QUIK-SHIELD 108 - Changeover Guide

If you are changing to QUIK-SHIELD 108 Ultra-Low Density foam from closed-cell foam or from a competitor's foam, you must not allow the first product to contaminate the QUIK-SHIELD 108 resin drum.

CHANGING TO QUIK-SHIELD 108

After mixing the QUIK-SHIELD 108 resin as per SWD's recommendations, do the following:

1. If changing from an open-cell foam, keep hose heat at 125°F during changeover. If you are changing from a closed-cell foam, turn the hose heat off.
2. Make sure the drum mixer, dip tubes, drum pump, and pump housing are completely free of the previous resin.
3. Allow some air into the drum pump or dip tube.
4. Place drum pump into the QUIK-SHIELD 108 resin drum.
5. If you have a recirculation/pressure relief line, pump the contents to the previous drum or into a waste container with the transfer pumps.
6. Connect the recirculation/pressure relief to the new drum lid.
7. Remove the gun from the hose manifold and pump the hose contents into the previous drum until you see a color change or until you reach the air pocket in the line. 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 with no collapse. For QUIK-SHIELD 108, you may need to spray more foam out than what is normally required in a changeover in order to eliminate contamination.

QUIK-SHIELD 108 - Quick-Start Processing

PRECONDITIONING

- Layer of separation at the top of the drum is normal.
- Material should be 70 - 80°F for optimal performance.

MIXING (B-SIDE ONLY)

1. Mix for 20 minutes with a Fusion Fluid HD Electric Mixer (or equivalent).

2. Check to see if the top layer of separation has been thoroughly blended into the resin. If not, keep mixing and check every 5 minutes until it is thoroughly mixed.

3. Continually mix product while applying.

20 min

PRIMARY AND HOSE HEATERS TEMPS

Temperature Settings

Summer: 115 - 140°F

Winter: 120 - 160°F

Pressure Settings

Dynamic Pressure:
1000 psi minimum

Static Pressure:
1300 - 1600 psi

For Additional Questions, Call SWD Tech Support at 888-380-2022

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QUIK-SHIELD 108 - Dial-In Guide

In order to maximize expansion and optimize yield on QUIK-SHIELD 108, 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 108 expands greater and faster than most open-cell foams. It is important stay in front of the rising foam by adjusting your speed and/or spray technique.

After mixing the QUIK-SHIELD 108 resin as per SWD's recommendations, do the following:

1. Recirculate both A-side (iso) and B-side (resin).
2. Determine temperature settings starting point.

Substrate Temp	Set Equipment Temp At
<40°F	140°F
40-50°F	135°F
50-70°F	130°F
70-115°F	125°F
>115°F	120°F

Temperature Settings:

125°F

Standard Starting point

3. Test spray on cardboard to make sure you are making good foam.
4. Start spraying on the jobsite.
5. After spraying approximately six cavities, check expansion time of foam. Adjust equipment temperature settings until rise time is dialed-in.

Foam Rise Time	Status
<2.5 sec.	Foam too hot—turn down temp settings
2.5-3 sec	OK, but foam running a little hot—if retracting from the studs, turn temp down
3-3.5 sec	Temp dialed-In Properly
>3.5 sec	Foam too cold—turn up temp settings

Rise Time:

3-3.5 sec

6. Dialing in Pressure—start at 1300 psi. Optimal pressure settings for maximum output of product will likely be 1300-1600 psi. Higher pressure will typically lead to greater performance and fewer issues.

Pressure Settings:

1300 psi

Starting point for new QS108 sprayers

Optimal Pressure Settings:

1300-1600 psi

7. In higher humidity areas and at higher altitudes, pressure adjustments and or higher temperatures might be needed. Please contact technical support with further questions.

For Additional Questions, Call SWD Tech Support at 888-380-2022

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QUIK-SHIELD 108 - Seasonal Processing Guide

Techniques for optimal QUIK-SHIELD 108 open-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 50-100°F (10-38° C). Store out of direct sunlight, in a cool dry place, and avoid freezing.

PREHEATING

A & B liquid components need to be preheated in the drums to a minimum of 70°F (21°C), but 90°F (32°C) is optimal.

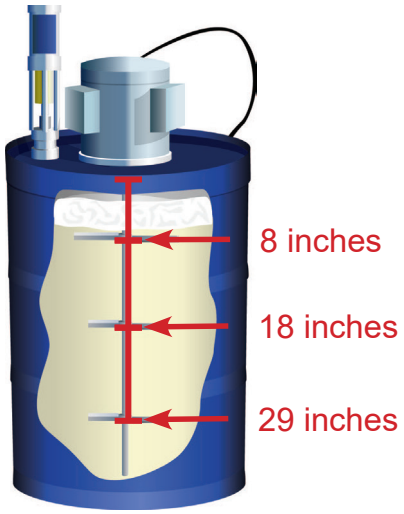
If the core temperature of the material is already greater than 70°F (21°C), no preheating is necessary, but preheating to 90°F (32°C) would be optimal.

*If your heater size is less than 10,200 W, it may be necessary to preheat the material to 85° - 95°F using drum heaters and/or recirculation through your proportioner's primary heaters at no more than 125°F heat settings. If recirculating at 125°F, close observation is required so as not to overheat the A-side of B-side. Otherwise, it is recommended not to exceed 95°F.

MIXING - B-SIDE ONLY

Mix B-side Drum Only - Complete these steps before pushing any material through the lines (e.g. using the material to flush, purge, re-circulate the lines, or transferring material into another drum).

1. Use an electric-driven drum mixer (Fusion Fluid HD Electric Mixer or equivalent). Remove the drum lid and fasten the mixer lid to the top of the drum. Ensure that the mixer lid is securely attached. Motor configuration – 580 RPM. It is recommended to use three folding blades: the top blade is 8" and the middle and bottom blades are 6", with the top blade set 8" from the top of the collar, about 4" below the top layer of separation (see diagram). The middle blade should be set 18" below the top of the collar, and the bottom blade should be 29" from the top of the collar. All three blade sets should be inverted downward and blade fasteners secured with Loctite.
2. Mix for 20 minutes. Turn off the mixer and remove the mixer lid to check if the top layer of separation has been thoroughly blended into the resin. If not, keep mixing for another 5 minutes or until the top layer of separation has been thoroughly blended into the resin. Continuously mix B-Side (Resin) while applying material.



As temperatures increase, separation occurs more rapidly in the B-side drum, so it becomes more important to mix thoroughly. If not mixed properly, longer expansion time, reduced expansion, longer tack-free time, and the foam could appear darker in color can be observed.

TEMPERATURE & PRESSURE SETTINGS

Hose Heaters	120-160° F (49-71° C)
Primary Heaters (A&B)	120-160° F (49-71° C)
Dynamic Pressure (A&B)	1000 psi minimum
Static Pressure (A&B)	1300-1600 psi

If the chemicals are too cold, coarse cell structure, shrinking, shiny skin on the foam, pulling away from the studs, not expanding like it normally does, and voids behind the foam may be observed.

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)	1300-1600 psi

If the chemicals are over heated, the foam expands too fast and may set back more than normal.

*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.

For Additional Questions, Call SWD Tech Support at 888-380-2022

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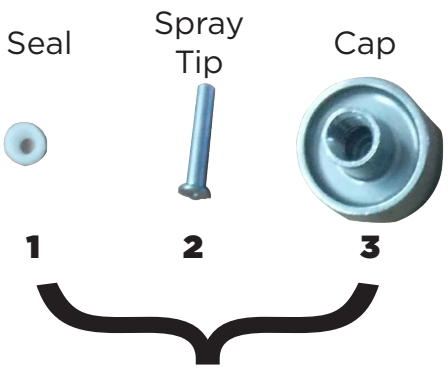
QUIK-SHIELD 108 - Long Range Application

Only QUIK-SHIELD 108, with its Long-Range Application, enables you to spray up to an 8" lift in one pass from up to 15 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

1

Insert the seal on the tip of the mixing chamber.

2

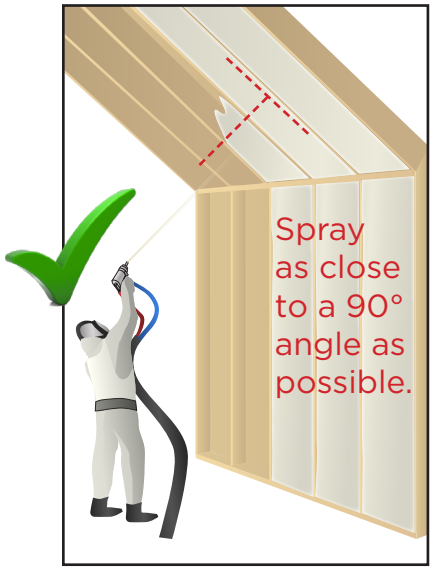
Insert the spray tip over the seal.

3

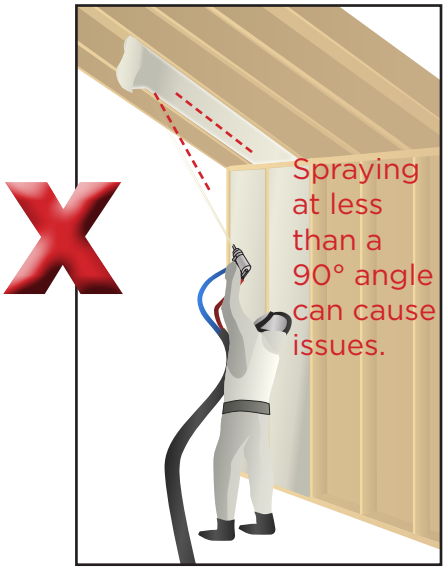
Screw on the cap over the spray tip

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 4-8 feet.
- For best results when using a 1 inch extension tip, apply foam at a distance between 6-15 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 888-380-2022

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QUIK-SHIELD 108 - Troubleshooting Guide

Adhesion Issues	Probable Causes	Recommended Solutions
Foam begins to shrink after expansion complete	Cold material in resin drum, inadequate spray heat, material not mixed properly, storage-degraded material	1. Increase heat (primary and hose heaters). 2. Re-circulate until material in the drums reaches a minimum of 70°F, but 90°F is optimal (re-circ temp not to exceed 125°F). If your heater size is less than 10,200 W, it may be necessary to preheat the material to 85°-95°F. 3. Check to make sure the mixer is functioning properly and/or verify that the mixer is an SWD-approved mixer.
Foam pulls away from stud after expansion complete	Cold material in resin drum, inadequate spray heat, material not mixed properly, cold substrate, poor application (i.e., not wetting the studs)	1. Increase heat (primary and hose heaters). 2. Re-circulate until material in the drums reaches a minimum of 70°F, but 90°F is optimal (re-circ temp not to exceed 125°F). If your heater size is less than 10,200 W, it may be necessary to preheat the material to 85°-95°F. 3. Check to make sure the mixer is functioning properly and/or verify that the mixer is an SWD-approved mixer. 4. Pre-warm substrate if possible. If not, flashing technique can be used—spraying a thin layer of foam on the substrate to heat it up. 5. Make sure you are wetting the studs when applying foam.
Foam falls away or is easily removed from substrate	Cold substrate, storage-degraded material, off-ratio mix, moisture or excessive dust on substrate	1. Increase heat (primary and hose heaters). 2. Re-circulate until material in the drums reaches a minimum of 70°F, but 90°F is optimal (re-circ temp not to exceed 125°F). If your heater size is less than 10,200 W, it may be necessary to preheat the material to 85°-95°F. 3. Pre-warm substrate if possible. If not, flashing technique can be used—spraying a thin layer of foam on the substrate to heat it up. 4. Make sure you are wetting the studs when applying foam. 5. Clean excess moisture and dust from substrate.

Appearance Issues	Probable Causes	Recommended Solutions
Foam rises slower than usual	Cold material in resin drum, inadequate spray heat, material not mixed properly, cold substrate	1. Increase heat (primary and hose heaters). 2. Re-circulate until material in the drums reaches a minimum of 70°F, but 90°F is optimal (re-circ temp not to exceed 125°F). If your heater size is less than 10,200 W, it may be necessary to preheat the material to 85°-95°F. 3. Check to make sure the mixer is functioning properly and/or verify that the mixer is an SWD-approved mixer. 4. Pre-warm substrate if possible. If not, flashing technique can be used—spraying a thin layer of foam on the substrate to heat it up.
Foam is very white, sticky, and soft after rise is complete	Blockage on Iso side at the gun, not enough material from Iso side	1. Check and clean in-line filters at proportioner and gun (over 20% plugged, replace). 2. Check for empty drum. 3. Check for blocked side seal. 4. Check ball valves on transfer pump, then ball valves and seals on proportioner unit.

QUIK-SHIELD 108 - Troubleshooting Guide

Appearance Issues	Probable Causes	Recommended Solutions
Foam is noticeably darker and somewhat brittle	Blockage on Resin side of the gun, not enough material from Resin side	1. Check and clean in-line filters at proportioner and gun (over 20% plugged, replace). 2. Check for empty drum. 3. Check for blocked side seal. 4. Check ball valves on transfer pump, then ball valves and seals on proportioner unit.
Air Pockets	Cold material in resin drum, inadequate spray heat, spraying too close or too far from substrate, not spraying at right angle, improper spray pressure	1. Increase heat (primary and hose heaters). 2. Re-circulate until material in the drums reaches a minimum of 70°F, but 90°F is optimal (re-circ temp not to exceed 125°F). If your heater size is less than 10,200 W, it may be necessary to preheat the material to 85°-95°F. 3. Ensure proper distance as determined by pressure and mix chamber size. 4. Spray at 90° angle to substrate to ensure best possible results.

Other Issues	Probable Causes	Recommended Solutions
Overspray—foam adheres to surfaces outside of spray area	High wind, area not sealed off, spraying too far from substrate, pressures set too high for application	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.
Poor Yield (less than 20,000 board ft.)	Cold material in resin drum, inadequate spray heat, too much overspray, too much scarfing (over-fill of cavity), cold substrate, too many passes, storage-degraded material, resin rich/Iso rich foam, resin not thoroughly mixed	1. Increase heat (primary and hose heaters). 2. Re-circulate until material in the drums reaches a minimum of 70°F, but 90°F is optimal (re-circ temp not to exceed 125°F). If your heater size is less than 10,200 W, it may be necessary to preheat the material to 85°-95°F. 3. Pre-warm substrate if possible. If not, flashing technique can be used—spraying a thin layer of foam on the substrate to heat it up. 4. Check and clean in-line filters at proportioner and gun (over 20% plugged, replace). 5. Check for empty drum. 6. Check for blocked side seal. 7. Check ball valves on transfer pump, then ball valves and seals on proportioner unit. 8. Maintain sufficient speed of application for pressure and mix chamber size. 9. Thoroughly mix resin using SWD recommended mixer
Pressure Imbalance: Guage pressure differential greater than 400 psi or E24 on Graco Reactor	Cold material, blockage at the gun, lack of material from Resin or Iso side (ball valves, pump seals or proportioner packings leaking)	1. Increase heat (primary and hose heaters). 2. Re-circulate material until drum temperature reaches 80°F - not to exceed 100°F (use in-line temperature gauges). 3. Check and clean in-line filters at proportioner and gun (over 20% plugged, replace). 4. Check for empty drum. 5. Check for blocked side seal. 6. Check ball valves on transfer pump, then ball valves and seals on proportioner unit.