



Low Wind Situations and Air Exchange Tables

The following is for condensation control and heat extraction

On site wind speed and duration will determine how many vents you need. Spend time around the site and try to assess the air movement, direction, speed and an average duration. The following wind speed descriptions might be helpful in determining if there is sufficient air movement for the DRY-CON X® Exhaust to properly ventilate.

1-3 mph: barely noticeable (3mph walking speed)

4-6 mph: A light breeze

7-9 mph: a little windy-very effective

10-12 mph: white caps form on water windy! We have serious air flow!

The link below will give you the historical wind conditions for your general area, but the actual winds at the site will be different.

<http://www.wunderground.com/history/>

Light Wind Conditions : Please note ,there are numerous contributing factors that cause condensation. That is why we recommend following the guidelines in **“8 Steps to a Dry Container”** to give the lower air exchanges a chance to work for you. If the area is in that border zone of 3-4 mph for only a couple of hours then you may want to consider painting your container a light color or adding insulation depending on what your budget allows.

Air Exchange Rates: The following are examples are based on our DRY-CON X® Exhaust Vent draw rate of 4 cu. ft./min/1 mph of wind. The calculations are simple-the higher the wind speed and duration the more internal air is replaced per day. Add an extra DRY-CON X® Exhaust Vent and that number doubles. The more complete air exchanges , the better.

Due to so many variables regarding condensation, there is no magic number.

The following numbers do not include the extra draw rate created from wind turbulence and thermals (especially when the DRY-CON X® Exhaust Vent is on a sunny wall)

Container size	Wind Speed	DRY-CON X® Exhaust Vents	Intake Vents	Exhausted air (cu.ft./day) with 12 hours of wind	Completed air exchanges/day
20' footer	3 mph	1	1	8640	6.6
20' footer	5 mph	1	1	14,400	11
40' footer	5 mph	2	2	35,000	14
40' footer	8 mph	2	2	46,080	17.7
High Cube *number of vents may vary	8 mph	3	2	69,120	17.7

The low exchange rates above are not recommendations, only examples

Why replace the interior air with the humid air from outside? The **DEW POINT** is the temperature where the moisture in the air will condense on a surface. A metal ceiling will allow condensation on its surface much easier than styrofoam. The most important variable is the temperature difference of the inside versus the outside. The closer those temperatures are the better. After a day in the sun the inside is going to be much hotter than the outside, even more so when the sun goes down.

Same in the morning with a colder interior compared to the early morning sun. By keeping the temperatures similar you have reduced the chance of condensation forming.