



Innovation for electrical utility and industrial workers: Class 2 arc protection has never been lighter

A+A 2023: Gore presents their new generation of PYRAD® technology by GORE-TEX LABS with Class 2 arc flash protection

Putzbrunn, 2 October 2023 - Standard-compliant PPE with Class 2 arc fault protection for electrical engineers is often heavy, bulky and restricts freedom of movement - with the consequence that it perhaps might not always be worn or worn incorrectly. The new generation of PYRAD® Technology by GORE-TEX LABS offers a solution to these issues because it not only protects against thermal hazards of the electric arc with the highest Class 2 protection, but also offers maximum freedom of movement and wearer comfort during indoor use and on warm days due to its low weight. With a weight of 280g/m², it is the lightest Class 2 arc fault protection technology available on the market in a single ply construction.

Gore will present this innovative technology for the first time at A+A 2023 in Düsseldorf (October 24-27, 2023) at booth G 60 in Hall 11.

The PYRAD® Technology by GORE-TEX LABS laminate combines three components in a single-ply fabric. Each component is an integral part of the fabric structure: the 100% recycled polyester face fabric, a special ePTFE membrane which, for the first time, has the protective PYRAD® technology integrated onto both sides of this membrane, and a backer which is partly made from recycled content. This new application of PYRAD® technology onto both sides of the special ePTFE membrane has enabled Gore to use new sustainable textile components for the face and backer fabric to reduce the overall weight (280g/m²) and improve the suppleness of the fabric. "This unique construction of PYRAD® Technology by GORE-TEX LABS allows for an extremely lightweight and comfortable, yet durable and highly functional garment design with the highest level of arc flash protection" explains Miguel Calixto, FR/ARC Multinorm Workwear Product Specialist at GORE-TEX Professional. With a water vapor transmission resistance (Ret value) of less than 13m² Pa/W, the new generation of technology features high breathability, resulting in less body heat accumulation - and providing a comfortable thermal wearing experience, especially during physical work.

"The new laminate's Class 2 arc protection rating gives engineers and workers in the industrial and electric utility sectors assurance that they are not only optimally protected from possible arc faults but are also completely comfortable. With this knowledge, they can fully concentrate on their important tasks," says Miguel Calixto. PYRAD® technology by GORE-TEX LABS can be used to manufacture lightweight arc flash PPE for everyday use that is just as comfortable to wear indoors as it is outdoors on warm dry days.

Low environmental footprint due to sustainable material selection and production

The technology also scores in terms of sustainability: PYRAD® technology by GORE-TEX LABS is manufactured using non-fluorinated treatments. The 100% recycled polyester outer face fabric ensures its low ecological footprint (measured by the MSI Higgs Index), and the innovative technology also complies with the OEKO-TEX® Standard 100 certification. In addition, the backer is also constructed using partly recycled content.

PYRAD® technology: real-time protection through stable char layer

The PYRAD® product technology is based on a physical effect: it consists of countless small reactive dots homogeneously distributed over the membrane. When the dots are strongly heated by a sudden flame or arc disturbance, they react and expand by more than 10 times their original size to form a stable, gapless carbon layer that effectively inhibits heat flow. The result: no burns on the skin, no burning of clothing, no holes in the textile even when exposed to the strongest heat.

Maximum safety through comprehensive protection

PYRAD® technology by GORE-TEX LABS has undergone rigorous testing in the GORE-TEX Professionals laboratories and meets the requirements of arc protection class 2 according to the European standard (IEC 61482-1-2 (Box test class 2), IEC 61482-1-1 (Arc rating ATPV ≥ 35 cal/cm²; ELIM ≥ 30 cal/cm²). In addition to arc protection, the new technology offers heat and flame protection (ISO 11612 class A1, A2, B1, C1, D1, E1, F1), antistatic properties (EN 1149-3/-5), protection against chemicals (EN 13034 type 6) and welding protection (EN ISO 116111 class 2 A1+A2 compliant).

This robust laminate is designed for tough conditions and passes durability tests such as ISO 15797 (60°C tumble dryer) and ISO 6330 (60°C wash).

Developing advanced material capabilities through constant scientific innovation runs through the core of Gore's work. GORE® PYRAD® Technology with Class 2 arc flash protection revolutionised the PPE market when it was launched in 2016. This latest innovation, PYRAD® Technology by GORE-TEX LABS, further extends the benefits of PYRAD® technology by the combination of the highest protection levels and comfort within a lightweight single textile layer.

Following the trade launch of PYRAD® Technology by GORE-TEX LABS at A+A 2023, garments utilising this new technology should be available from Gore's licenced manufacturing brand partners in the course of 2024.

Gore revolutionized the outerwear industry with waterproof, breathable GORE-TEX Fabric more than 40 years ago and remains a leading innovator of performance apparel. Gore fabrics products provide comfort and protection in challenging environments and in everyday life, enabling

wearers to safely and confidently achieve and experience more. From hiking in downpours to defense operations and fighting fires, Gore's deep understanding of consumer and industry needs drives development of products with meaningful performance advantages. gore-tex.com and goretexprofessional.com

About Gore

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