

ARC FLASH-RATED
RAINWEAR

GORE-TEX PYRAD[®]

PRODUCTS

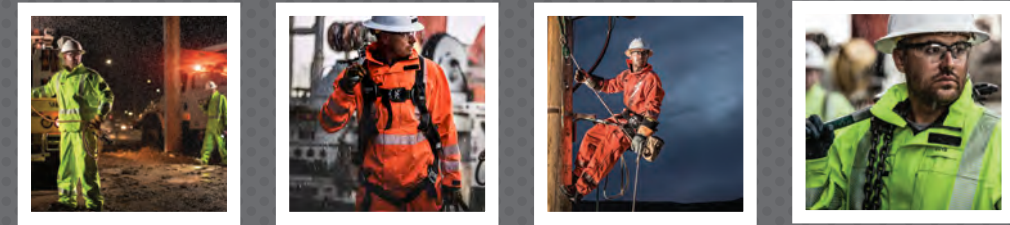
Highly
Breathable
Gear



Meaningful
Comfort

DESIGNED FOR COMFORT. ENGINEERED FOR PROTECTION.

GORE-TEX PYRAD® PRODUCTS ARE HIGHLY BREATHABLE, DELIVERING MEANINGFUL COMFORT TO ELECTRIC UTILITY WORKERS ACROSS A BROAD RANGE OF WEATHER CONDITIONS



GORE-TEX PYRAD® FABRICS

The comfort benefits of GORE-TEX PYRAD® fabrics have been verified in extensive field use and in accordance with globally-accepted test methods¹ for breathability and comfort.

ANSI 107-15

Arc-rated rainwear products labeled as breathable, as defined by ANSI 107-15 Standard², simply means that minimal amounts of moisture can move through the fabric. However, for most utility workers a higher level of breathability is required for meaningful comfort.

HOHENSTEIN INSTITUTE

A globally recognized expert in textile science, utilizes human subject trials and laboratory test methods to determine how breathability translates to comfort for the wearer.³



ARC-RATED RAINWEAR COMPARISON (ALL TYPES) - BREATHABILITY

GARMENT TYPE	BREATHABILITY ANSI 107-15, ASTM E-96 METHOD	BREATHABILITY HOHENSTEIN INSTITUTE RATING
GORE-TEX PYRAD® Foul weather gear	PASS	SATISFACTORY or BREATHABLE
Waterproof, "Breathable" (Non-GORE-TEX) Rainwear	PASS	UNSATISFACTORY or SLIGHTLY BREATHABLE
Non-Breathable PU/PVC Rainwear	N/A	N/A

ARC-RATED RAINWEAR COMPARISON (BREATHABLE PRODUCTS) - PERFORMANCE

GARMENT TYPE	LAMINATE TYPE	WEIGHT (Fabric) ⁴	ARC-FLASH RATING ^{5,6}	CELLULOSE % FACE FABRIC (e.g. cotton, Rayon) ⁷	WATER PICK-UP (Weight gain %) New / 10 Washes	BREATHABILITY AND COMFORT Ret Range ¹	Rating ³
GORE-TEX PYRAD® Foul weather gear	GORE-TEX PYRAD® Fabric	8.3 osy	31 cal/cm ² CAT 3	0%	22% / 53%	13-15 m ² Pa/W	Satisfactory or breathable. Uncomfortable at high activity.
Generic Laminated Rainwear	Modacrylic, cotton, polyamide, anti-static/membrane/aramid	9.0 osy	24.5 cal/cm ² CAT 2	32%	68% / 108%	>30 m ² Pa/W	Unsatisfactory or not breathable. Uncomfortable at a short time tolerance.
Polyurethane-Coated Rainwear	Modacrylic, cellulose, nylon, anti-static/urethane	8.75 osy	13 cal/cm ² CAT 2	38%	41% / 73%	>30 m ² Pa/W	Unsatisfactory or not breathable. Uncomfortable at a short time tolerance.

For reference, a typical FR T-shirt and jeans has an Ret of approximately 8 m²Pa/W.

HOHENSTEIN COMFORT RATING SYSTEM

The Hohenstein Institute performed extensive research to correlate Ret values to human comfort at various activity levels. The result of this work is shown in the Comfort Rating System chart.

Ret RANGE	RATING
0 to 6 m ² Pa/W	Very good or extremely breathable. Comfortable at higher activity rate.
6 to 13 m ² Pa/W	Good or very breathable. Comfortable at moderate activity rate.
13 to 20 m ² Pa/W	Satisfactory or breathable. Uncomfortable at high activity rate.
20 to 30 m ² Pa/W	Unsatisfactory or slightly breathable. Moderate comfort at low activity rate.
30+ m ² Pa/W	Unsatisfactory or non-breathable. Uncomfortable at short tolerance time.

GORE-TEX PYRAD® PRODUCTS
DESIGNED FOR COMFORT. ENGINEERED FOR PROTECTION

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1 ISO 11092 International Standard, Textiles – Physiological effects – Measurement of Thermal and Water-Vapor Resistance Under Steady-State Conditions.

2 Section 8.6; ASTM E96-13, Standard Test Methods for Water Vapor Transmission of Materials, Procedure B - not less than 600 g/m²/24 hours; or Procedure BW- not less than 3,600 g/m²/24 hours.

3 Hohenstein rating system using Ret results and human subject feedback on comfort; Waterproof and Water Repellent Textiles and Clothing; Williams, John T., Elsevier, p 44, 2018.

4 Measured if not readily advertised

5 As advertised

6 Section 9.3 of ASTM F1891, Standard Specification for ARC and Flame resistance Rainwear

7 Measured via gravimetric analysis if not readily advertised.

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.