



GLOVES & IMPORTS LTD.

CARBON X

Discover comfort, durability,
and ultimate protection against
heat and flame



PRODUCT CATALOGUE



CarbonX®
Setting a new
standard in
comfort and
protection for
industrial workers
and high-risk
occupations

CarbonX® Heat and Flame Resistant Products

From fighting battles to fighting fires to pouring liquid steel to racing at over 480 km/hr, professionals in high-risk occupations insist that their protective apparel be made from CarbonX® fabrics.

While other fire resistant fabrics provide some protection against flames, eventually they all melt or break down, leaving users vulnerable and often seriously injured. Only CarbonX® stands up to heat or flames up to 3,000 degrees, so only CarbonX® provides the ultimate protection and 100% peace-of-mind.

CarbonX® fabrics are based on patented blends of high-performance fibers that will not ignite, burn, char, shrink or significantly decompose when exposed to intense flame, molten metal, arc flash or high heat. Even after intense exposure, CarbonX® maintains its integrity and continues to protect. CarbonX® also disperses heat evenly and slowly, dramatically increasing the time it takes for heat to penetrate the next layer of fabric and reducing the risk of radiant burns.

When exposed to intense heat or flame CarbonX® will not burn because the actual fibers will carbonize and then expand, removing virtually all of the oxygen from the fabric. This is why CarbonX® consistently outperforms other FR fabrics in standard industry tests. For example, CarbonX® has earned a Limit of Oxygen Index (LOI) rating that is 50% higher than other alternatives. It has also received the highest ratings available for NFPA 2112 and NFPA 70E standards.

In addition to its great FR qualities, CarbonX® is extremely durable. It is abrasion resistant, UV resistant and durable to repeated laundering. CarbonX® is breathable, odor resistant, and has excellent moisture regain along with minimal moisture retention. With its lightweight, soft cotton-like texture, you don't have to sacrifice comfort to gain the superior protection that only CarbonX® can provide. All these capabilities are why CarbonX® is the best non-flammable fabric on the market today.



NFPA 2112 HIGHEST RATING
NFPA 70E HIGHEST RATING
CGSB 155.20 APPROVED

FIRE

CarbonX® is the ultimate protection against flame

When flame resistance is absolutely critical in your personal protective equipment (PPE), look to a CarbonX® solution to deliver the ultimate peace of mind. Professionals exposed to the possibility of fire on the job demand the highest levels of protection and CarbonX® delivers unequalled safety and comfort.



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ARC FLASH

CarbonX® protects against extreme heat

Arc flashing can produce temperatures up to 35,000° F in less than a second. CarbonX® clothing provides the best possible protection against electrical arcing injuries because it distributes heat evenly and maintains its integrity - even under the extreme conditions caused by electrical arcing. Hoods and garments made with CarbonX® meet National Fire Protection Association (NFPA) Standard 70E, requiring employees to wear flame resistant clothing that meets ASTM F1506 and CSA Z462 - 2008 requirements where there is a possibility of an electric arc flash.

MOLTEN METAL

CarbonX® protects in splash metal environments

CarbonX® is ideal for industrial splash metal environments because it provides the slowest heat transfer rates of any heat resistant fabric in the world: a shedding, non-stick surface that repels most molten metals, and a unique composition that will not ignite, char, or crack – even under the most extreme conditions. As a result, CarbonX® has already gained a reputation for dramatically reducing the number and severity of workplace burn injuries.



HEAT

CarbonX® withstands heat

Besides protection from direct flame, CarbonX® withstands heat extremely well. For example, at approximately 600° F., the leading FR fabrics burn, begin to shrink while charring, then crack and decompose. This is all in about 10 seconds. Under the same conditions, CarbonX® is not affected in any way. It even disburse the heat energy and will take about 60 seconds before the heat will start penetrating the next layer of fabric.



96 CarbonX® Gloves

Applications:

High-performance tactile gloves for conditions requiring superior heat, flame, molten metal and electrical arc resistance

CarbonX® gloves are ideal for:

Fire Safety, Industrial Safety, Welding, Military, Law Enforcement and Corrections



Mechanics Glove

96-1-9200

- Heavy elastic wristband with hook and loop closure for a secure fit and protection from debris, sparks and flame
- Padded knuckle protection
- 100% CarbonX® 10 oz. Double Jersey outer shell for extreme protection against heat and flame
- Nomex III® lining for additional thermal protection
- Pittards® FIREBLOC™ leather palm, fingertips and back-hand
- Pittards® DIGITAL™ textured leather pattern provides superior wet or dry grip
- Sewn with black Kevlar® thread
- Anatomically designed for maximum comfort and reduced hand fatigue

Sizes: S-2XL

96-1-9201*
w/Dyneema® Liner



Performance Glove

96-1-9205

- Heavy elastic wristband with hook and loop closure for a secure fit and protection from debris, sparks and flame
- Padded knuckle protection
- Integrated 5" sleeve extension for additional wrist and forearm protection
- 100% CarbonX® 10 oz. Double Jersey outer shell for extreme protection against heat and flame
- Nomex III® lining for additional thermal protection
- Pittards® FIREBLOC™ leather palm, fingertips and back-hand
- Pittards® DIGITAL™ textured leather pattern provides superior wet or dry grip
- Sewn with black Kevlar® thread
- Anatomically designed for maximum comfort and reduced hand fatigue

Sizes: S-2XL





Multi Task Glove

96-1-9210

- Leather hook and loop closure for a secure fit and protection from debris, sparks and flame
- Padded knuckle protection
- Extra-long 6" gauntlet cuff for over-suit protection
- 100% CarbonX® 10 oz. Double Jersey outer shell for extreme protection against heat and flame
- Nomex III® lining for additional thermal protection
- Pittards® FIREBLOC™ leather palm, fingertips and back-hand
- Pittards® DIGITAL™ textured leather pattern provides superior wet or dry grip
- Sewn with black Kevlar® thread
- Anatomically designed for maximum comfort and reduced hand fatigue

Sizes: S-2XL

Applications:

High-performance tactile gloves for conditions requiring superior heat, flame, molten metal and electrical arc resistance

CarbonX® gloves are ideal for:

Fire Safety, Industrial Safety, Welding, Military, Law Enforcement and Corrections

Tactical Glove

96-1-9215

- Elastic wrist for a snug fit
- Rubber hook and loop wrist closure
- Long 5" gauntlet cuff for over-suit protection
- Double layer palm wear areas with gel-packs for additional comfort and impact protection
- High-impact knuckle and finger protectors
- 100% CarbonX® 10 oz. Double Jersey outer shell for extreme protection against heat and flame
- Nomex III® lining for additional thermal protection
- Pittards® FIREBLOC™ leather palm, fingertips and back-hand
- Pittards® DIGITAL™ textured leather pattern provides superior wet or dry grip
- Sewn with black Kevlar® thread
- Anatomically designed for maximum comfort and reduced hand fatigue

Sizes: S-2XL



CarbonX® Base Layer

Applications:

Where maximum protection from heat, flame, molten metal and electric arc are required

CarbonX® Base Layer is ideal for:

Industrial Workers, Workers exposed to electric arc flash hazards, Firefighters, Motor sports drivers and crews

CarbonX® Base Layer products provide the best possible protection against heat and flame where it matters most – right next to your skin.

CarbonX® Base Layer products are made from a comfortable, lightweight Interlock Knit fabric with all of the heat and flame-resistant properties CarbonX® is known for. The CarbonX® knit is soft, breathable, and wicks away moisture. These characteristics – combined with the remarkably breathable, comfortable, and odor-resistant nature of CarbonX® – mean you'll never have to sacrifice comfort to find the protection you deserve.



Long Sleeve Shirt

96-1-9020

Double Jersey Interlock Knit fabric (7.7 oz.)

Sizes: S-4XL

ATPV Rating 12.3/cals

Long Underwear

96-1-9030

Double Jersey Interlock Knit fabric (7.7 oz.)

Sizes: S-4XL

ATPV Rating 12.3/cals



CarbonX® Base Layer

96

Long Sleeve Hoody

96-1-9035

Double Jersey Interlock Knit fabric (7.7 oz.)

Sizes: S-4XL

ATPV Rating 12.3/cals



Applications:

Where maximum protection from heat, flame, molten metal and electric arc are required

CarbonX® Base Layer is ideal for:

Industrial Workers, Workers exposed to electric arc flash hazards, Firefighters, Motor sports drivers and crews

Hood/Balaclava

96-1-9040

Double Jersey Interlock Knit fabric (11 oz.)

Sizes: One size fits all

ATPV Rating 23/cals



Performance Socks

96-1-9060

Double Jersey Interlock Knit fabric (7.7 oz.)

Sizes: 17" Length

ATPV Rating 12.3/cals



Performance Laces

96-1-9071

Double Jersey Interlock Knit fabric (7.7 oz.)

Sizes: 72" Length



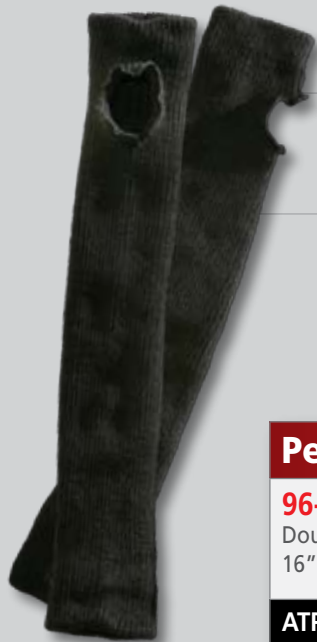
CARBON X

Applications:

Where maximum protection from heat, flame, molten metal and electric arc are required

CarbonX® Base Layer is ideal for:

Industrial Workers, Workers exposed to electric arc flash hazards, Firefighters, Motor sports drivers and crews



Performance Sleeve

96-1-9050

Double Jersey Interlock Knit fabric (7.7 oz.)
18" Length w/Thumbhole

ATPV Rating 13.8/cals

Performance Sleeve

96-1-9055

Double Jersey Interlock Knit fabric (7.7 oz.)
16" Length w/Elastic Wrist

ATPV Rating 13.8/cals



Glove Liner

96-1-9080

Double Jersey Interlock Knit fabric (7.7 oz.)
Seamless Knit Construction

Sizes: S & L

ATPV Rating 8.6/cals

Long Sleeve Glove Liner

96-1-9081

Double Jersey Interlock Knit fabric (7.7 oz.)
Seamless Knit Construction

ATPV Rating 8.6/cals



CarbonX® Hard Hat Liners

96

Hard Hat Liner w/Chin Strap

96-1-405

- Velcro chin strap



Applications:

Extreme cold conditions where maximum protection from heat, flame, molten metal and electric arc are required

Hard Hat Liner Features:

- Standard hard hat loops and suspension pass-through eyelets
- Tough CarbonX® Twill Outer shell (6.0 oz.)
- Kevlar Stitching
- Brushed Quilted Cotton Lining
- Soft and comfortable CarbonX® Double Jersey Knit inner lining (7.7 oz)

Hard Hat Liner w/Face Mask

96-1-415

- Breathable Face Mask
- Velcro chin strap



Hard Hat Liner Shoulder Length w/Face Mask

96-1-425

- Complete wrap-around long neck coverage with Velcro closure
- Breathable Face Mask



Hard Hat Liner w/Zip-off Extension

96-1-430

- Cap liner with zip-off extension



CARBON X

Applications:

Welding and fabrication - anywhere maximum protection from heat, flame, molten metal and electric arc are required

CarbonX® Outerwear is ideal for:

Fire Safety, Industrial Workers, Welding and high risk occupations

CarbonX® Outerwear products – setting a new standard in comfort and protection for industrial workers and high risk occupations.

CarbonX® Outerwear products, made from Woven Twill fabric, offer better ounce-for-ounce protection than traditional plastic-based or treated cotton fabrics. The CarbonX® Twill fabric is soft, breathable, and wicks away moisture. These characteristics – combined with the remarkably breathable, comfortable, and odor-resistant nature of CarbonX® fabric – mean you'll never have to sacrifice comfort to find the protection you deserve.

Note: CarbonX® Outerwear products are available through custom orders only.



Shop Coat

96-1-9090

- Tough CarbonX® Twill Outer shell (6.0 oz.)
- Lightweight protection allows workers to remain cool and increase productivity, without sacrificing protection.
- Superior resistance to flame, sparks and molten metal
- Inside pockets for convenient storage
- Underarm gussets for maximum comfort and mobility
- Hidden H.D. metal snaps

Sizes: S-5XL

ATPV Rating 8.7/cals

Also available in Navy Blue (10 oz.)
96-1-9091

Coveralls

96-1-9095

- Tough CarbonX® Twill Outer shell (6.0 oz.)
- Lightweight protection allows workers to remain cool and increase productivity, without sacrificing protection.
- Superior resistance to flame, sparks and molten metal
- Inside pockets for convenient storage
- Underarm gussets for maximum comfort and mobility
- Hidden H.D. metal snaps

Sizes: S-5XL

ATPV Rating 8.7/cals





Hi-Viz Coveralls

96-1-9300

- Tough CarbonX® Twill Outer shell (6.0 oz.)
- FR Hi-Viz Reflective Stripes
- Lightweight protection allows workers to remain cool and increase productivity, without sacrificing protection.
- Superior resistance to flame, sparks and molten metal
- Inside pockets for convenient storage
- Underarm gussets for maximum comfort and mobility

Sizes: S-5XL

ATPV Rating 8.7/cals

Applications:

Welding and fabrication - anywhere maximum protection from heat, flame, molten metal and electric arc are required

CarbonX® Outerwear is ideal for:

Fire Safety, Industrial Workers, Welding and high risk occupations

Work Jacket

96-1-9093

- Tough CarbonX® Twill Navy Blue Outer shell (10.0 oz.)
- Lightweight protection allows workers to remain cool and increase productivity, without sacrificing protection
- Inside pockets for convenient storage
- Underarm gussets for maximum comfort and mobility
- Split Leather Cowhide patches for spark and abrasion resistance

Sizes: S-5XL

ATPV Rating 12.6/cals



Work Pants

96-1-9098

- Tough CarbonX® Twill Navy Blue Outer shell (10.0 oz.)
- Lightweight protection allows workers to remain cool and increase productivity, without sacrificing protection
- Superior resistance to flame, sparks and molten metal

Sizes: S-5XL

ATPV Rating 12.6/cals



CarbonX® - The standard for Fire Fighters, Race Car Drivers, Tactical Personnel, Welders, Electricians and all other high risk Industrial Workers requiring the comfort and ultimate protection against heat and flame.

There is no comparison to CarbonX® - your only peace of mind.

CarbonX® The Highest FR Protection Available



FR Fabric

CarbonX® fabrics are based on patented blends of high-performance fibers that will not ignite, burn, char, shrink or significantly decompose when exposed to intense flame, molten metal, arc flash or high heat. Even after intense exposure, CarbonX® maintains its integrity and continues to protect. These capabilities are why CarbonX® is the best non-flammable fabric on the market today.

CarbonX® in its raw form, is a yarn created by spinning O-PAN (oxidized polyacrylonitrile) fiber with an Aramid strengthening fiber. This formula results in a yarn with amazing fire resistant characteristics that serves as the precursor to a wide array of products and applications requiring heat and flame resistance. The CarbonX® yarn can then be converted into an array of fabric products such as:

Knit Fabric Products – Knitted CarbonX® long underwear, socks, gloves and hoods are remarkably lightweight, comfortable and breathable next to the skin – and they provide an effective extra layer of protection against flame and radiant heat.

Non-woven Fabric Products - Non-woven CarbonX® felts provide a lightweight insulation from severe conditions. Excellent for thermal barriers, insulation, blankets etc.

Woven Fabric Products – Woven CarbonX® fabrics for jackets, pants and coveralls offer better ounce-for-ounce protection than traditional plastic-based or treated cotton fabrics.

Laminated products – CarbonX® fabrics can be combined with other materials to offer additional protection, such as aluminizing for extreme radiant heat protection or high-heat silicone for hot fluid and steam protection.

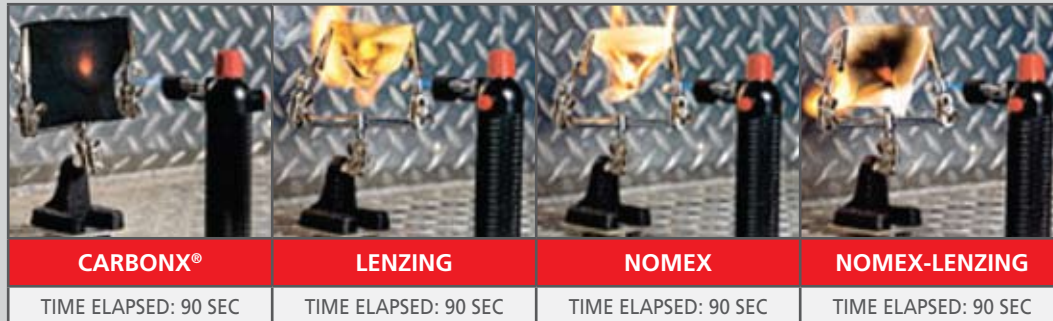


New and innovative CarbonX® products are continually in development.



Torch Testing

At approximately 600° F., the leading FR fabrics burn, begin to shrink while charring, then crack and decompose. This is all in about 10 seconds. Under flammability testing, the FR fabrics will ignite and they often have problems passing the shrinkage test. Under the same conditions, CarbonX[®] is not effected in any way. It even disburse the heat energy and will take about 60 seconds before the heat will start penetrating the next layer of fabric. CarbonX[®] will not ignite or burn even when exposed to temperatures exceeding 2600° F. for over 120 seconds. As for material shrinkage, it does not exist with CarbonX[®].



When exposed to intense heat or flame, CarbonX[®] fibers will carbonize and expand, dramatically reducing the oxygen content within the fabric. CarbonX[®] won't shrink, char, melt or drip when exposed to heat and flame unlike many of the most widely used FR fabrics on the market today.

CarbonX[®] FR Performance

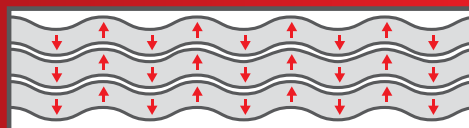
To better understand the differences between CarbonX[®] and competitive products, one must first understand the technical functions and objectives relating to these products. The basic concept and definition of a high performance FR fabric is usually considered a manmade fiber with a continuous operating temperature ranging between 375° to 600° F. The fibers are classified as having favorable characteristics in at least one of the following performance properties: *operating temperature, the limit of heat transfer, tensile strength when exposed to high temperature, chemical resistance and LOI (Limit of Oxygen Index)*. Most of the FR fabrics currently used perform in one, sometimes two of these areas, CarbonX[®] performs extremely well with all of these performance properties and more.



When exposed to intense heat, CarbonX[®] fibers expand to remove virtually all of the oxygen from the fabric. As a result, CarbonX[®] fabric never ignites or burns – even when exposed to 2,600-degree (F) temperatures for up to 120 seconds.



CarbonX[®] fibers under normal conditions



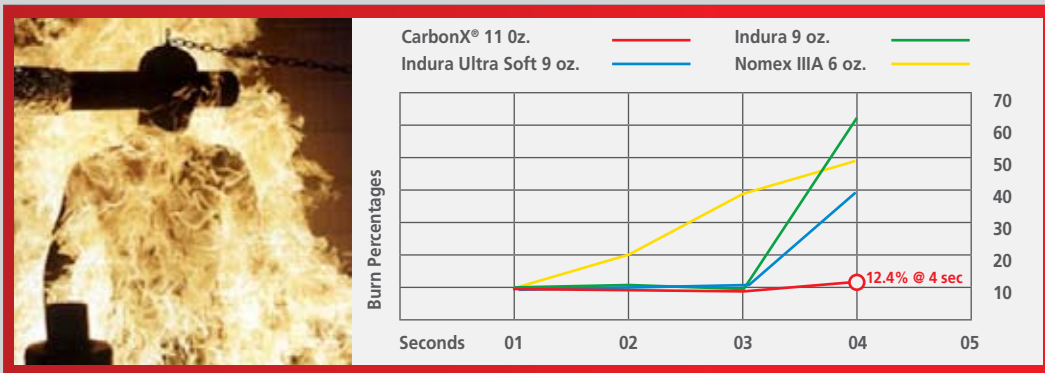
CarbonX[®] fibers expand when exposed to heat conditions



CarbonX®
Setting a new standard in comfort and protection for industrial workers and high-risk occupations

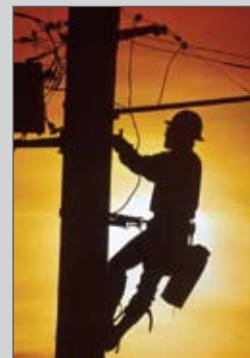
NFPA 2112

Thermal manikin tests were conducted for flash fire simulations. Results are reported in percentage of body burn. The added protection of CarbonX® is dramatically illustrated after 4 sec. of flash flame exposure. 12.4% compared to results ranging from 40 - 60% body burn.



Arc Flash

Arc flashing can produce temperatures up to 35,000-degrees Fahrenheit in less than a second. CarbonX® clothing provides the best possible protection against electrical arcing injuries because it distributes heat evenly and maintains its integrity - even under the extreme conditions caused by electrical arcing. Hoods and garments made with CarbonX® meet National Fire Protection Association (NFPA) Standard 70E, requiring employees to wear flame resistant clothing that meets ASTM F1506 and CSA Z462 - 2008 requirements where there is a possibility of an electric arc flash.



CarbonX® Fabrics	Total Weight (oz/yd ²)	ATPv*	NFPA 70E Hazard Risk Category
Twill (TWT-60) Outerwear applications	6.0 oz.	8.6	2
Knit Jersey (DJ-77) Hood and base layer underwear applications	7.5 oz.	12.3	2
Two Layer system combining above Outerwear layer and underwear layer	13.5 oz.	28.0	3

NFPA 70E Class 3 achieved in a two-layer system
- 30% weight reduction
- 12% better ATPv
Superior comfort and mobility for increased productivity

* ATPv is defined in the ASTM F1959-99 standard arc test method for flame resistant (FR) fabrics as the incident energy that would just cause the onset of a second degree burn (1.2 cal/cm²). EBT is reported according to ASTM F1959-99 and is defined as the highest incident energy which did not cause the FR fabric breakopen and did not exceed the second degree burn criteria. EBT is reported when ATPv cannot be measured due to FR fabric breakopen.



Important Laundering Instructions



CarbonX® woven and non-woven fabrics are inherently fire retardant and will never lose their FR properties if they are always laundered properly. It is important to always follow these enclosed instructions to ensure the life of your garment.

It is always recommended that you wash your CarbonX® garment before initial use. This will eliminate any residue from manufacturing and also eliminate any loose fiber filaments in the fabric content. It is also common to experience lint build-up after first laundering in your dryer's lint basket.

Remember, if you follow recommended laundry procedures, our CarbonX® garment will not fade from extended UV exposure.

Washing: Wash your CarbonX® garment in cold or warm water. Use a small amount of mild detergent (excess detergent may build up on yarns). And wash on gentle cycle. Run on full wash cycle. It is not recommended to use bleach or any other fabric softeners.

Drying: It is recommended to hang dry your CarbonX® garment. You can also dry your garment on low heat until dry.

Dry-cleaning: Professional dry cleaning is always recommended for your CarbonX® garment to ensure proper laundering procedures.

- If you have any questions or comments regarding the care of your CarbonX® garment, contact a company representative from the garments place of purchase.
- If your CarbonX® garment is constructed with other types of textiles, other than CarbonX®, contact a company representative from the place of purchase for proper laundering instructions.

CarbonX®
Delivers better
ounce-for-ounce
protection against
direct flame and
extreme heat than
any other FR fabric

Warranty

Bob Dale Gloves & Imports Ltd. warrants its products, that it manufactures and distributes, to be free from defects in materials and workmanship for a period of 30 days from the date of purchase.

OUR PRODUCTS ARE WARRANTED AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP ONLY. They are not warranted against neglect, abuse, normal wear and tear, incorrect use, or exposure to substances, or hazards for which the product was not intended.

All warranty claims require adequate proof of purchase and a letter stating the specific problem and application details. All warranty claims are subject to evaluation and approval.

This warranty is limited to the repair or replacement of the defective product. In no event shall Bob Dale Gloves be responsible for special, incidental, or consequential damages, or costs incurred due to the failure of a product.

The descriptions of our products are for the sole purpose of identification, and do not express or imply a warranty that the products are merchantable, or fit for a particular purpose, or that the product will conform to the description. Any liability for consequential and incidental damages is expressly disclaimed. Bob Dale Gloves & Imports Ltd.'s liability in all events is limited to, and shall not exceed, the purchase price paid.

Disclaimer

Although this garment has been manufactured to increase personal safety in hazardous conditions, this garment is sold without warranty, expressed or implied. The manufacturer makes absolutely no representation as to this products ability to protect the user from injury or death.

