

THE TRUTH ABOUT TECGEN71

WHAT IS TECGEN71?

A Fire-Dex exclusive outer shell designed to lessen heat stress by reducing weight and increasing flexibility. TECGEN71 features rip twill construction that puts the proven durability and dependability of DuPont™ Kevlar®/Nomex® on the face of the fabric and a super structure of the TECGEN fiber inside.

WHAT IS TECGEN FIBER?

TECGEN fiber is a highly engineered fiber containing a high-density carbon shell surrounding a strong, flexible core, providing the thermal protection benefits of carbon fiber without the traditional drawbacks of compromised strength.

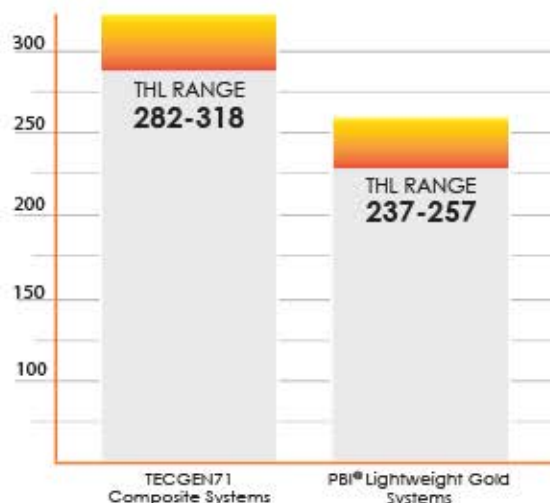
THE ADDITIONAL THERMAL PROTECTION OF TECGEN FIBER ALLOWS TECGEN71 TO BE PAIRED WITH **THE LIGHTEST** THERMAL LINERS AND MOISTURE BARRIERS AVAILABLE - ULTIMATELY YIELDING A REDUCTION IN THE TOTAL WEIGHT OF A COMPOSITE SYSTEM WITHOUT SACRIFICING TPP.



4 LBS LIGHTER THAN TRADITIONAL TURNOUTS

HOW TECGEN71 COMPARES TO INDUSTRY LEADING PREMIUM COMPOSITES

TOTAL HEAT LOSS (THL)



THERMAL PROTECTION PERFORMANCE (TPP)



TECGEN71 fabric enables the use of significantly lighter composites without sacrificing thermal protection.

WHY IS TEAR TESTING IMPORTANT FOR FIRE SAFETY?

Firefighters are often put in unpredictable and dangerous situations. It is important for PPE to uphold the safety standards outlined by NFPA to avoid injury.

NFPA requires 22 lbs of tear strength when new. TECGEN71's unique structure far exceeds this NFPA requirement while offering light weight composites with significantly better breathability & freedom of mobility.

DOES MORE STRENGTH EQUAL DURABILITY?

Based on our years of manufacturing experience collecting real world data around garment returns and complaints we, at Fire-Dex, believe that at some point, a fabric is strong enough to withstand the demands of the fire service and over engineering strength or any other property leads to unintended consequences.

Engineering fabric with excessive strength may compromise other, more important, attributes, such as breathability

WHAT ABOUT UV DEGRADATION?

You may hear stories coming from manufacturers who are threatened by the presence of TECGEN71 in the market. The truth is ALL outer shells degrade significantly with UV exposure. Even outer shells proven to be the most durable over time have 10-15 lbs of tear strength after extended exposure. The NFPA strength requirements are for new fabrics and have already taken into account the UV degradation that will occur over time.

U.S. FIREFIGHTER LODDs STATISTICS

The truth is in the numbers; turnouts are built strong enough to withstand the extreme conditions of a fireground. The focus needs to shift to Heat Stress, the current epidemic facing all firefighters worldwide.

HEAT STRESS & OVEREXERSION 59%

THE FOCUS IS ON HEAT STRESS...

The ultimate goal for Fire-Dex was to create the most flexible, lightest weight, highest THL composite systems in the market without sacrificing thermal protection or durability in the process.

The focus is to address the leading cause of Line of Duty Deaths since NFPA began tracking in 1979 - Heat Stress.

TECGEN71 is the first of its kind to address this growing safety concern with innovative technology aimed at providing the perfect balance of breathability, comfort, TPP and THL- all while offering an overall reduction in composite weight.



TECGEN71 COMPOSITE SYSTEMS ARE

10% LIGHTER

THAN PBI® LIGHTWEIGHT GOLD SYSTEMS

**KNOWLEDGE
IS POWER**

TECGEN71 is engineered with the proven durability of DuPont™ Kevlar® & Nomex®, the fibers firefighters have depended on for strength and protection for decades.

* All presented data derived from Underwriters Laboratories. (2018). Retrieved from <https://www.ul.com>.

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