

Breathability of Fabrics

The definition of Breathability or air permeability for all fabrics is “The amount of wind that can pass through a fabric in one minute.

It is measured in Cubic Feet per Minute (CFM)

This is a dynamic condition and requires pressure to be applied for breathing to occur.

The test method is ASTM D 737 where the fabric is atmospherically conditioned placed on a Frazier type test machine where air is drawn through the fabric. The pressure is measured in the Pa (Pascal) (N/m^2) unit of measure which corresponds to the Imperial unit of measure PSI. The test results are reported in CFM (Cubic Feet per Minute).

Air permeability is an important factor in the performance of outerwear where the wind resistance helps keep the user warm. Other applications are Sails, parachutes or Air bags.

Fabrics that have high air permeability have low water repellency.

Regarding a Mooring Cover application

When in a slip, on a mooring or parked on a trailer the cover is not experiencing any pressure that would force air through the fabric so breathing will not occur. In all cases vents that are often placed on covers provide more ability for air to move out from under the cover than the fabric's ability to breathe. However it is important to note that in this “static” condition air will be stagnant.

Where air permeability is most important is when towing. This is a dynamic condition and high air permeability will cause the cover to billow & buffet lowering its life and potentially causing damage to the surfaces it touches.

This is why our Wrap-it-Up™ Cover was specifically designed using a lightweight high strength fabric (SurLast BW+). This fabric is designed to be most effective for all possible Mooring cover uses. It along with our patented VacUHold® vents located at the top of the windshield area allows the cover to be vacuumed down onto the boat when towed eliminating any movement preventing damage to the boat or cover. In the static condition the vents provide more potential for air movement than any fabric could.

In summary;

Breathability is an important factor in the design of a Mooring Cover however not for the hope of air, moisture or fumes etc. moving out from under a cover but rather for the cover's ability to withstand wind and water penetration.

