



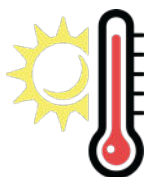
## **PRECONDITIONING**

Starting material temperatures in the drum should be between 70-90°F (21-32°C) for both the A&B-drums for optimal performance.



1. Mix for 10 - 20 minutes at  $\geq 450$  RPM. Refer to mixing section for approved mixer setup.
2. Check to see if the 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 the product during application.

## **PRIMARY HOSE AND HEATER TEMPS**



### **Summer Temperature Settings**

115- 125°F



### **Winter Temperature Settings**

125 - 145°F



### **Dynamic Pressure Settings**

1000 psi minimum

### **Static Pressure Settings**

1200-1500 psi

## **STORAGE**

Storage temperatures should be 50-100°F (10-38° C). Store out of direct sunlight, in a cool, dry place, and avoid freezing.



Do not spray foam when substrate surface temperatures are less than 5°F above the dew point.

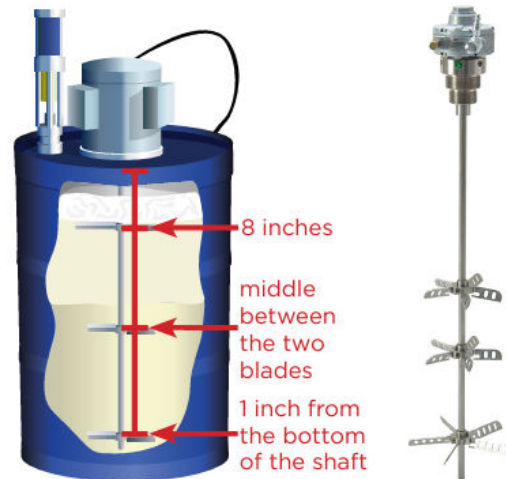
Dialing-in the foam at each jobsite is important in order to maximize expansion and optimize yield on Quik-Shield 108 Yield Monster. Adjustments should be made to account for material temperature, substrate type, hose condition, sprayer speed, and mix chamber. A smaller mixing chamber will produce the best quality foam and optimal yield. 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 108YM 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.

## MIXING

### 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. To thoroughly mix the material, SWD recommends the Graco 26C150 air driven, expanding blade, bung-mounted, high viscosity agitator. Other mixers can be used if they are capable of mixing  $\geq 450$  RPM at 500 cps viscosity.
2. The mixer shaft should have three (6") folding blades: the top blade should be 8" below the collar of the shaft, the bottom blade should be 0.5-1" above the bottom of the shaft, and the middle blade should be located between the top and bottom blades. Make sure the top blade is about 4" below the top layer of separation in the liquid (see diagram). All three blade sets should be folded downward and blade fasteners tightly secured.
3. Mix rigorously for 10 - 20 minutes at  $\geq 450$  RPM. Check to see if the layer of separation has been thoroughly blended into the resin. If not, keep mixing and check every 5 minutes until it is thoroughly mixed.
4. As the resin material temperature increases, separation occurs very quickly. Constant agitation is recommended until the drum is empty. If the mixer is removed too early, the resin may start to separate and you could observe longer expansion times, reduced expansion, longer tackfree times, or darker color foam.





As Per SWD's recommendations, do the following;

1. Starting chemical drum temperatures should be between 70-90°F (21-32°C) for both the A&B-drums for optimal performance.
2. Determine temperature settings starting point.

This chart is a starting guide for temperatures setpoints based on material temperatures of 80°F.

Substrate Temperature	Set Equipment Temperature At
20-40°F	145°F
40-50°F	140°F
50-60°F	135°F
60-80°F	130°F
80-100°F	125°F
100-110°F	120°F
110-140°F	115°F

Temperature Settings:

# 130°F

Standard Starting Point

\*If your heater size is less than 10,200 W, it may be necessary to preheat the material to 85-100°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 or B-side. Otherwise, it is recommended not to exceed 100°F.

3. Substrate temperatures should be between 20-140°F (-6° to 60°C)
4. Test spray on cardboard or plastic to make sure you are making good foam.
5. Check expansion time of foam, adjust equipment temperature settings until rise time is dialed-in. Rise time is defined to be from the time you release the trigger to the time the foam is fully expanded.
6. After spraying approximately six cavities, check expansion time of foam. Adjust equipment temperature settings until rise time is dialed-in. Rise time is defined to be from the time you release the trigger to the time the foam is fully expanded.

Foam Rise Time	Status
≤ 2.25 sec	Foam is too hot — turn down temp settings
2.25-3 sec	Foam is a little hot — turn down temp settings
3-3.25 sec	Temp dialed-in properly
≥ 3.25 sec	Foam is too cold — turn up temp settings

Rise Time:

# 3-3.25 sec

7. To completely dial in the foam for optimum performance, use a depth gauge to measure setback. If the setback measures 0"-1/4" and the skin looks good without blisters or wrinkles, the foam is dialed in.
8. Dialing in Pressure — start at 1200 psi. Optimal pressure settings for maximum output of product will likely be 1200-1500 psi. Higher pressure will typically lead to greater performance and fewer issues.

Dynamic Pressure Settings:

# 1200 psi

Starting Point For New Sprayers

Optimal Pressure Settings:

# 1200-1500 psi



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

## **CHANGING TO QUIK-SHIELD 108YM**

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.
4. Place drum pump into the Yield Monster resin drum.
5. If you have a recirculation/pressure relief line, pump the contents into 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 Yield Monster, you may need to spray more foam out than what is normally required in a changeover in order to eliminate contamination.

## **APPLICATION TIPS**

- When switching products, flush all hoses with freshly mixed QUIK-SHIELD 108YM 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.
- When applying the product, apply foam onto the sides of the studs, to ensure 100% adhesion to the cavities. Wetting the studs is important to ensure there is no pulling off of the studs.
- Shorten the distance between the spray gun and substrate to increase the heat to the foam. The ideal distance is approximately 18". The speed of the application will assist in placing sufficient chemicals to just fill the cavity, reducing the overall wastage of foam.
- Avoid spraying onto rising foam because this can cause displacement of the rising foam, which can lead to excessive dripping and voids.
- Ensure spray equipment is always maintained in proper operating condition with a regular maintenance program.



## ZIPPING

- “Zipping” is a term used to describe the ability of QUIK-SHIELD 108YM to fill a wall cavity in a single motion by applying foam right up the middle of the cavity. It’s an easy, 1-step motion, like taking a zipper and zipping a wall cavity shut.
- For zipping, it is recommended that you use a TP-100 fan pattern tip/adaptor for the Fusion AP Gun with a minimum size O2 Round mixing chamber. For other gun types, contact SWD Tech Support for details.
- Zipping is a different spray technique that will help save jobsite time. However, it will take time for applicators to master this method.
- For proper spraying distance, observe the fan-shaped pattern of the spray. You want to be far enough away that the end of the fan wets the studs of the wall cavity, but not so far that you get overspray on the studs.
- For zipping, psi setting may need to be increased by an average of 200 psi from what is normally used for a round spray pattern.
- 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 finish of the foam. Spray from one point to the other in a regular and continuous motion to regulate uniformity of foam thickness.

## LONG-RANGE APPLICATION

- QUIK-SHIELD 108YM, with its Long-Range Application, enables you to spray an 8” lift in one pass from up to 15 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 a ½ inch or 1 inch extension and adapter for a O2 Round mix chamber (AR5252) for a Graco Fusion Gun. For other types of guns, contact SWD Tech Support.



[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.

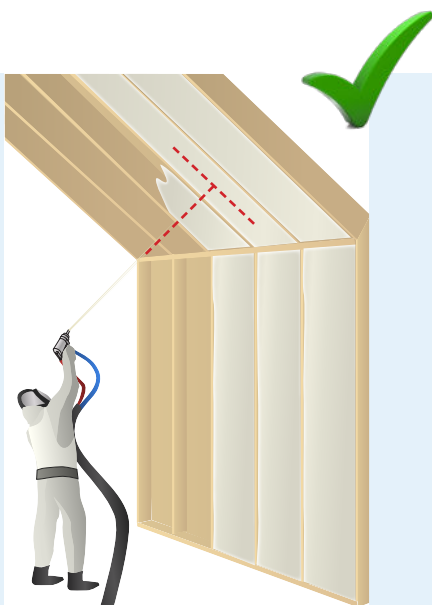


Screw on the cap over the spray tip.

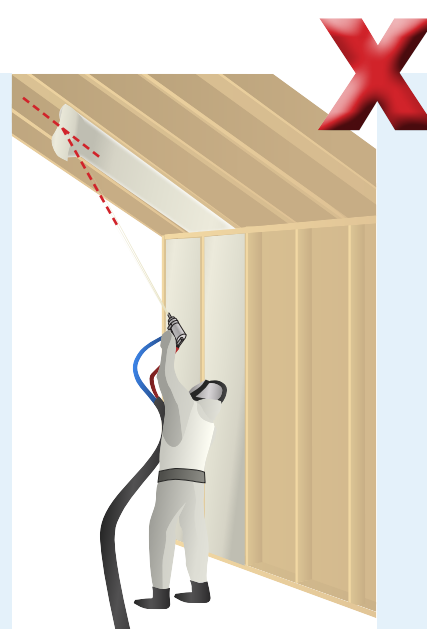


## LONG-RANGE APPLICATION CONTINUED

- 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.



Spray perpendicular to the deck, from the bottom to the top.



Do not spray at an angle because it may negatively affect the adhesion of the foam.





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	<ol style="list-style-type: none"> <li>1. Increase heat (primary and hose heaters).</li> <li>2. Re-circulate until material in the drums reaches a minimum of 70°F, but 70-90°F is acceptable (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 80°-90°F.</li> <li>3. Check to make sure the mixer is functioning properly.</li> <li>4. If the above has been tried, but foam is still shrinking, foam may be too hot—decrease heat.</li> </ol>
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)	<ol style="list-style-type: none"> <li>1. Increase heat (primary and hose heaters).</li> <li>2. Re-circulate until material in the drums reaches a minimum of 70°F, but 70-90°F is acceptable (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 80°-90°F.</li> <li>3. Check to make sure the mixer is functioning properly.</li> <li>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.</li> <li>5. Make sure you are wetting the studs when applying foam.</li> <li>6. If the above has been tried, but foam is still shrinking, foam may be too hot—decrease heat.</li> </ol>
Foam falls away or is easily removed from substrate	Cold substrate, storage-degraded material, off-ratio mix, moisture or excessive dust on substrate	<ol style="list-style-type: none"> <li>1. Increase heat (primary and hose heaters).</li> <li>2. Re-circulate until material in the drums reaches a minimum of 70°F, but 70-90°F is acceptable (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 80°-90°F.</li> <li>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.</li> <li>4. Make sure you are wetting the studs when applying foam.</li> <li>5. Clean excess moisture and dust from substrate.</li> </ol>
Appearance Issues	Probable Causes	Recommended Solutions
Foam rises slower than usual or excessive dripping is observed	Cold material in resin drum, inadequate spray heat, material not mixed properly, cold substrate	<ol style="list-style-type: none"> <li>1. Increase heat (primary and hose heaters).</li> <li>2. Re-circulate until material in the drums reaches a minimum of 70°F, but 70-90°F is acceptable (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 80°-90°F.</li> <li>3. Check to make sure the mixer is functioning properly.</li> <li>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.</li> </ol>
Foam is very white, sticky, and soft after rise is complete	Blockage on Iso side at the gun, not enough material from Iso side	<ol style="list-style-type: none"> <li>1. Check and clean in-line filters at proportioner and gun (if over 20% plugged, replace).</li> <li>2. Check for empty drum.</li> <li>3. Check for blocked side seal.</li> <li>4. Check ball valves on transfer pump, then ball valves and seals on proportioner unit.</li> </ol>



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	<ol style="list-style-type: none"> <li>1. Check and clean in-line filters at proportioner and gun (if over 20% plugged, replace).</li> <li>2. Check for empty drum.</li> <li>3. Check for blocked side seal.</li> <li>4. Check ball valves on transfer pump, then ball valves and seals on proportioner unit.</li> </ol>
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	<ol style="list-style-type: none"> <li>1. Increase heat (primary and hose heaters).</li> <li>2. Re-circulate until material in the drums reaches a minimum of 70°F, but 70-90°F is acceptable (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 80°-90°F.</li> <li>3. Ensure proper distance as determined by pressure and mix chamber size.</li> <li>4. Spray at 90° angle to substrate to ensure best possible results.</li> </ol>
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	<ol style="list-style-type: none"> <li>1. Protect areas not to be foamed with poly and be aware of surroundings and wind conditions.</li> <li>2. Ensure proper distance as determined by pressure and mix chamber size.</li> </ol>
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	<ol style="list-style-type: none"> <li>1. Increase heat (primary and hose heaters).</li> <li>2. Re-circulate until material in the drums reaches a minimum of 70°F, but 70-90°F is acceptable (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 80°-90°F.</li> <li>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.</li> <li>4. Check and clean in-line filters at proportioner and gun (if over 20% plugged, replace).</li> <li>5. Check for empty drum.</li> <li>6. Check for blocked side seal.</li> <li>7. Check ball valves on transfer pump, then ball valves and seals on proportioner unit.</li> <li>8. Maintain sufficient speed of application for pressure and mix chamber size.</li> <li>9. Continually mix resin as recommended by SWD</li> </ol>
Pressure Imbalance: Gauge 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)	<ol style="list-style-type: none"> <li>1. Increase heat (primary and hose heaters).</li> <li>2. Re-circulate material until drum temperature reaches 80°F not to exceed 100°F (use in-line temperature gauges).</li> <li>3. Check and clean in-line filters at proportioner and gun (if over 20% plugged, replace).</li> <li>4. Check for empty drum.</li> <li>5. Check for blocked side seal.</li> <li>6. Check ball valves on transfer pump, then ball valves and seals on proportioner unit.</li> </ol>



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Safety is the responsibility of the owner, the owner's appointed representative, the contractor, and/or inspector. Become familiar with local, state, and federal regulations regarding chemical health, safety, and handling. For more information consult the product SDS, contact the SPFA ([www.sprayfoam.org](http://www.sprayfoam.org)) or the ACC ([www.spraypolyurethane.org](http://www.spraypolyurethane.org)).

SWD Urethane | 800-828-1394 | 540 South Drew St. | Mesa, AZ 85210 | [swdurethane.com](http://swdurethane.com)

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