

# Cold Weather Operations

## Set up changes

Anytime the low temp was below 25 degrees Fahrenheit the night before, and the high temp of a sealing day is below freezing please utilize these changes to ensure our best attempt at a successful seal.

- Check to see if the unit was heated by either the furnace or temp heat the night before. If not, buckle down for a difficult day.
- Bring all equipment into the space that going to be heated during the prep phase. Compressor lines, seal stations, sealant, water jugs, all emitters and whips, and even the Roll-Air compressors themselves are prone to causing freezes during a seal. Heating them up pre seal minimizes this as much as possible.
- Get the 80,000BTU kerosene heater going in the unit, a safe distance from the equipment so nothing is melted/warped, as soon as possible. Utilize the Kerosene heater to heat up all the masking materials as well.
- Use paper towels to wipe of extra condensation on window frames while masking, this ensures a stronger stick during the seals. In worst case scenarios utilize adhesive spray in situations where walls, windows, vents, etc. are too wet/cold for masking to stick. Adhesive spray can cause damages so use sparingly; however, drywall is easier to fix than sealed shut windows and furnaces. Use your best discretion.
  - **Pro tip**, when spray foam cans are cold and then heated the first initial sprays come out thin and wet...clear this out in some dirt outside before trying to manually air seal large gaps inside the unit
- Heat the unit **for at least 60-90 minutes**. If prep and set up is finished before this, it is highly recommended you continue to heat the unit. Starting the seal faster when its cold inside the unit is only going to cause freezing issues sooner. Let the unit get warm.
- Set up the rolling diesel heaters between the fan and the blower door ring. Do not turn it on until the fan is running. Follow all normal diesel heater operational steps.
- If it's cold outside, set yourself up so the compressors, and all equipment driving air into the unit are heated by the kerosene heater, whenever possible. Always keep anything exhausting with the exhaust facing outside of where you're sealing from.



- Example, if in a garage have the compressors exhausting out of the garage door to the outside, same for the kerosene heaters.
- Once all the heat is going in the area you will be sealing from, start the seal.

## Sealing changes

Regardless of anything we do before the seal, cold is cold. The product is water based and is very subject to freezing. We will list things to check inside the unit and possible fixes. Due to all the potential issues, please enter the sealing space and check the equipment every 30 minutes. If the unit was not heated before our arrival you may want to go into the units even more frequently.

- Freezing at the emitters. When its really cold the product can create chunks of frozen sealant around the tips of the emitters. These frequently blow themselves off and take care of themselves. However, when they don't blow off, please wipe them off and use a thin ramrod to push out any clogs in the emitter tubes. This keeps the equipment spraying as best as possible.
- Frozen compressed air lines. This can cause devastating damages to the sealing space. If the condensation freezes in the compressor lines, the airflow may stop reaching the emitters and the equipment will spray un-aerosolized product. If you notice a reduction in compressed air, **drop rubbing alcohol into the lines to help break up ice and continue the airflow to the seal stations.**
  - Compressor lines freeze commonly at metal parts most of all. Keep any connections as warm as possible.
- The pumps may have sealant frozen in them, which will stop the equipment from spraying. This is a difficult issue to fix, potential solutions are setting hand warmers on the pumps in the stations **or utilizing a heat gun to thaw them.** If none of these are possible, replacing the pump may be required...always carry extra pumps on frigid days.
- Make sure you're utilizing both the select diesel heaters and the kerosene heaters to blow the warmest possible air into the units. This postpones common freezing issues as long as possible.

## Post sealing changes

Sealing in the cold is inherently messier. The aerosolized product seems to stay wetter. Its not uncommon to see excess sealant dripping from attempted seals in outlets or around



mechanical penetrations. The floors will be much wetter than usual, maybe even icy in some spots. The name of the game is clean up at this point. Once equipment is packed up wipe up any pooling on the floors. Wipe off any drips on the walls. If any masking came down double check to make sure we haven't damaged anything with our product.

## Other tips

- If possible, carry a secondary kerosene heater. Heat the next unit to be sealed the entire time the first unit is sealing. The more heat the better. – Deisel works also
- If using Kerosene heaters carry 10 gal of kerosene to ensure you don't run out. Temps drop fast without the kerosene heaters. Same goes for diesel
- If it's a cold week, make sure all pumps are pumped dry, so they don't freeze solid overnight.
- Address these issues with all clients beforehand. If they are unable to provide temp heat discuss the higher risk for damages and even touch on the possible inability to reach target if the freezing become unable to be mitigated.
- Lastly, know when to call it. If your seals aren't dropping and you've tried everything in your arsenal, it may be time to consider pushing the job. At a certain point the equipment can outright fail, and all you'll be doing is creating a mess. Utilize management to make this call.

