QUIK-SHIELD *Hydra XC*

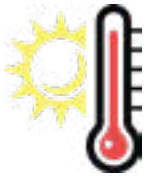
Quick Start Processing

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 change. The applicator is responsible for optimizing the processing parameters based on the specific job site conditions. Checks of rise time, density, cell structure, and adhesion throughout the day will provide the necessary data to establish that the finished product is in specification.

PRECONDITIONING

Starting chemical drum temperatures should be between 60-80°F for both the A & B-drums for optimal performance. If drum is below 60°F, slowly raise the temperature with a warming blanket or heated storage. ***NEVER*** use a portable heater to super heat the material as this will cause the blowing agent to boil off. A minimum drum temperature of 60°F is necessary to bring viscosities of A&B into alignment and prevent off-ratio foam resulting in a decrease in yield. Setting chemical temperatures above recommendations may result in B side frothing. If the B-drum is over 85°F, then the blowing agent may boil and cause a pressure imbalance in the proportioner.

PRIMARY HOSE AND HEATER TEMPS



Summer Temperature Settings

90 - 105°F

Winter Temperature Settings

110- 125°F

Dynamic Pressure Settings

1100 psi minimum

Static Pressure Settings

1100-1600 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.

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Dial-in Guide

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 Hydra XC. 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. A smaller mixing chamber will produce the best quality foam and optimal yield.

As Per SWD's recommendations, do the following;

1. Determine temperature settings starting point.

Substrate Temperature	Set Equipment Temperature At
10-30°F	115-125°F
40-70°F	110°-100°F
70-90°F	95°F
>90°F	<95°F

Temperature Settings:

105°F

Standard Starting Point

2. Substrate temperatures should be between 10-120°F (-12° to 49°C) Flashing is recommended at lower temperatures.
3. Test spray on cardboard or plastic 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. 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
3.25-4.25 sec	Temp dialed-In properly
≥ 4.25 sec	Foam too cold — turn up temp settings

Rise Time:

3.25-4.25 sec

6. Dialing in Pressure—start at 1300 psi. Optimal pressure settings for maximum output of product will likely be 1300-1400 psi. Higher pressure can typically lead to greater performance and fewer issues.

Dynamic Pressure Settings:

1100 psi

Starting Point For New Sprayers

Optimal Pressure Settings:

1100-1600 psi

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

CHANGING TO QUIK-SHIELD Hydra XC

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 Hydra XC 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.

APPLICATION TIPS

- When switching products, flush all hoses with Quik-Shield Hydra XC 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 18-24".
- Avoid spraying onto rising foam because this can cause displacement of the rising foam, which can lead to excessive dripping.
- SWD recommends a 1"-3" inch pass thickness in a single lift for optimal performance.
- Ensure spray equipment is always maintained in proper operating condition with a regular maintenance program

QUIK-SHIELD *HYDRA XC* 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.
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.
Lower Yield than Expected	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 (3 in.) and avoid excessive touch-up work. 11. Ensure material in drums is within its processing temperature range.

Other Issues	Probable Causes	Recommended Solutions
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 (3 in.) 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 (3 in.) and avoid excessive touch-up work. 5. Adhere to proper waiting times before applying subsequent passes.
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.