MOISTURE BARRIERS

Valuable Performance Advantages

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Moisture Barriers

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W. L. Gore and Associates is committed to delivering the most innovative and functional moisture barriers for turnout gear on the market, providing firefighters with excellent protection against the hazards they face and effective heat stress management in the range of environments they encounter. In addition to exceeding the minimum requirements of the NFPA 1971 Standard, GORE® moisture barriers provide other valuable performance advantages, are field proven day after day, and are produced using proprietary technologies and processes unique to Gore.

Some of these additional advantages that the CROSSTECH® black moisture barrier brings to turnout gear include:

Moisture Barrier Feature	CROSSTECH® Black Moisture Barrier	Non-Gore barrier with woven substrate	Further Explanation
Heat Stress Management: Resistance to Sweat Evaporation	**Less Than 29 m²Pa/W** with commonly used shell and thermal liner	At least 50% greater resistance	Heat stress in warm conditions can be severe, and enabling sweat to evaporate through the turnout materials is critical to managing it. The European Standard for firefighting garments (EN469) requires testing the resistance to this evaporation – the lower the resistance, the better. Studies have indicated that this difference can be physiologically significant.
Major Metro Proven	**Most popular choice among US major metro departments**	No	For almost 30 years of use in the most demanding conditions, large metro fire departments (greater than 1500 paid firefighters) continue to choose the performance and durability of GORE® moisture barriers.
Breathability After Heat Exposure	**Maintained initial breathability**	Lost more than 20%	Repeated heat exposures, even short durations, can cumulatively degrade some materials. While THL, which is used in the NFPA 1971 Standard, is a measure of composite breathability, this test focuses on the performance of the moisture barrier only. Gore designed its moisture barriers to maintain their high levels of initial breathability.
Wet Flex Durability to Leakage	**More than 200 hours**	Less than 100 hours	Turnout gear gets wet, flexes, and abrades on the job. This test burdens a barrier with accelerated flexing and abrasion in a wet environment to help understand in-use durability. The US military, who uses a similar test, requires minimums of 216 hours and 168 hours in two active outerwear garment programs.
Free of Added Brominated Flame Retardants (BFRs) and Antimony	**Yes**	No	Gore developed this flame retardant laminate without the use of BFRs and the heavy metal Antimony. This helps enable Gore's moisture barriers to meet the product safety criteria of Oeko-Tex® Standard 100, Class II. This independent, internationally accepted standard ensures that textiles are sufficiently free of harmful substances, so they can safely be worn as intended.
Total Weight	**4.7 osy**	17% heavier	CROSSTECH® black moisture barrier is the lightest two-layer woven moisture barrier available. The impact/benefit of this level of weight difference is currently debated among industry experts.

WARNING: No products, including garments, footwear, and gloves, protect completely, even when new; their protective performance will decline with wear, tear, abrasion, and other damage associated with use.

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