

Comfortable Weatherproofing

eVENT[®] Fabric is a Direct Venting™ waterproof barrier that uses proprietary and patented Dry System Technology™ to pass perspiration vapor without absorbing it, dramatically reducing the buildup of uncomfortable dampness inside the fabric. eVENT fabric is made from a hydrophobic ePTFE (expanded Polytetrafluoroethylene) film that has been rendered oil-repelling, and thereby free from body-oil contamination, via a method that retains the inherent open-pore structure of the membrane.

Making a fabric waterproof is easy. Nothing to brag about. The real trick is making a waterproof fabric that doesn't cause you to soak in your own perspiration. Hence, all the fuss about "breathability". It's been over twenty years since the "breathability revolution" and improvements are still being measured only in percentages. We believe that any argument about "level of breathability" is irrelevant if the inside of the fabric still gets damp and clammy during use.

Drawbacks of a "Wet System"

The expanded PTFE film that is used to make eVENT fabric cannot be used in raw form for waterproof applications because body oils, sweat, sun lotions, and even makeup will "contaminate" the material over time. Once these oils get into the membrane they allow water to pass at those points and the material loses its waterproof properties. Therefore, to use ePTFE film for waterproof applications, it must somehow be rendered oil-repellant. Traditionally, this has been accomplished by putting a thin, continuous layer of polyurethane (PU) over the surface of the ePTFE to keep oils out. However, this solution creates two new problems. First, it immediately gives up much of the inherent breathability of the ePTFE because its open-pore structure is now covered. Second, because PU absorbs and retains moisture, the inside of the fabric quickly becomes, and remains, damp and clammy. We call this a "wet system". As we see it, the thing you're using to keep dry shouldn't be the reason you're always wet.

Finally... a Dry System!

eVENT fabric's patented method of rendering ePTFE oil-repelling avoids the use of water-absorbing polyurethane and retains the open-pore structure inherent in the material. This is accomplished with a

molecular surface treatment of the individual fibrils that comprise the membrane's open-pore structure. With this Dry System Technology, the inside of the fabric is able to remain dry and comfortable during use. Perspiration vapor vents directly to the outside of the fabric without first making the inside of the fabric damp.

**eVENT
fabrics are
the smartest
choice for athletes
and adventurers
who require the
highest possible
performance and
comfort.**

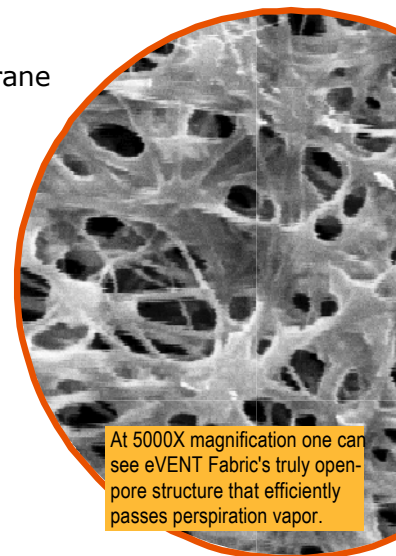
Direct Venting Breathability

Not only does eVENT fabric provide unprecedented levels of breathability, but it breathes in a different manner than other waterproof/breathables. Other W/B's do not "breathe" in a literal sense but instead move moisture in two s-l-o-w steps through a process of moisture diffusion through a solid layer of PU. First, sweated perspiration vapor condenses into the PU coating on the inside of the fabric and changes from vapor to liquid form. Then, after a period of exertion, body heat slowly forces that dampness through to the outside of the fabric where it can finally evaporate. In this system, moisture vapor *must* condense into liquid in order to pass through the PU layer.

Because the eVENT membrane is not sealed-off with a polyurethane coating, it retains full benefit of the material's open-pore structure, breathing at its full potential from the moment you don the fabric. Sweated perspiration vapor vents directly to the outside of the garment through a process called, aptly enough, "Direct Venting".

Maximum Performance

What this all adds up to is an advanced weatherproofing technology, built on the durability of ePTFE membrane, that provides the highest levels of performance available... bar none. eVENT Fabric's unique Direct Venting method of breathability dramatically reduces buildup of moisture in the microclimate between a user's body and the outer shell fabric while Dry System Technology reduces buildup of moisture within the fabric itself. Gone are the days of blind faith in vague data from lab tests; the comfort benefits of eVENT fabric are noticeable in real world use. Experience it yourself.



At 5000X magnification one can see eVENT Fabric's truly open-pore structure that efficiently passes perspiration vapor.