

# CARBON X

# ULTIMATE BASELAYER AND FABRIC

"MY HUSBAND WAS AT WORK IN A STEEL MILL, ON A BOBCAT PUSHING HOT SLAG. HOT MET COLD AND MOLTEN SLAG EXPLODED ALL OVER HIS BODY. THE STEEL MELTED THE SAFETY BELT ON THE BOBCAT SO HE COULDN'T FREE HIMSELF. HE WAS WEARING THE NORMAL STEEL MILL GREENS, BUT HE HAD ALSO WORN HIS CARBONX UNDERWEAR THAT NIGHT DUE TO THE COLD EVENING. THE GREENS HE WAS WEARING BURNT OFF OF HIM ALMOST COMPLETELY. THE CARBONX HOOD AND UNDERWEAR HE HAD ON SAVED HIS LIFE."

—WIFE OF A STEEL MILL ACCIDENT VICTIM



## THE CARBONX ULTIMATE BASELAYER—THE ONLY CHOICE WHEN SAFETY MATTERS MOST

Flame-resistant (FR) undergarments play an essential role in protecting wearers against serious burn injuries and more common nuisance burns. In dangerous situations, having this base layer of defense close to the skin may buy the wearer critical time to escape without severe or life-threatening injuries.

The CarbonX® Ultimate™ Baselayer provides the highest level of protection for professionals working in extreme conditions where safety matters most. It is also an ideal choice for cooler climates and winter conditions. The Ultimate Baselayer is made from our DJ-77 black fabric, an 8 oz/yd<sup>2</sup> double jersey interlock knit comprised of a propriety blend of high-performance fibers.

Constructed to be truly non-flammable, our Ultimate Baselayer delivers:

**Unmatched Protection:** It will not burn, melt, or ignite, and significantly outperforms competing FR products when subjected to direct flame, extreme heat, molten metal, flammable liquids, certain chemicals, and arc flash. Even after intense exposure, our Ultimate Baselayer maintains its strength and integrity and continues to protect. It also limits heat transfer much more effectively than FR apparel of similar weight.

**Comfortable Protection:** Our Ultimate Baselayer is lightweight, soft-to-the-touch, flexible, and odor resistant. It also breathes extremely well, wicks away moisture, and dries quickly, enhancing wearer's comfort and productivity.

**Permanent Protection:** Because our Ultimate Baselayer is inherently flame resistant, its thermal protective properties will not wash out wear away. It can be worn daily as part of a total personal protective equipment (PPE) solution, providing significant value to users. (Apparel that is torn or damaged should be removed from service.)



ULTIMATE BASELAYER  
SOLUTIONS THAT  
COVER HEAD TO TOE

*CarbonX Ultimate Baselayer solutions include: long-sleeve tops and hoodies, full-length bottoms, gloves, sleeves, socks, and hoods.*

# SETTING A NEW STANDARD IN FR PROTECTIVE APPAREL

# CARBONX



While competitors work to ensure their products *meet* industry standards, our goal is to *exceed* those standards and go above the norm in providing a persistent thermal barrier with minimal heat conductivity. CarbonX fabrics and apparel offer protection far beyond the industry's "No Melt, No Drip" requirements, which typically only require that protective fabrics not **contribute** to burns in a thermal exposure as opposed to actually **protecting** the wearer from a thermal event.

## CARBONX ULTIMATE BASELAYER

### FABRIC PROPERTIES

TOTAL WEIGHT (OZ/YD <sup>2</sup> )	8.0 OZ
NFPA 70E HAZARD RISK CATEGORY	2

### AFTER FLAME

CARBONX DJ-77	None/0 seconds
ASTM F1506	2 seconds or less
NFPA 1971 (2007)	2 seconds or less
NFPA 1975 (2009)	2 seconds or less
NFPA 1977 (2005)	2 seconds or less
NFPA 2112 (2007)	2 seconds or less

### CHAR LENGTH

<b>CARBONX DJ-77</b>		<b>10.16 mm (0.40")</b>
ASTM F1506		6" or less
NFPA 1975 (2009)		6" or less
NFPA 1977 (2005)		4" or less
NFPA 2112 (2007)		4" or less

### THERMAL PROTECTIVE PERFORMANCE (TPP)

<b>CARBONX DJ-77</b>		<b>13.0</b>
ASTM F1506		3.0 (spaced TPP of 6.0)

### ATPV

<b>CARBONX DJ-77</b>		<b>12.3</b>
NFPA 70E HRC 2		8.0

ASTM F1506: Standard performance specification for FR textiles in apparel worn by electrical workers exposed to momentary electric arc and related thermal hazards.

NFPA 1971 (2007): Standard on protective ensembles for structural firefighting and proximity firefighting.

NFPA 1975 (2009): Standard on station/work uniforms for emergency services.

NFPA 1977 (2005): Standard on protective clothing and equipment for wildland firefighting.

NFPA 2112 (2007): Standard on FR garments for protection of industrial personnel against flash fire.

Thermal Protective Performance (TPP): The TPP score is simply two times the number of seconds it takes for a second-degree burn to occur when exposed to a 2.0 cal/cm<sup>2</sup> flame. The higher the TPP rating, the higher the level of protection.

ATPV: ATPV is defined in the ASTM F1959-99 standard arc test method for FR fabrics as the incident energy that would cause the onset of a second-degree burn (1.2 cal/cm<sup>2</sup>).

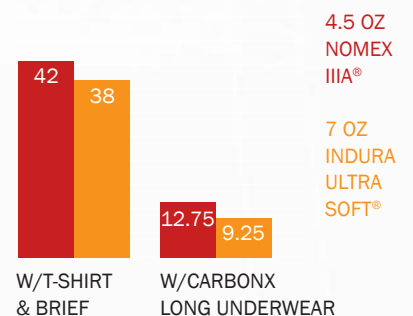
### PARTNERS IN PROTECTION

CarbonX has the advantage of being a signature brand of TexTech Industries Inc., a leading developer and manufacturer of high-performance textiles. TexTech's sophisticated in-house engineering, testing, and manufacturing capabilities, as well as its global distribution platform, enable quicker development of new CarbonX products to meet the requirements of a broad range of difficult and demanding protective applications.

REDUCE BURN INJURIES BY AS MUCH AS 75%

Testing on thermal manikins shows that wearing the CarbonX Ultimate Baselayer with Nomex or Indura coveralls reduces burn injuries by 75%.

### PREDICTED BODY BURN (%) AT THREE-SECOND FLASH FIRE EXPOSURE



BUILDING A BETTER PROTECTIVE MARKET



**FOR MORE INFORMATION ABOUT CARBONX FABRICS AND APPAREL, CALL 801-415-0025 OR VISIT WWW.CARBONX.COM.**