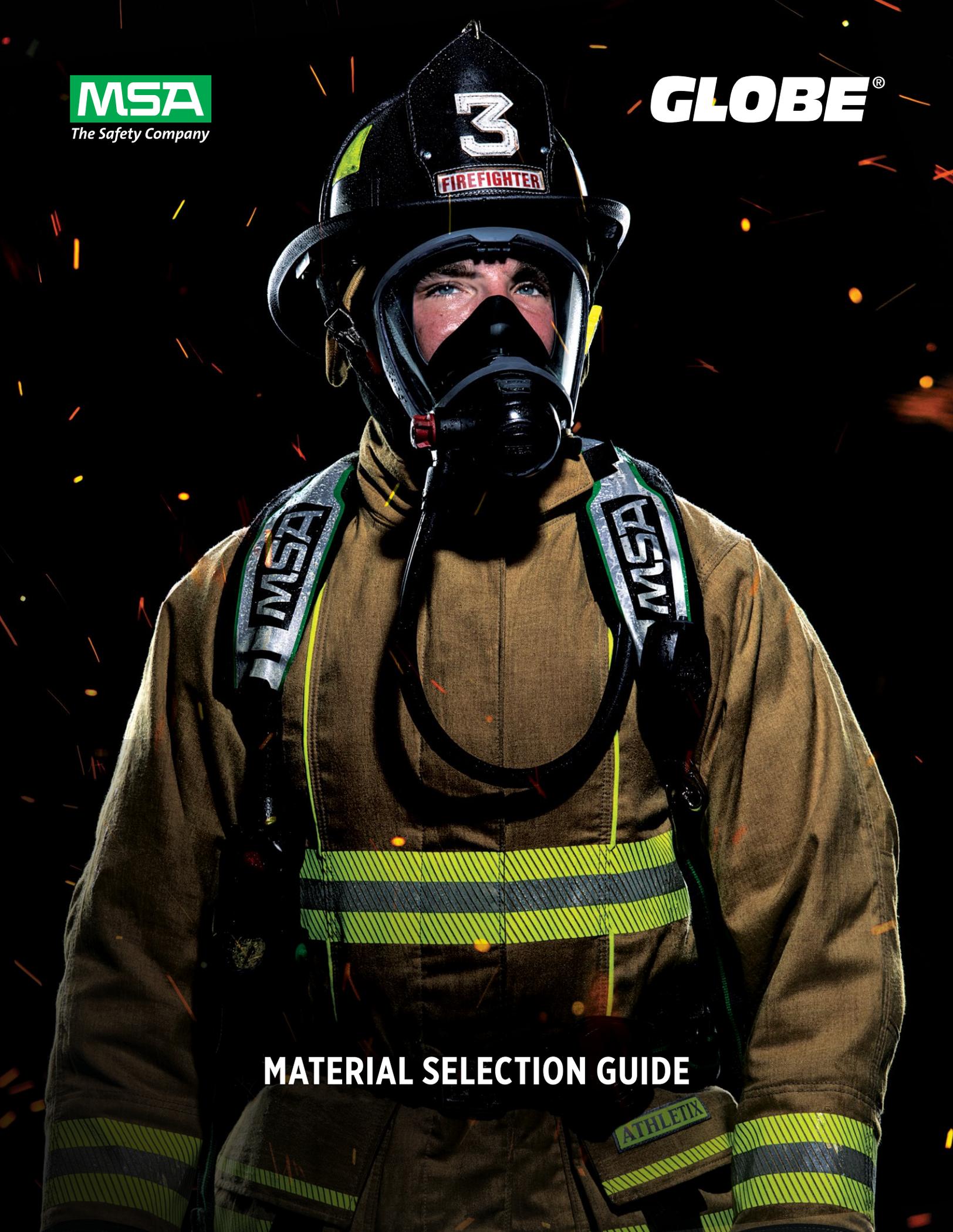


MSA
The Safety Company

GLOBE[®]

MATERIAL SELECTION GUIDE





PERFORMANCE AND PROTECTION IN PERFECT BALANCE.

OVER 130 YEARS OF INNOVATION

Globe invented turnout gear over 130 years ago. Today, we still deliver the most advanced, best-fitting, and longest-lasting protection by listening to our customers, creating breakthrough designs, and applying the engineering skills of the nation's most trusted manufacturer.

Our employees and our distributors share a passion for building “Athletic Gear for Firefighters” in their choice of styles, materials, and options. And no matter what challenges tomorrow's firefighters face, they can be sure that Globe will continue to be there to protect them.

SELECTING YOUR GEAR

Researching and evaluating the attributes of materials is an important step in the turnout gear selection process. The Selecting Your Gear section of our website provides additional resources and walks you through the process in five easy steps:

- Understanding Standards
- Creating a Risk Assessment
- Selecting a Style, Features, and Options
- Learning About Materials
- Evaluating, Specifying, and Purchasing

Contact your Globe Distributor to help select the right turnout gear materials and garment style for your department and for available certified combinations of outer shells, thermal liners, and moisture barriers.

CHECK OUT THE LATEST INNOVATION IN TURNOUT GEAR THERMAL LINERS.

DuPont™ Nomex® Nano

What if a new technology were introduced that could help reduce heat stress, decrease the weight and bulk of your turnout gear, and help increase your mobility without compromising thermal protection?

It's here — NEW DuPont™ NOMEX® NANO.

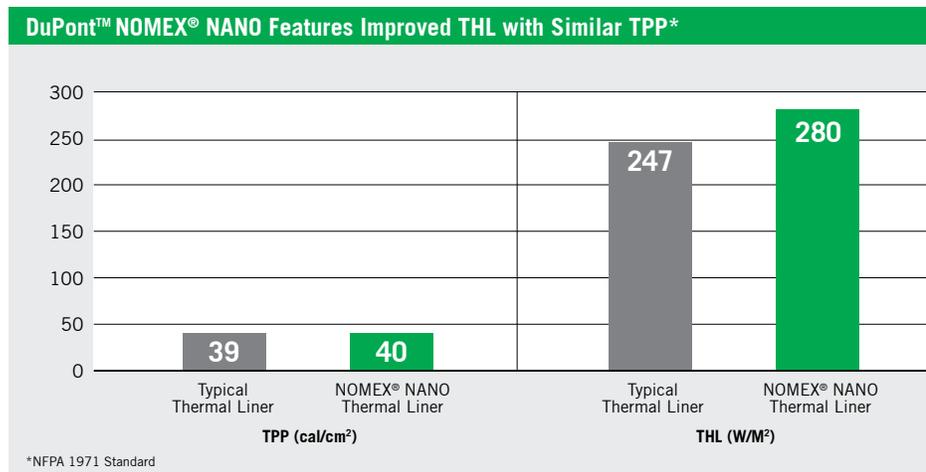
Based on the NOMEX® brand that has been trusted by firefighters around the world for more than 50 years, NOMEX® NANO represents the next generation of flame-resistant (FR) solutions from DuPont. It was developed to address the growing problem of heat stress, which is now the cause of more firefighter injuries than any other single factor.

NOMEX® NANO is specifically engineered to be thinner than other advanced FR materials used for thermal liners. In fact, NOMEX® NANO may provide up to a 40% reduction in thermal liner thickness compared to other advanced liners available today, while providing similar thermal protective performance (TPP).

That means a thermal liner of NOMEX® NANO may reduce the weight and bulk of current turnout gear systems, helping to give firefighters increased mobility and a better range of motion. What's more, NOMEX® NANO features improved total heat loss (THL) compared to typical thermal liners with similar TPP, which helps reduce heat stress.

Another way that NOMEX® NANO can help reduce heat stress is by using superior moisture management. In laboratory tests comparing moisture absorption, the thermal liner made of NOMEX® NANO showed approximately 30% more absorption capacity compared to conventional thermal liners — with equivalent drying rates.

The bottom line? The next generation of firefighter protection is here — NOMEX® NANO.



PBI® STRETCH (formerly KOMBAT™ STRETCH)

Stretch fabrics are the foundation of athletic gear in almost every active pursuit. Finally, stretch comes to the fire service – PBI® STRETCH is the first outer shell fabric certified for turnout gear. Made from a performance stretch blend of PBI®/KEVLAR®, it enables turnouts to have a body-contoured, less bulky fit while providing an unprecedented range of motion.

Content:

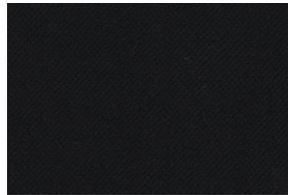
KEVLAR®/PBI®/Stretch blend

Weight:

7.4 oz/yd² twill weave

Supplier:

TenCate Protective Fabrics



PBI® STRETCH
Black*



PBI® STRETCH
Gold

KOMBAT™ FLEX with PBI Technology

KOMBAT™ FLEX balances protection with comfort and flexibility. Using a blend of KEVLAR®/PBI® blend spun yarn with composite spun wrapped filament grid yarn fibers, it provides exceptional performance and durability.

Content:

KEVLAR®/PBI®

Weight:

6.9 oz/yd² twill weave

Supplier:

TenCate Protective Fabrics



KOMBAT™ FLEX
Gold



KOMBAT™ FLEX
Black*

PBI® XT (formerly GEMINI™ XT)

PBI® XT features a high-tech grid of composite filament and spun yarns, including a blend of KEVLAR® and PBI® fibers that provide strength, thermal stability, and superior abrasion resistance.

Content:

KEVLAR®/PBI® blend spun yarn with composite spun wrapped filament grid yarn

Weight:

7.5 oz/yd² plain weave reinforced with high-strength filament grid

Supplier:

TenCate Protective Fabrics



PBI® XT
Gold



PBI® XT
Black*

AGILITY™

This KEVLAR®/NOMEX®/PBO blend outer shell from TenCate provides a step up in performance from their ULTRA™ outer shell due to the innovative ENFORCE™ Technology, while being lighter and more flexible.

Content:

KEVLAR®/NOMEX®/PBO blend

Weight:

6.6 oz/yd² twill weave

Supplier:

TenCate Protective Fabrics



AGILITY™
Light Gold



AGILITY™
Dark Gold



AGILITY™
Black Gold*

GLOBE TURNOUT GEAR FABRICS – OUTER SHELLS

PBI MAX[®]

PBI MAX[®] is remarkably flexible, lighter weight, and strong. With the proven protection of PBI[®] and the strength of KEVLAR[®] Filament Technology, this shell fabric provides incredible flexibility.

Content:

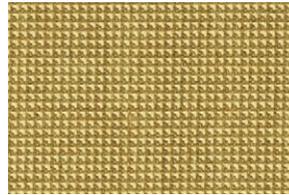
“PBI[®] Dominant” PBI[®]/KEVLAR[®] blend spun yarn with KEVLAR[®] filament yarn

Weights:

7.0 oz/yd² twill weave
6.0 oz/yd² twill weave

Supplier:

Safety Components



PBI MAX[®]
Gold



PBI MAX[®]
Black*

ARMOR[™] AP

This lightweight shell fabric uses KEVLAR[®] Filament Technology for added strength and flexibility.

Content:

KEVLAR[®]/NOMEX[®]

Weight:

6.5 oz/yd² twill weave

Supplier:

Safety Components



ARMOR[™] AP
Gold



ARMOR[™] AP
Black*



ARMOR[™] AP
Tan/Khaki

PIONEER[™]

This KEVLAR[®]/NOMEX[®] blend outer shell is even lighter and more flexible but still delivers the strength and durability you need, due to TenCate's innovative ENFORCE[™] Technology. If you're in ADVANCE[™] or similar outer shells, you owe it to yourself to check out PIONEER[™].

Content:

KEVLAR[®]/NOMEX[®] blend spun yarn

Weight:

6.6 oz/yd² twill weave

Supplier:

TenCate Protective Fabrics



PIONEER[™]
Gold



PIONEER[™]
Light Gold



PIONEER[™]
Tan/Khaki



PIONEER[™]
Yellow



PIONEER[™]
Black*

BRIGADE[™] 750 (formerly DEFENDER[™] 750)

With decades of proven performance, BRIGADE[™] 750 still provides basic protection at an affordable price.

Content:

KEVLAR[®]/NOMEX[®]

Weight:

7.5 oz/yd² plain weave

Supplier:

TenCate Protective Fabrics



BRIGADE[™] 750
Yellow



BRIGADE[™] 750
Black*



BRIGADE[™] 750
Red



BRIGADE[™] 750
Tan/Khaki



BRIGADE[™] 750
Natural/White

CALDURA® ELITE NOMEX® NANO

New NOMEX® NANO significantly reduces the weight and bulk of current turnout gear systems, helping to give firefighters increased mobility and better range of motion. What's more, NOMEX® NANO features improved total heat loss (THL) compared to typical thermal liners with similar thermal protective performance (TPP), which helps reduce heat stress. Quilted to CALDURA® ELITE for remarkable flexibility and light weight. Recommended for use with TenCate outer shells.

Face Cloth:

KEVLAR® filament yarn with LENZING FR®/KEVLAR®/nylon blend spun yarn, twill weave

Batting:

1 layer of NOMEX® NANO (0.6 oz/yd²) plus 1 layer of NOMEX® nonwoven spunlace (2.3 oz/yd²)

Total Weight:

6.7 oz/yd²

Supplier:

TenCate Protective Fabrics



CALDURA® ELITE NOMEX® NANO

QUANTUM4i™

PBI® blend apertured batting provides improved thermal protection and lighter weight. COOLDERM™ Technology face cloth provides active moisture wicking, evaporative cooling effect, and flexibility. Only available with PBI® Lightweight Gold™ System.

Face Cloth:

KEVLAR® filament yarn with LENZING FR®/KEVLAR®/nylon spun yarn, check weave

Batting:

2 layers of PBI®/NOMEX® nonwoven apertured spunlace (1 layer of 1.4 oz/yd² and 1 layer of 1.8 oz/yd²)

Total Weight:

7.0 oz/yd²

Supplier:

TenCate Protective Fabrics



QUANTUM4i™

QUANTUM3D™ SL2i

A special waffle design is built into one of the batting layers to trap more air without adding weight, and the new face cloth weave is inherently wicking. Only available with TenCate outer shells.

Face Cloth:

KEVLAR® filament yarn with LENZING FR®/KEVLAR®/nylon spun yarn, check weave

Batting:

NOMEX®/KEVLAR® blend nonwoven spunlace (1 layer of 2.3 oz/yd² with waffle design and 1 layer of 1.5 oz/yd²)

Total Weight:

7.7 oz/yd²

Supplier:

TenCate Protective Fabrics



QUANTUM3D™ SL2i

CALDURA® ELITE SL2i

This thermal liner has been our most popular when used in combination with many of our high-performance outer shells and our latest designs. The new face cloth helps you slide easily in and out of your turnout gear, and the quilted package is remarkably light and flexible.

Face Cloth:

KEVLAR® filament yarn with LENZING FR®/KEVLAR®/
nylon blend spun yarn, twill weave

Batting:

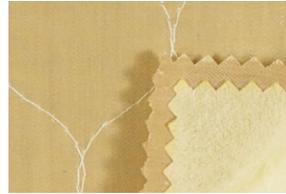
2 layers of NOMEX® nonwoven spunlace
(1 layer each of 2.3 oz/yd² and 1.5 oz/yd²)

Total Weight:

7.7 oz/yd²

Supplier:

TenCate Protective Fabrics



CALDURA® ELITE SL2i

DEFENDER® M ELITE SL2

DEFENDER® M ELITE SL2 provides superior moisture management and comfort. The face cloth utilizes the same fiber blend as used in uniforms worn by the military.

Face Cloth:

LENZING FR®/para-aramid/nylon blend spun yarn,
plain weave

Batting:

2 layers of NOMEX® nonwoven spunlace
(2 layers of 2.3 oz/yd²)

Total Weight:

7.8 oz/yd²

Supplier:

TenCate Protective Fabrics



DEFENDER® M ELITE SL2
Camo



DEFENDER®
M ELITE SL2
Brass

DEFENDER® M ELITE NP

Combining the superior moisture management and comfort of the DEFENDER® M ELITE face cloth with the proven protection and value of a single layer KEVLAR®/NOMEX® needlepunch blend batt, this new offering is an excellent upgrade from ARALITE® NP.

Face Cloth:

LENZING FR®/para-aramid/nylon
blend spun yarn, plain weave

Batting:

1 layer of needlepunch nonwoven

Total

Weight: 7.0 oz/yd²

Supplier:

TenCate Protective Fabrics



DEFENDER® M ELITE NP
Brass

GLIDE ICE™ NOMEX® NANO

New NOMEX® NANO significantly reduces the weight and bulk of current turnout gear systems, helping to give firefighters increased mobility and better range of motion. What's more, NOMEX® NANO features improved total heat loss (THL) compared to typical thermal liners with similar thermal protective performance (TPP), which helps reduce heat stress. Quilted to the latest low-friction GLIDE ICE™ face cloth for optimum comfort. Recommended for use with Safety Components outer shells.

Face Cloth:

60% NOMEX® filament yarn with 40% NOMEX® / LENZING FR® blend spun yarn, twill weave

Batting:

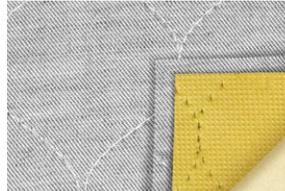
1 layer of NOMEX® NANO (0.6 oz/yd²) plus 1 layer of NOMEX® nonwoven spunlace (2.3 oz/yd²)

Total Weight:

6.5 oz/yd²

Supplier:

Safety Components



GLIDE ICE™
NOMEX® NANO

GLIDE ICE™ PBI® G2

GLIDE ICE™ PBI® G2 offers a slick, flexible face cloth with an FR® rayon blend for improved hand. Quilted to two apertured batting layers blended with PBI® fiber to reduce weight at equivalent thermal protection. Only available with PBI® Lightweight Gold™ System.

Face Cloth:

60% NOMEX® filament yarn with 40% NOMEX® / LENZING FR® blend spun yarn, twill weave

Batting:

PBI®/NOMEX® blend nonwoven apertured spunlace (1 layer of 1.4 oz/yd² and 1 layer of 1.8 oz/yd²)

Total Weight:

6.8 oz/yd²

Supplier:

Safety Components



GLIDE ICE™ PBI® G2

GLIDE ICE™

Low friction, flexibility, and comfort all rolled up in one.

Face Cloth:

60% NOMEX® filament yarn with 40% NOMEX® / LENZING FR® blend spun yarn, twill weave

Batting:

2 layers of NOMEX® nonwoven spunlace (1 layer each of 2.3 oz/yd² and 1.5 oz/yd²)

Total Weight:

7.4 oz/yd²

Supplier:

Safety Components



GLIDE ICE™

DRAGONHIDE®

This specially engineered fabric combines the flexibility of shell materials with outstanding abrasion resistance. It is nonskid, nonabsorbent, and easy to clean.

Content:

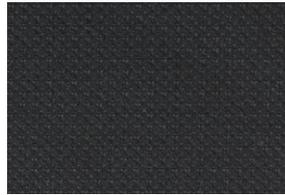
Para-aramid/meta-aramid spun yarn, twill weave, polymer-coated back

Weight:

10.0 oz/yd²

Supplier:

Proprietary to Globe



DRAGONHIDE®
Black

ARA-SHIELD®

This material is easy to clean, offers exceptional strength, and is double coated to prevent moisture absorption.

Content:

KEVLAR® spun yarn, twill weave, polymer coated on both sides

Weight:

16.5 oz/yd²

Supplier:

TenCate Protective Fabrics



ARA-SHIELD®
Grey



ARA-SHIELD®
Black



ARA-SHIELD®
Gold

LEATHER

Globe leather is an economical and durable reinforcement option, especially suited for training activities.

Content:

Chrome tanned cowhide, suede surface

Thickness:

1.0–1.2 mm

Supplier:

Proprietary to Globe



LEATHER
Grey



LEATHER
Black

SILIZONE®

SILIZONE® foam padding is a flame-resistant, nonabsorbent, flexible silicone foam material. Its excellent insulating properties increase thermal protection, and its resistance to compression improves comfort when crawling and kneeling.

Content:

Closed-cell silicone foam

Thickness:

0.25 inch

Supplier:

Proprietary to Globe



SILIZONE®

Gore® PARALLON™ LINER SYSTEM

While CROSSTECH® moisture barriers provide the highest level of breathability in traditional turnout gear, the new GORE® PARALLON™ Liner System offers the next level of performance. The new level of breathability and the enhanced thermal protection are only achievable with this unique multi-barrier liner system that replaces the moisture barrier and thermal liner in conventional gear.

Exterior Layer:

NOMEX® fabric woven from spun fibers (pajama check), plain weave, coupled with proprietary GORE™ ePTFE film

Middle Layer:

Meta-aramid/para-aramid non-woven, coupled with proprietary GORE™ ePTFE film

Body-Side Layer:

60% KEVLAR® filament yarn/40% NOMEX®/LENZING® FR blend spun yarn, twill weave, coupled with proprietary GORE™ ePTFE film

Supplier:

W.L. Gore & Associates



GORE® PARALLON™
LINER SYSTEM

Gore® CROSSTECH® 3-LAYER MOISTURE BARRIER

For those who want the highest durability in the most rigorous situations, GORE® CROSSTECH® 3-LAYER moisture barrier provides the best durability/THL/TPP combinations possible.

Substrate (face):

NOMEX® fabric woven from spun fibers (pajama check)

Substrate (back):

NOMEX® fabric woven from spun fibers (proprietary weave)

Membrane:

Enhanced bicomponent GORE™ ePTFE film

Supplier:

W.L. Gore & Associates



GORE® CROSSTECH®
3-Layer Moisture Barrier

Gore® CROSSTECH® BLACK MOISTURE BARRIER

This moisture barrier has earned a well-deserved reputation for being the best in the world. As the inventor of liquid-resistant and breathable ePTFE films, W.L. Gore & Associates has spent three decades improving this critical technology. The GORE® CROSSTECH® Black moisture barrier is widely recognized for being the most protective and the most breathable in the widest range of conditions.

Substrate:

NOMEX® fabric woven from spun fibers (pajama check)

Membrane:

Enhanced bicomponent GORE™ ePTFE film

Supplier:

W.L. Gore & Associates



GORE® CROSSTECH®
Black Moisture Barrier

GORE® RT7100 MOISTURE BARRIER

For those who need premium performance at a value price, GORE® RT7100 moisture barrier provides an excellent choice.

Substrate:

NOMEX® nonwoven spunlace

Membrane:

Enhanced bicomponent GORE™ ePTFE film

Supplier:

W.L. Gore & Associates



GORE® RT7100 Moisture Barrier

STEDAIR® GOLD

STEDAIR® GOLD is the light and more flexible moisture barrier that is part of the PBI® Lightweight Gold™ System, using a PBI®/KEVLAR®/NOMEX® blend substrate for maximum thermal stability and flexibility. Also available with numerous other outer shell and thermal liner composites.

Substrate:

PBI®/KEVLAR®/NOMEX® blend woven fabric

Membrane:

Bicomponent ePTFE

Supplier:

Stedfast



STEDAIR® GOLD

STEDAIR® 3000

This barrier has earned a reputation for solid performance and durability at an affordable price.

Substrate:

NOMEX® nonwoven spunlace

Membrane:

Bicomponent ePTFE

Supplier:

Stedfast



STEDAIR® 3000

3M™ SCOTCHLITE™ COMFORT TRIM

New 3M™ SCOTCHLITE™ COMFORT TRIM reflective material is segmented and heat sealed to be lighter, more flexible, and breathable without sacrificing daytime and nighttime visibility. The reflective surface is composed of wide-angle, exposed retroreflective lenses (glass beads) integrally centered on a fluorescent background color bonded to a heat-activated adhesive.

Width:
3"



3M™ SCOTCHLITE™
COMFORT TRIM
Lime/Yellow

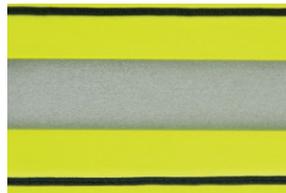


3M™ SCOTCHLITE™
COMFORT TRIM
Red/Orange

3M™ SCOTCHLITE™

Our most popular choice for overall proven performance and affordability, 3M™ SCOTCHLITE™ incorporates a center silver stripe impregnated into the 3M™ SCOTCHLITE™ trim. The reflective surface of this solid-color fluorescent trim is composed of wide-angle retroreflective lenses (glass beads) bonded with a special polymer layer to a durable, flame-resistant backing. Available with red/orange or lime/yellow, offering both fluorescence for daytime visibility and superior reflective properties for nighttime visibility.

Width:
3"



3M™ SCOTCHLITE™ TRIPLE TRIM
Lime/Yellow with Silver Center



3M™ SCOTCHLITE™
TRIPLE TRIM
Red/Orange with Silver
Center



3M™ SCOTCHLITE™
Lime/Yellow



3M™ SCOTCHLITE™
Red/Orange

ORALITE® ULTRA BRILLIANCE™

ORALITE® ULTRA BRILLIANCE™ is composed of cube corner (microprism) retroreflective elements bonded to a flexible, smooth-surfaced, weather-resistant, UV-stabilized polymeric film. The prism surfaces are metalized to protect them from dirt and moisture.

Width:
3"

NOTE: Must specify "With Stripe" or "Two Tone"



ORALITE® ULTRA BRILLIANCE™
WITH STRIPE
Lime/Yellow with Lime Center



ORALITE®
ULTRA
BRILLIANCE™
Lime/Yellow



ORALITE® ULTRA BRILLIANCE™
Two Tone Lime/Yellow



ORALITE®
ULTRA
BRILLIANCE™
Two Tone Red/
Orange

GLOBE TURNOUT GEAR – TRIM STYLES



NYC 3" Trim



NFPA BASIC 3" Trim

NFPA Basic is NYC without the upper sleeve bands.

Upper sleeve trim bands are not required on NFPA-compliant jackets. With the emphasis on lightweight, breathable garments, not having the upper sleeve trim band allows the sleeve to be more flexible, provides increased breathability, and even reduces cost.

NOTE: CLASSIX' SE can only be ordered with the NYC or NFPA Basic trim packages. ATHLETIX™ is only available with 3M™ SCOTCHLITE™ COMFORT TRIM.



PROJECT FIRES 3" Trim



NFPA VERTICAL 3" Trim

NFPA Vertical is Project Fires without the upper sleeve bands.



PROJECT FIRES II 3" Trim



NFPA Vertical II 3" Trim

NFPA Vertical II is Project Fires II without the upper sleeve bands.



HIGH VISIBILITY 3" Trim



NFPA HIGH VISIBILITY 3" Trim

NFPA High Visibility is High Visibility without the upper sleeve bands.



HIGH VISIBILITY II 3" Trim



NFPA HIGH VISIBILITY II 3" Trim

NFPA High Visibility II is High Visibility II without the upper sleeve bands.

CHECK OUT THESE INNOVATIVE

GORE® PARALLON™

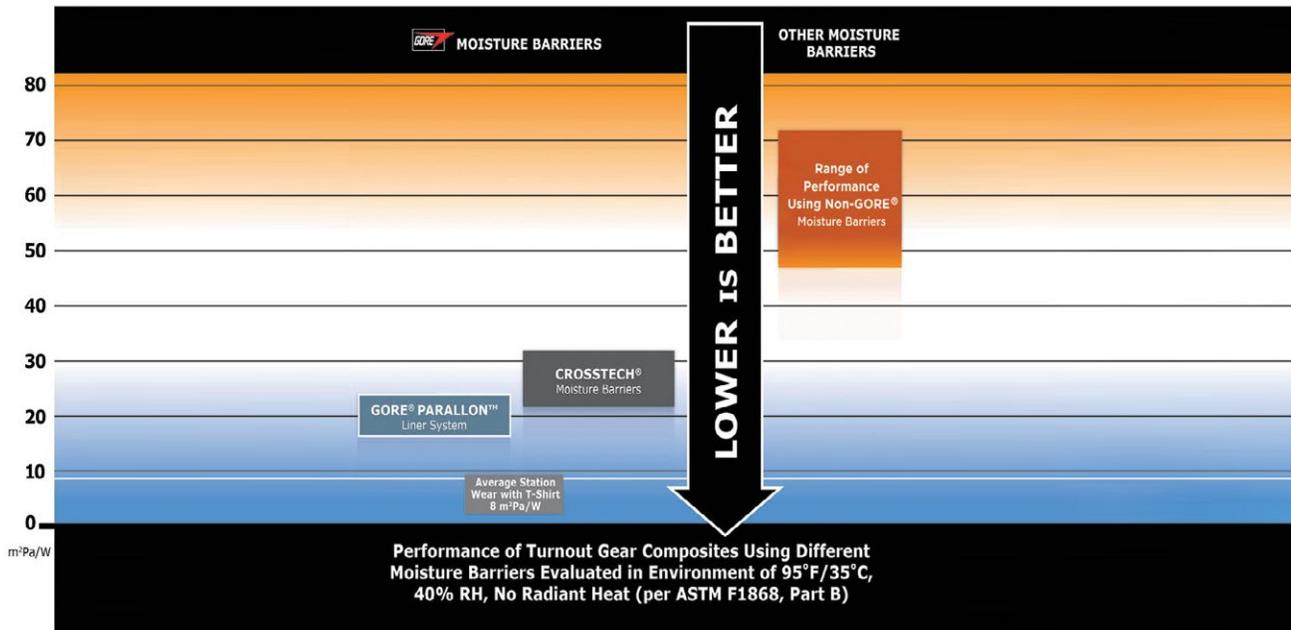
LINER SYSTEM

A Revolutionary Shift in What's Possible

Now it's possible to achieve unparalleled levels of breathability, while also preventing serious drops in thermal protection that can occur as your gear gets wet, particularly from sweat. The new level of breathability and the enhanced thermal protection are only achievable with the GORE® PARALLON™ Liner System – a unique multi-barrier liner system that physically replaces the moisture barrier and thermal liner in conventional gear.

Breathability Beyond THL Test Conditions

Resistance to the Evaporation of Sweat (Ret)



When tested using the ASTM F1868, Part B method, GORE® barrier technologies created less resistance to evaporative sweat transfer, enabling higher breathability when evaluated in the same outer shell and thermal liner combinations.

TURNOUT GEAR FABRIC SYSTEMS.



Lighter and More Flexible, with the Protection of PBI® Fiber in Every Layer

The PBI® Lightweight Gold™ System is the latest innovation in structural system technologies developed by PBI Performance Products, Inc. This high heat and flame protective system offers lightweight structural composites with no compromise to protection. The PBI® Lightweight Gold™ System is the ultimate in lightweight protection, comfort, and durability.



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