

SPRAYING WITH COLD CHEMICALS

In most parts of the country there is a period of the year when ambient temperatures fall below the minimum recommended storage temperatures for your polyurethane chemicals. In these conditions applicators can run into problems keeping their chemicals at recommended storage temperatures of 65° - 85° F. Some polyurethane systems are more sensitive to pressure and temperature settings than others. If the applicator's chemicals are a little on the cool side and their equipment is not able to raise the temperature of the chemicals to recommended application temperatures, the applicators can experience poor mixing at the gun and poor foam quality.

Following is a question from our Advanced Equipment Training School test:

If chemicals are slightly too cold, the sprayer's options are

- a. **to gradually warm the material to recommended levels before spraying can commence.**
- b. **to place drum heaters at maximum settings for rapid warm up.**
- c. **to use a smaller tip in the gun to allow the material more time in the primary heater.**
- d. **both A and C.**
- e. **none of the above.**

The correct answer is **d. both A and C.**

Gradually warming the chemicals up to recommended storage temperatures is the best option. Just as it takes some time to cool off 55 gallons of material, it takes some time to warm up 55 gallons of material. The problem with trying to heat the material up too fast with jet burners and band heaters is you run the risk of boiling off the blowing agent, pressurizing the containers, and making it very difficult to open the drums to insert your drum pump.

Putting a smaller tip in the gun is also an option as this allows the material more dwell time in the heaters, and thus increasing the amount of heat the machine can add to the material during application. For example, depending on your machine you may be able to raise the temperature of incoming material by 70° F with an O2 chamber in a Fusion AP gun. By switching to an O1 chamber, you may raise the delta to 90° F. The extra 20° window may allow you to continue spraying, versus having to pull off the job and let the chemicals warm up over night.

As a rule of thumb, it is always more efficient to maintain your chemical storage area at a constant temperature rather than letting the material get cold and trying to warm up the material prior to application.

Please contact NCFI Polyurethanes Tech Service department for any additional information.