

Eight Steps to keeping a Shipping Container Dry- **Without Power**

A large metal box with no air circulation or temperature control is the ultimate moisture magnet. Variables such as weather and the metal component we cannot change, but there are improvements we can make to keep the moisture to a minimum.

The eight must do's in hopes of achieving for a Dry Container – Prioritized for the biggest bang for the buck

- 1 Must be placed on good draining ground, not in a low wet area
- 2 Exposure to wind, in a sunny area, but a shaded roof can be very beneficial (sounds a little conflicting).
- 3 A min. separation of 1ft. from neighbouring buildings or other cans for airflow (drying/cooling) purposes
- 4 Never sit on the ground, always on a beam at each end, allowing airflow underneath
- 5 The roof must be kept clear of leaves, soil, algae, moss, etc. Regular maintenance required in some areas.
- 6 Ventilate with exhaust vents on the doors and intake vents on the rear, not louvers, or any other vent that allows blow-in
- 7 If rusted or a dark color, paint white (gloss) to reflect the heating effects of the sun, especially the roof.
- 8 Insulate the ceiling with close cell spray foam (fills the corrugated air cavities and provides a vapor barrier). Next to proper ventilation this recommendation has proven to be very effective. We have had success without the ceiling sprayed, but across the board a 10-15% lower RH with it. Possibly try the first 7 and monitor the results.

If condensation persists the following additions might be required

- 9 Insulate the walls same as above (sometime only the roof's insulation is sufficient)
- 10 Install a simple roof, peaked or lean-to with a tarp, not to touch the metal roof surface. This also allows for an overhang which will keep both, water from the sides and running underneath and sun off the walls

Important Tips

- Avoid bringing wet materials or equipment into the container, same goes with wet shoes when entering. The extra moisture could be sufficient to initiate condensation, only adding to the work load of the above advantages.
- A full container often has less problems than an empty one. Displacement reduces the interior air volume, which in turn reduces the interior moisture content. (large balloons???)
- The best method of monitoring the interior atmosphere is with a humidity gauge. We have been using the small digital units, located about half way up a wall. You don't want to go in every day to check (especially with wet shoes), but it is the best way to monitor the RH and to see the results of your moisture control efforts.

Insulation Spray Options

We do not recommend rigid foam, fibreglass batts or the reflective bubble wrap rolls. The Close cell spray is an easier install, works as a moisture barrier, fills in the ceilings air pockets, and its more durable. Its a little pricey to have a contractor in to do it. Home kits are available; we will be providing info these DIY kits soon.

If all else fails: Provide a low wattage heater in the rear (no fan required with good venting) in areas like the PNW and a dehumidifier in warm humid areas such as Florida. Hot, humid locations are more difficult – Due to hot air's ability to hold more moisture when the RH reads 90% in Florida there is much higher water content than a 99% RH in the west coast's cooler air. In these climates dehumidifiers are more effective. Unfortunately the dehumidifier should be rated for that volume of space, which often results high power consumption.