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# Troubleshooting for 2 component foam

## Checking the Hose & Gun for Proper Function

Good quality foam is dependent upon one-to-one ratio dispensing. The easiest way to determine that you have good ratio is to observe the stream of chemicals coming out of the gun before they pass through the mixing nozzle.

To do this, remove the nozzle from the gun and point the gun into a waste container. Pull the trigger and observe the chemical streams. You should see two chemical streams crossing over each other and flowing at equal velocity.

Know that the "A" component is light brown in color and the "B" component is white (or nearly clear) in color.

If you see more "A" chemical flowing than "B" chemical, your foam is probably darker in color and may have a crunchy, glassy surface. Cold chemicals will result in foam that is "A" component rich. To help warm the tanks, shake them vigorously.

If the temperature is right for dispensing, then check the "B" component tank. Be sure it is not empty. Be sure the valve is turned all the way on.

If you see more "B" component than "A" component, your foam is probably whiter in color with a spongy surface texture.

First check the temperature .Chemicals that are too warm often result in foam that is "B" component rich. Cool the chemicals, shake the tanks vigorously and check the chemical flow again.
If the temperature seems right, check the "A" component tank. Be sure that it is not empty. Be sure the valve is turned all the way on.

In very extreme cases, you may dispense foam that seems to be rising, then it "melts" or reverts to a liquid after a short period of time. This would indicate that there is no "A" component flow at all.

**When was the last time you used the system? We strongly recommend that the gun is dispensed a minimum of once every week, more often in humid climates. Failure to do so will result in a blockage on the "A" component side of the gun.**

**If there is no chemical flow, the gun & hose assembly will need to be changed.**

If you do not seem to be getting acceptable flow from both components, this would indicate a lack of pressure. The only known cause for both tanks to loose pressure is if the kit was used while lying on its side. The chemical tanks are similar to aerosol cans. If you dispense foam while they are on their side, the propellant escapes through the hose and the pressure is lost. There is no remedy for this. You can only prevent this from happening by keeping the systems in their upright position during use.

# Temperature

When dispensing polyurethane foam, two temperatures must be considered.

First and most important is the chemical temperature. If the chemical temperature is not right, you will not dispense good quality foam.

Ideal chemical temperature is between 60° F and 80° F.

Good quality foam is light beige in color. It will set up to be tack free in 30 to 45 seconds. After approximately 20 minutes, it will be firm to the touch with a consistent skin.

If the chemicals are too cold, you are probably dispensing foam that is "A" component rich. It will be darker in color and may have a crunchy, glassy surface texture. Warm them up, shake the tanks vigorously and check the chemical flow from the face of the gun.

If the chemicals are too warm, you are probably dispensing foam that is "B" component rich. It will be whiter in color and have a spongy surface texture. Cool them down, shake the tanks vigorously and check the chemical flow from the face of the gun.

The second temperature consideration is that of the surface temperature. This is important to ensure the optimum yield and in some cases, good adhesion.

Ideal surface temperature is between 60° F and 80° F.

Surfaces that are colder will result in reduced yield. This is caused by the cold surface extracting the heat from the exothermic reaction resulting in a reduced rise, thus a reduced yield. If the surface is 40° or colder, the exotherm may also cause condensation, which would be like spraying foam onto a wet surface, therefore, the foam may not adhere to the surface. The only way to determine if this will happen is to do a test patch. If the foam sticks to the cold surface, spray the least thickness possible to simply raise the surface temperature to a level that would be closer to ideal temperatures. Allow that layer to cure. Then add the desired thickness to achieve your R-factor.

Surfaces that are too warm may result in the foam curing too fast. This would also result in a reduced yield because the foam would not have enough time to reach the full rise before a tack free state. In addition, extreme cases may result in loss of adhesion because the foam would cure so fast it could not develop a bond to the surface before it hardened.

## Foam is Soft

Foam that dispenses soft is usually also whiter in color.

This is an indication that you dispensed more "B" component than "A" component.

Refer to: **Checking the Gun& Hose for Proper Function** for procedures to confirm this and find out how to remedy the situation.

## Foam is Very White

Foam that is very white in color will also have a soft surface texture. In extreme cases, it may appear to liquefy, or melt shortly after it is dispensed. This is an indication that you have dispensed more "B" chemical than "A" chemical, or in those extreme cases, no "A" chemical at all.

Refer to: **Checking the Gun& Hose for Proper Function** for procedures to confirm this and find out how to remedy the situation.

## Foam is Crunchy

Foam that has a crunchy or friable surface texture will most likely be darker in color that it should be. This is an indication that you are dispensing more "A" chemical than "B" chemical.

Refer to: **Checking the Gun& Hose for Proper Function** for procedures to confirm this and find out how to remedy the situation.

## Foam is Very Dark

Foam that is darker in color usually also has a crunchy or friable surface texture. This is an indication that you are dispensing more "A" component than "B" component

Refer to: **Checking the Gun& Hose for Proper Function** for procedures to confirm this and find out how to remedy the situation.

# Only One Chemical is Dispensing

To assist you in this section, identify the "A" component as being the darker brown liquid and the "B" component as being white or nearly clear in color.

Most often when there is only one chemical coming out of the gun, it will be the "B" component, or whiter chemical. This is usually caused by not using the gun on a regular basis, causing blocking on one side of the gun.

The "A" component is very sensitive to humidity. When exposed (and it can be exposed through the hoses), it forms small dark crystal that form on the inner side of the hoses or in the small spaces between the inner workings of the dispensing gun. If you use the gun a MINIMUM of once per week (even more often in humid climates), the constant flow of chemical will eliminate these crystals from forming. If the gun and hose assembly sits for too long, these crystals form, and when you pull the trigger the next time, they either create a blockage or completely freeze up the inner works.

To prevent this from happening, USE THE GUN AT LEAST ONCE PER WEEK (more often in humid climates).

To fix the problem, you will need to purchase a new gun and hose assembly.

To be sure that both chemicals are dispensing from the gun PRIOR to your application, always do a test shot into a waste container prior to actually dispensing the foam. If the resulting shot looks suspicious, follow the procedure in **Checking the Gun for Proper Function**.

## Cleanup of chemicals

Cleanup of "B" component can be accomplished using soap and water, however, get it while it is still in the liquid state.

If only "A" component is coming out, and this very rarely happens, something has occurred to freeze up the "B" component side of the gun. Most likely, the gun and hose assembly had been sitting much too long between applications. You will need to purchase a new gun and hose assembly and install it on the kit.

Cleanup of "A" component is very tricky. DO NOT USE WATER TO CLEAN UP THE "A' COMPONENT CHEMICAL. Be sure to wear nitril or butyl rubber gloves and proper respiratory equipment. For a small amount of chemical, saturate a rag with dish soap and wipe it up. Be sure to do this while the chemical is still liquid. And be aware that there will most likely be a stain. For larger amounts of chemical, refer to the Material Safety Data Sheet, Section 6 for instructions to deal with a chemical spill.