
1/2" Kit Part # 248013

Insert the seal on the tip of the mixing chamber.

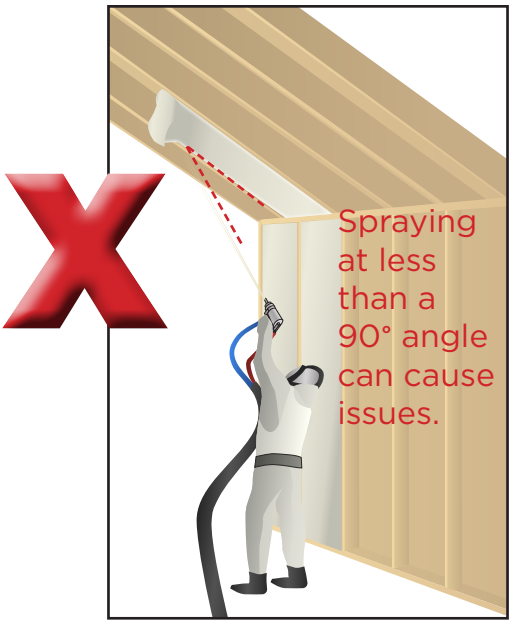
Insert the spray tip over the seal.

Screw on the cap over the spray tip

APPLICATION BEST PRACTICES

- Start at the bottom of the roof deck (at roof to wall transition), and work your way up to the peak
- Apply foam in an even and consistent lift with a side-to-side motion
- Hold the spray gun perpendicular to the substrate
- For best results when using a ½ inch extension tip, apply foam at a distance between 5-10 feet.
- For best results when using a 1 inch extension tip, apply foam at a distance between 8-20 feet.
- If you spray too close to the substrate, it can cause the foam to splatter and create a very uneven surface.
- Heat and pressure settings may need to be adjusted as necessary.

DO spray perpendicular to the deck, from the bottom to the top.



DON'T spray at an angle because it may negatively affect the adhesion of the foam.

For Additional Questions, Call SWD Tech Support at 800-380-2022

QUIK-SHIELD 118 - Changeover Guide

If you are changing to Quik-Shield 118 foam from closed-cell foam or from a competitor's foam, you must not allow the first product to contaminate the Quik-Shield 118 resin drum.

CHANGING TO QUIK-SHIELD 118

As per SWD's recommendations, do the following:

1. Turn the hose heat and primary heaters off.
2. Make sure the return lines, drum pump, and pump housing are completely free of the previous resin.
3. Place drum pump into the Quik-Shield 118 resin drum.
4. If you have a pressure relief line, pump the contents to the previous drum or into a waste container with the transfer pumps.
5. Connect the pressure relief to the new drum.
6. If switching from a similar product, it's best to spray it out.
7. If you want to purge the material rather than spray it out, remove the gun from the hose manifold and pump the hose contents into the previous drum until you see a color change. Some liquid in the line may remain as a mixture of the two resins. Run this mixture into a container or spray out as foam for disposal.
8. Spray a test out onto a sheet of cardboard or wood, and watch for good foam.

For Additional Questions, Call SWD Tech Support at 800-380-2022

QUIK-SHIELD 118 - Troubleshooting Guide

Appearance Issues	Probable Causes	Recommended Solutions
Slow rise and/or runny foam	Cold material (lack of heat), cold substrate	1. Increase heat (primary and hose). 2. Pre-warm substrate or area of installation if possible. If not, flashing technique can be used. 3. Ensure material in drums is within its processing temperature range.
Finished foam not smooth or being blown off	Spraying too close, spray gun motion too slow, spray pressures set too high	1. Ensure proper distance and pressure as determined by mix chamber size. 2. Keep spray gun motion and amount of overlap consistent throughout. Maintain sufficient speed of application for pressure and mix chamber size.
Excessive overspray	High wind, spray area not sealed off, spraying too far from substrate, spray pressure set too high	1. Protect areas not to be foamed with poly and be aware of surroundings and wind conditions. 2. Ensure proper distance as determined by pressure and mix chamber size.
Foam is a lighter color, is soft & spongy & tacky, foam is shrinking	Blockage on Iso side at gun, lack of material being supplied on Iso side	1. Check and clean in-line filters at proportioner and spray gun. Replace screens if 20% or more clogged. 2. Check for empty or cold drum. 3. Check for blocked side-seal or impingement port. 4. Check ball valves and air supply to transfer pumps, then ball valves and seals on proportioner.
Foam is a darker brown color, is brittle & chalky, foam is shrinking	Blockage on Resin side at gun, lack of material being supplied on Resin side	1. Check and clean in-line filters at proportioner and spray gun. Replace screens if 20% or more clogged. 2. Check for empty or cold drum. 3. Check for blocked side-seal or impingement port. 4. Check ball valves and air supply to transfer pumps, then ball valves and seals on proportioner.
Foam has excessive dripping during Long-Range Application	Too close to substrate, material too cold	1. For best results when using a 1/2” extension tip, apply foam at a distance between 5-10’. 2. For best results when using a 1” extension tip, apply foam at a distance between 8-20’. 3. Increase heat (primary and hose). 4. Pre-warm substrate or area of installation if possible. If not, flashing technique can be used. 5. Ensure material in drums is within its processing temperature range.

For Additional Questions, call 800-380-2022

QUIK-SHIELD 118 - Troubleshooting Guide

Other Issues	Probable Causes	Recommended Solutions
Foam falls off substrate or is easily removed within a few hours after application	Cold substrate, cold material (lack of heat), improperly prepared substrate	1. Increase heat (primary and hose). 2. Pre-warm substrate or area of installation if possible. If not, flashing technique can be used. 3. Ensure material in drums is within its processing temperature range.
Yield under 4,500 board feet	Cold material (lack of heat), cold substrate, excessive overspray, thin passes, excessive touch- ups, off-ratio foam, degraded material	1. Increase heat (primary and hose). 2. Pre-warm substrate or area of installation if possible. If not, flashing technique can be used. 3. Ensure proper distance and pressure as determined by mix chamber size. 4. Keep spray gun motion and amount of overlap consistent throughout. Maintain sufficient speed of application for pressure and mix chamber size. 5. Protect areas not to be foamed with poly and be aware of surroundings. 6. Check and clean in-line filters at proportioner and spray gun. Replace screens if 20% or more clogged. 7. Check for empty or cold drum. 8. Check for blocked side-seal or impingement port. 9. Check ball valves and air supply to transfer pumps, then ball valves and seals on proportioner. 10. Spray maximum amount per pass (2” except for 1st pass of Quik-Shield 118 at 3”) and avoid excessive touch-up work. 11. Ensure material in drums is within its processing temperature range.
Density is too high	Cold substrate, cold material, thin passes, degraded material, spraying too far	1. Increase heat (primary and hose). 2. Pre-warm substrate or area of installation if possible. If not, flashing technique can be used. 3. Ensure proper distance and pressure as determined by mix chamber size. 4. Spray maximum amount per pass (2” except for 1st pass of Quik-Shield 118 at 3”) and avoid excessive touch-up work. 5. Ensure material in drums is within its processing temperature range.
Foam is popping and cracking	Likely cold substrate, thick passes, previous pass not cool, cold material	1. Increase heat (primary and hose). 2. Pre-warm substrate or area of installation if possible. If not, flashing technique can be used. 3. Ensure substrate is clean, dry, and properly prepared in accordance with the Installation Instructions. 4. Spray maximum amount per pass (2” except for 1st pass of Quik-Shield 118 at 3”) and avoid excessive touch-up work. 5. Adhere to proper waiting times before applying subsequent passes.
Pressure guage differential greater than 400 psi or E24 on Graco Reactor	Cold material (lack of heat), blockage at the gun, lack of material being supplied	1. Increase heat (primary and hose). 2. Check and clean in-line filters at proportioner and spray gun. Replace screens if 20% or more clogged. 3. Check for empty or cold drum. 4. Check for blocked side-seal or impingement port. 5. Check ball valves and air supply to transfer pumps, then ball valves and seals on proportioner. 6. Ensure material in drums is within its processing temperature range.

For Additional Questions, call 800-380-2022

QUIK-SHIELD 118 - Process Change Checklist

PREPARING FOR SUCCESS

Quik-Shield 118 is the latest breakthrough technology in closed-cell foam, and there are a few things you will notice are different. It is important to uderstand the diffferences between Quik-Shield 118 technology and the old technology so you can maximize the foam. Below is a checklist to help guide you towards success with Quik-Shield 118.

☐	**DEPTH OF APPLICATION** • Can be sprayed up to 8” in a single pass. • Applicators understand you can spray a job faster, but they will need practice to get used to it.
☐	**LONG-RANGE APPLICATION** • Applicators have been trained on how to apply foam up to 15’ away. • You will need to use 1/2” and 1” extension tips.
☐	**STAGING** • Applicators understand how to stage a job using Long-Range Application rather than ladders or scaffolding.

QUIK-SHIELD 118

Ultra-Efficient Closed-Cell Spray Foam

QUIK-SHIELD® 118 is the first Ultra-Efficient closed-cell, spray foam on the market today. It is specially formulated to increase jobsite efficiency, decrease labor and overhead costs, reduce jobsite risk, and deliver the lowest cost installed.

FEATURE-RICH:

- Ultra lift—up to 8" applications
- Robust Formulation
- Long-Range Application

EXCEPTIONAL CONTRACTOR VALUE:

- Up to 50% increase in jobsite efficiency
- Keeps making good foam, even under adverse conditions
- Up to 20' application range

TYPICAL PHYSICAL PROPERTIES*:	***PROCEDURE***	***VALUES***
Core Density (minimum, lb/ft^3)	D-1622	1.8 - 2.0
Water Vapor Permeance at 1.2" (perms/in)	E-96	0.93
Water Absorption (%)	D-2842	1
Dimensional Stability (%)	D-2126	<3
Tensile Strength (psi)	D-1623	>32
Compressive Strength (psi)	D-1621	25
Air Leakage (L/s.m^2)	E-283	<0.02
Air Permeance at 1" (L/s.m^2)	E2178-13	<0.02
THERMAL BARRIER		
DC 315 (wet mils)	NFPA 286	20
RELATIVE INSULATION VALUES (aged):		
R-value at 1"		6.3
R-value per inch at >3.5"		6.5

HANDLING PROPERTIES at 77°F (25°C):	***A SIDE (ISO)***	***B SIDE (RESIN)***
Viscosity, cps	250±50	550±100
Specific Gravity	1.23	1.22

RECOMMENDED PROCESSING INFORMATION (ADDITIONAL DETAILS ON BACK):

Dispensing Ratio	1:1
Hose Heaters	115-140°F (46-60° C)
Primary Heaters (A&B)	115-140°F (46-60° C)
Dynamic Pressure (A&B)	1000 psi minimum
Static Pressure (A&B)	1100-1600 psi
Ambient Temperature[2]	25 - 130°F (-4 - 54° C)
Drum Conditioning Temperature	55 - 80°F (12 - 27° C)

[2] *Temperatures outside this range are possible, contact SWD for more information*

MIXING (ADDITIONAL DETAILS ON BACK):

- Do not mix
- Do not recirculate

RECOMMENDED STORAGE AND SHELF LIFE (ADDITIONAL DETAILS ON BACK):

- Storage temperatures 40-100°F** (4-38° C). See back for preconditioning of material.
- Shelf life from date of manufacture (unopened containers):
  - *— A-Side (iso): 12 months*
  - *— B-Side (resin): 6 months*
- Keep container tightly sealed.
- Store out of direct sunlight, in a cool dry place, avoid freezing.

*Properties achieved in a lab environment at 77°F. Field conditions may cause variation in properties.

** Caution: If the drum temperature is 80°F (26.6°C) or higher, use caution when opening the drum! The contents will be under pressure.

APPROVALS/ COMPLIANCE:

- CCRR-1093
- IBC, IRC, IECC: 2009, 2012, 2015
- AC377 compliant
- Appendix X compliant - no ignition barrier needed
- Type I-V construction
- Class 1— ASTM E-84
- E-84, NFPA 285, E-119

Intertek

INDUSTRY LEADING TEMPERATURES:

- Continuous use temperature can be as high as 257˚F (125˚C) and it is dimensionally stable down to -60˚F (-51˚C).
- Solid performance in all climates, including extreme heat and cold, and high humidity.

PACKAGING:

275 Gallon Tote
55 Gallon Drum

FINISHED PRODUCT COLOR:

White to off-white (UV exposure will cause discoloration, discoloration by itself is not a sign of product damage)

LEED INFORMATION:

- Quik-Shield® 118 has a minimum of 9% total renewable/recycle content
- 2.3% pre-consumer recycled
- 5.2% post-consumer recycled
- 1.6% rapidly renewable
- IEQ Credit- Low Emitting Materials

SWD Urethane

800-828-1394 • swdurethane.com
sales@swdurethane.com

QUIK-SHIELD 118

2 lb. Extreme Cold Spray Foam Insulation

PREPARATION OF SUBSTRATES

Providing the proper substrate is the responsibility of the owner, the owner's appointed representative, the contractor, and/or inspector. The following are manufacturer's recommendations. However, other preparation techniques may be required given unique/specialized application circumstances. Contact SWD for technical questions.

It is recommended to remove dust, dirt, oil, paint, and alternative polymers from all surfaces prior to applying SWD products.

See SWD specifications or SPFA guidelines for further details on substrate prep.

WOOD

- Ensure wood is relatively dry and protect surfaces from contamination.
- Water or oil present may cause poor adhesion or excessive foaming.
- Fill large voids with appropriate backer rods or appropriate fillers.
- If additional information is required, contact an SWD representative for more details.

STEEL & OTHER METALS

- It is the responsibility of the contractor/end user to determine proper adhesion and suitability through field testing. Blasting and/or priming is not always required. If additional information is required, contact an SWD representative for more details.

CONCRETE

- If applying foam to concrete, the concrete surface should be structurally sound, clean, and dry/cured (typically 28 days).
- Fill large voids with appropriate backer rods or appropriate fillers.
- Blasting and/or priming is not always required. It is the responsibility of the contractor/end user to determine proper adhesion and suitability. If additional information is required, contact an SWD representative for more details.

PREVIOUSLY APPLIED FOAM or OTHER POLYMERS

- As practical, remove previously applied foam and other polymer products. Application of product over existing materials should be performed only after adhesion/compatibility is verified by the contractor and accepted by the building owner or owner's appointed representative.

WIRING & PLUMBING:

- Quik-Shield® 118 is fully compatible with CPVC piping systems (Paschal Engineering Study for the SPFA)
- Quik-Shield® 118 is compatible with typical electrical wiring coverings.

PROCESSING

1. It is recommended to precondition material to 55-80°F prior to application. Material may thicken at lower temperatures which can cavitate pumps.
2. Do not mix.
3. Product should be sprayed with a high pressure plural-component proportioner capable of a minimum of 1000psi dynamic pressure and a maximum pressure differential of 200psi between resin and isocyanate.
4. Static pressure is typically set between 1100 and 1600psi.
5. Primary heaters and hose heaters are typically set between 115 - 140°F. Higher temperatures are utilized in winter months, lower temperatures are utilized in summer months.
6. Proper application temperature setting is the responsibility of the end user. Equipment temperature varies and can be dependent on equipment, hose length, elevation, ambient temperature, substrate temperature humidity, and other factors. If additional information is required, contact an SWD representative for more details.

APPLICATION

1. Clean surfaces according to "Preparation of Substrates" section.
2. If priming, follow manufacturer recommendations. Ensure primer is adequately cured prior to application.
3. Substrate temperatures should be between 25-130°F Flashing is recommended at lower temperatures. Higher and lower application temperatures are possible, contact an SWD representative for more details.
4. Flush an adequate amount of material through the lines/gun prior to spraying desired surface when changing between systems. Flush amount will be dependent on prior system used. If additional information is required, contact an SWD representative for more details.
5. Do not recirculate.
6. Do not exceed a 8 inch lift per pass. It is the responsibility of the contractor to determine when the first layer has cooled sufficiently for additional passes. SWD recommends waiting a minimum of 20 minutes.
7. Before application, test material to ensure that material sprays, cures, and hardens properly.
8. Inspect applied material intermittently to ensure no problems exist. If problems are detected, discontinue application and inspect all substrates, equipment, gun, and liquid material for problem source(s).

CLEANING AND MAINTENANCE

1. Spray equipment must be maintained in proper operating condition. Failure to adequately maintain spray equipment may result in poor product performance. Refer to your equipment manufacturer's maintenance procedures for more details.
2. Contact SWD for long-term equipment storage recommendations.

SWD Urethane

800-828-1394 • swdurethane.com

TDS-QS118 8-17 Rev 3