



Correct A and B side processing results in a finished spray polyurethane foam product that is in specification. Numerous variables can affect the spray foam quality, such as but not limited to the type of substrate, substrate temperature, substrate moisture content, and ambient conditions (temperature/relative humidity). The processing parameters published in this document are for guideline purposes and can require adjustments as the above-noted variables

PRECONDITIONING

Starting chemical drum temperatures should be between 70-80°F for both the A & B-drums for optimal performance.

MIXING (B-SIDE ONLY)

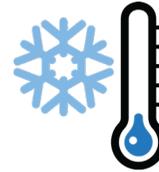
Mixing is not required. If the material was exposed to temperatures outside of the recommended storage of 50-90°F or is near its expiration date, mixing can improve performance.

PRIMARY HOSE AND HEATER TEMPS



Summer Temperature Settings

120 - 130°F



Winter Temperature Settings

130 - 145°F



Dynamic Pressure Settings

1000 psi minimum

Static Pressure Settings

1300-1500 psi

STORAGE

Storage temperatures should be 50-90°F (10-32° 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 Dragon XL. This chart is a starting guide to set temperatures based on environment. Adjustments should be made to account for substrate type, hose condition, sprayer speed, and mix chamber.

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 Temperature	Set Equipment Temperature 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. Substrate temperatures should be between 40-120°F (4°to 49°C) Flashing is recommended at lower temperatures.
4. Test spray on cardboard or plastic to make sure you are making good foam.
5. Start spraying on the jobsite.
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
≤ 3.25 sec	Foam too hot — turn down temp settings
4 sec	Temp dialed-In properly
≥ 4.5 sec	Foam too cold — turn up temp settings

Rise Time:

4 sec

7. Dialing in Pressure—start at 1300 psi. Optimal pressure settings for maximum output of product will likely be 1300-1500 psi. Higher pressure can typically lead to greater performance and fewer issues.

Dynamic Pressure Settings:

1300 psi

Starting Point For New Sprayers

Optimal Pressure Settings:

1300-1500 psi





If you are changing to Quik-Shield Dragon XL foam from closed-cell foam or from a competitor's foam, you must not allow the first product to contaminate the Quik-Shield Dragon XL resin drum. SWD recommends performing a water flush when switching from another product

CHANGING TO QUIK-SHIELD DRAGON XL

As per SWD's recommendations, do the following:

1. If changing from an open-cell foam, keep hose heat at 90°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 Dragon XL 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 Dragon XL, you may need to spray more foam out than what is normally required in a changeover in order to eliminate contamination.

APPLICATION TIPS

- Flush recirculation lines and main fluid lines with Quik-Shield Dragon XL prior to spraying. Contamination from other previously used products may cause the foam to deflate upon application.
- 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.
- 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 applying liquid components on rising foam. This can cause the formation of blisters on the surface of the foam.
- Ensure spray equipment is always maintained in proper operating condition with a regular maintenance program.



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"> 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	<ol style="list-style-type: none"> 1. Increase heat (primary and hose heaters). 2. Re-circulate until material in the drums reaches a minimum of 70°F, but 80°F is optimal (re-circ temp not to exceed 100°F). 3. Ensure proper distance as determined by pressure and mix chamber size. 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	<ol style="list-style-type: none"> 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.
Lower Yield than Expected	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	<ol style="list-style-type: none"> 1. Increase heat (primary and hose heaters). 2. Re-circulate until material in the drums reaches a minimum of 70°F, but 80°F is optimal (re-circ temp not to exceed 100°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.
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"> 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.



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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) or the ACC (www.spraypolyurethane.org).