

UNPARALLELED COMFORT AND PROTECTION
GORE-TEX CROSSTECH®
PRODUCT TECHNOLOGY

GORE-TEX
PRODUCTS



WATERPROOF, BREATHABLE AND CHEMICAL RESISTANT ALL WHILE PROTECTING AGAINST VIRUSES AND BLOOD BORNE PATHOGENS



DURABLE PROTECTION AGAINST BLOOD AND BODY FLUIDS

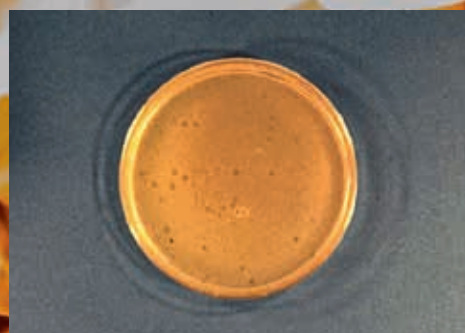
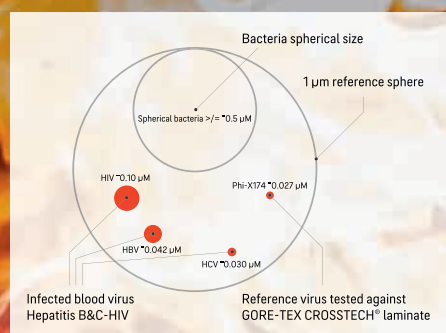
Garments, footwear and gloves engineered with GORE-TEX CROSSTECH® product technology act as a powerful barrier against viruses and other pathogens found in blood and body fluids. They also offer protection against chemicals commonly found at fire incidents. In combination with this rugged protection, GORE-TEX CROSSTECH® fabrics are durably waterproof and highly breathable, allowing firefighters and technical rescue teams to manage heat stress better. These protective benefits remain intact even after excessive heat exposure or under extreme conditions.

Over half of the calls made to emergency services do not involve fires. More often it is medical or technical help that is required, where the risk of responders being exposed to blood and chemicals is far higher. That is why firefighters and emergency staff need reliable protection against the hazards associated with exposure to viruses and other pathogens found in blood and body fluids, as well as against chemicals. Protective equipment using GORE-TEX CROSSTECH® product technology has been developed especially for the demands of these challenging tasks.

GORE-TEX CROSSTECH® fabrics offer durable protection against blood-borne viruses and other pathogens. This means that these fabrics are able to reduce the risk of transmission of potentially infected blood or other body fluids to first responders and rescue teams working in emergency situations.

GORE-TEX CROSSTECH® fabrics are tested in accordance with ISO 16604, procedure C/ASTM F 1671. For this certification the laminate and seams are tested under pressure for their resistance to penetration by blood-borne pathogens using the surrogate microbe Phi-X-174. Testing is performed when new and, depending on the end-use, after accelerated ageing (involving washing and drying cycles, plus oven testing where applicable). GORE-TEX CROSSTECH® fabrics continue to act as a powerful barrier even after intense use or exposure to extreme heat.

Measuring viral penetration resistance (in accordance with ISO 16604/ASTM F 1671)



This test method uses the surrogate microbe Phi-X-174, which roughly corresponds to the smallest dangerous pathogen (Hep C). An accelerated ageing procedure is applied to the GORE-TEX CROSSTECH® fabric before bringing it into contact with the virus solution (at a pressure of 20 kPa). Fabric penetration is determined with the help of a Petri dish containing a bacterial culture that is sensitive to the virus. If the bacteria die, the fabric has been penetrated. This becomes visible as an empty patch on the surface of the Petri dish. The absence of an empty patch indicates that the fabric forms an effective barrier against the virus. Gore carries out regular checks on the barrier performance of its fabrics, and seam tapes where applicable.



RESISTANT TO PENETRATION BY COMMON CHEMICALS

GORE-TEX CROSSTECH® protective fabrics are resistant to penetration by chemicals commonly found at fire and rescue incidents in accordance with ISO 13994/ASTM F 903:2010, method C. Such chemicals include sulphuric acid, caustic soda, petroleum/diesel and AFFF firefighting foam. Some of these fabrics also offer durable protection against penetration by chemicals in accordance with NFPA 1971. These include battery acid, hydraulic fluid, petroleum, concentrated chlorine solutions, firefighting foam and other contaminated liquids.



DURABLY WATERPROOF

GORE-TEX CROSSTECH® protective fabrics are durably waterproof. As a result, rain, hose water or hot steam is repelled before it can soak through the garment, footwear or glove. GORE-TEX CROSSTECH® protective fabrics are durably waterproof, even after coming into contact with liquid chemicals or being exposed to high mechanical stress. This means that in terms of waterproofness they perform over and above the requirements of the relevant standards.



HIGHLY BREATHABLE

GORE-TEX CROSSTECH® protective fabrics are highly breathable and promote the breathability of the entire garment, boot or glove. Sweat can easily escape through the garment to the outside in the form of water vapour.



RESISTANCE TO HEAT AND FLAME

Combined with a heat and flame resistant outer material the protective properties of GORE-TEX CROSSTEC® fabrics in garments, footwear and gloves remain intact for the lifetime, even after heat exposure.



GORE-TEX CROSSTECH® GARMENTS

FOR FIREFIGHTERS



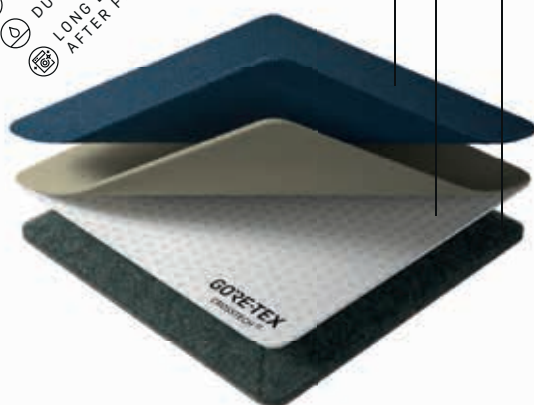
Choosing the right protective equipment is crucial to the safety of firefighters. Firefighting garments with GORE-TEX CROSSTECH® fabrics shield firefighters from the hazards associated with heat and flame while offering additional protection against penetration by pathogens found in blood and body fluids and the kind of chemicals found at fire incidents. This highly breathable firefighter protective clothing allows sweat produced during physically demanding activities to escape to the outside, enabling wearers to manage heat stress better. GORE-TEX CROSSTECH® protective fabrics are simultaneously durably waterproof. This means that rain or hose water is repelled before it can soak through the garment. Firefighting garments with GORE-TEX CROSSTECH® protective fabrics retain their thermal stability, even after extreme heat exposure, thus ensuring durable protection.

MULTIPLE LAYERS

The GORE-TEX CROSSTECH® fabric used in firefighter protective clothing typically consists of a flame retardant outer shell, a GORE-TEX CROSSTECH® moisture barrier, an additional layer of insulation and a lining. The exact order in which these layers are combined will influence the level of thermal protection and breathability provided by the garment. The variety of constructions and possible combinations of Gore technologies mean that an ideal solution can be found for almost all operational challenges.

GORE-TEX CROSSTECH® PRODUCT TECHNOLOGY

- ⊞ VERY BREATHABLE
- ⊞ BLOOD BORNE AND VIRAL PATHOGEN PROTECTION
- ⊞ CHEMICAL RESISTANT
- ⊞ FLAME RESISTANT
- ⊞ DURABLY WATERPROOF
- ⊞ LONG LASTING PERFORMANCE AFTER FREQUENT WASHING



OUTERSHELL
MOISTURE BARRIER
TEXTILE CARRIER +
GORE-TEX CROSSTECH® MEMBRANE
THERMAL BARRIER + LINING

GORE-TEX CROSSTECH® garments for firefighters meet the requirements of EN 469 Protective clothing for firefighters – Performance requirements for protective clothing for firefighting activities.

GORE-TEX CROSSTECH® GARMENTS

FOR TECHNICAL RESCUE AND EMERGENCY MEDICAL SERVICES

Responding to search and rescue incidents, pumping water out of flooded basements or repairing damage caused by severe weather are just a few of the many situations in which first responders can be exposed to potential hazards in liquids and fluids. Protective clothing engineered with GORE-TEX CROSSTECH® fabrics provide reliable protection against penetration by pathogens found in blood and other body fluids (incl. HIV, hepatitis B and C), as well as protection against rain and the chemicals commonly encountered by professionals working in emergency situations. Certain technical rescue operations, for example attending the scene of a road accident, may also require protective features such as high visibility or flame retardancy. GORE-TEX CROSSTECH® protective garments can be constructed to include such features by incorporating additional components.

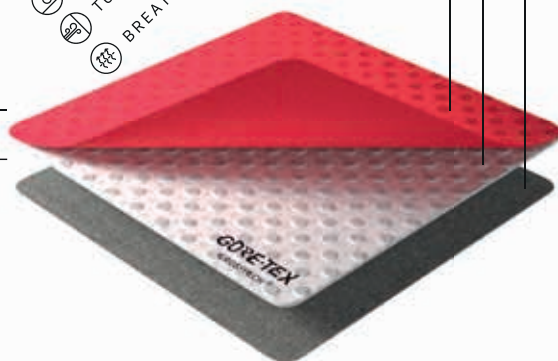
GORE-TEX CROSSTECH® garments for emergency medical responders protect against the hazards associated with pathogens found in blood and other body fluids. These waterproof garments are lightweight and comfortable to wear. They are also highly breathable and therefore ideal for working in situations involving constant changes between indoors and outdoors.

MULTIPLE LAYERS

The GORE-TEX CROSSTECH® clothing systems built for these work environments use a 2-layer laminate with a lining, or a 3-layer laminate.

GORE-TEX CROSSTECH® PYRAD® PRODUCT TECHNOLOGY

- FLAME RETARDANT
- CHEMICAL RESISTANT
- BLOOD-BORNE AND VIRAL PATHOGEN PROTECTION
- STRETCH
- LIGHTWEIGHT
- DURABLY WATERPROOF
- TOTALLY WINDPROOF
- BREATHABLE



OUTER FABRIC
GORE-TEX CROSSTECH® PYRAD® FABRIC TECHNOLOGY
FR LINER



GORE-TEX CROSSTECH® garments for technical rescue meet the requirements of DIN EN 16689, Protective clothing for firefighters – Performance requirements for protective clothing for technical rescue. They also comply with ISO 11612 – Clothing to protect against heat and flame.

GORE-TEX CROSSTECH® clothing for emergency medical services complies with DGUV regulation 105-003 Protective clothing for rescue service personnel. GORE-TEX CROSSTECH® footwear for firefighters, technical rescue and emergency medical services

GORE-TEX CROSSTECH® FIREBOOTS

FOR FIREFIGHTERS, TECHNICAL RESCUE
AND EMERGENCY MEDICAL SERVICES

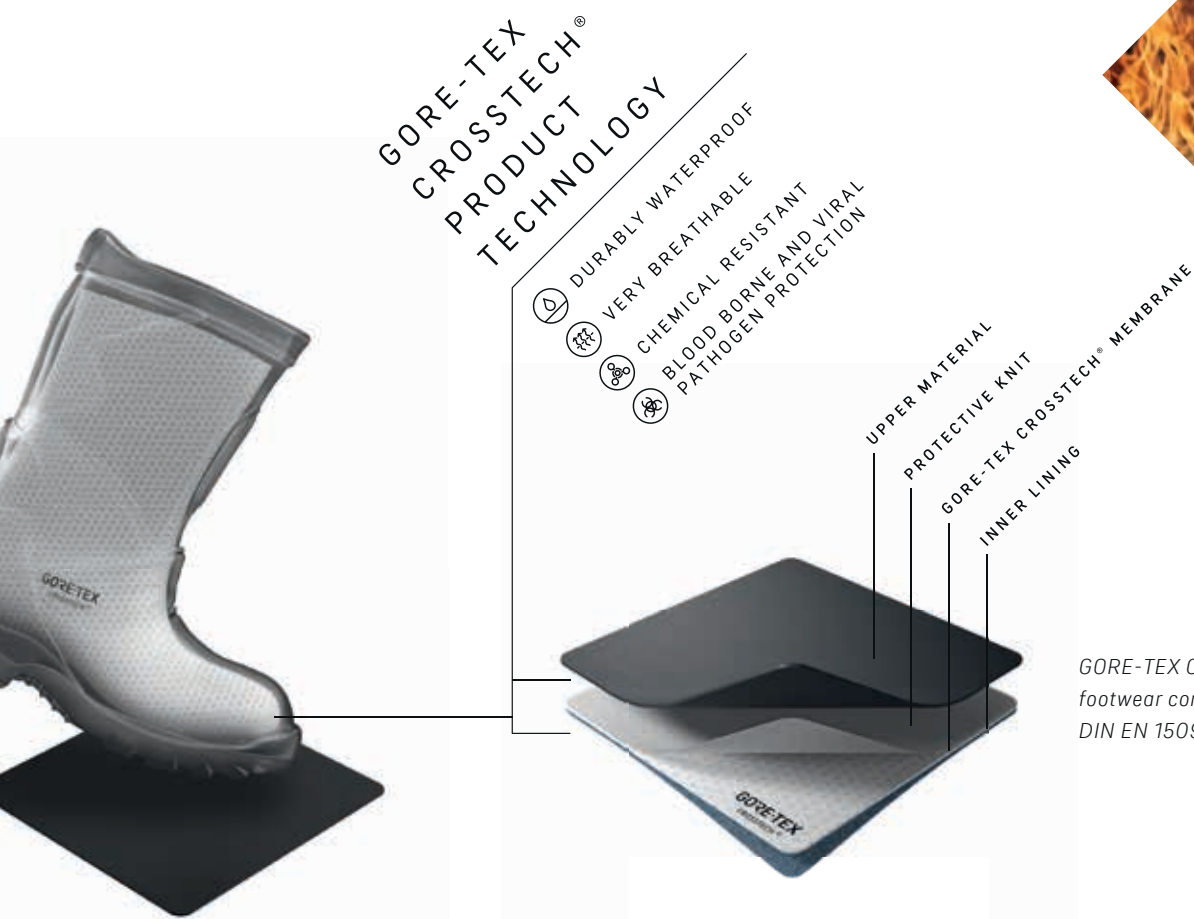
Footwear with GORE-TEX CROSSTECH® product technology is the right solution when your risk analysis identifies the need for protection against blood and other body fluids. GORE-TEX CROSSTECH® lining laminates act as a durable barrier against blood and body fluids and protect against blood-borne pathogens (in accordance with ISO 16604). They also provide reliable protection against penetration by chemicals commonly found at fire and rescue incidents in accordance with ISO 13994/ASTM F 903. These chemicals include sulphuric acid, caustic soda, diesel and AFFF firefighting foam. GORE-TEX CROSSTECH® lining laminates used in footwear certified in compliance with NFPA 1971 offer protection against penetration by common chemicals in accordance with NFPA 1971. These include battery acid, hydraulic fluid, gasoline, concentrated chlorine solutions, firefighting foam

and other contaminated liquids.

They are also durably waterproof and breathable, even after heat exposure, contamination, hard wear or heavy use. GORE-TEX CROSSTECH® fire footwear complies with the requirements of DIN EN 15090 for Europe.

MULTIPLE LAYERS

The key ingredient of GORE-TEX CROSSTECH® footwear is the multi-layer GORE-TEX CROSSTECH® lining laminate which consists of an extremely abrasion resistant textile lining, the GORE-TEX CROSSTECH® membrane and a protective knit, which in the case of firefighting boots, is combined with a heat resistant and flame-retardant upper material.



GORE-TEX CROSSTECH® firefighter footwear complies with the requirements of DIN EN 15090.

GORE-TEX CROSSTECH® GLOVES

FOR FIREFIGHTERS AND TECHNICAL RESCUE

Firefighters and technical teams working in emergency situations need gloves that offer them optimum and durable protection while also delivering a high level of comfort. In addition to the hazards of coming into contact with heat, flame and hose water, they are also at risk of exposure to blood and chemicals. Firefighter gloves with GORE-TEX CROSSTECH® glove inserts act as a reliable barrier against blood and body fluids (ISO 16604) while offering additional protection against penetration by defined liquid chemicals in accordance with EN ISO 6530 and/or ISO 13994. They are also durably waterproof and breathable, even after contamination, laundering or exposure to extreme temperatures.

MULTIPLE LAYERS

The key ingredient of these insulated firefighter gloves is the GORE-TEX CROSSTECH® glove insert. This insert consists of the GORE-TEX CROSSTECH® membrane in a variety of layered constructions. The insert is shaped in the form of a glove and has adhesive bonded seams. A special process is used to securely fix the insert between the outer shell and the (insulating) lining of the firefighting glove. A single layer, yet still highly robust, GORE-TEX CROSSTECH® glove insert has been developed especially for situations that require tactile sensitivity as well as maximum protection and comfort.

GORE-TEX CROSSTECH® PRODUCT TECHNOLOGY

- ① DURABLY WATERPROOF
- ② BREATHABLE
- ③ VERY ROBUST
- ④ BLOOD BORNE AND VIRAL PATHOGEN PROTECTION
- ⑤ CHEMICAL RESISTANT



GORE-TEX CROSSTECH® gloves meet the requirements of protective gloves for firefighters in accordance with EN 659.

