

KARBONTEK® NON-FLAMMABLE FABRICS & GARMENTS

KARBONTEK® FABRICS

KarbonTek® products are becoming more popular in recent years. Fabrics produced by using carbon fibers have a wide usage area with their high resistance to flame, heat and chemical materials:

Against Fire: Fire fighting suits for Fire and Rescue Brigades;

Against Flame, High Temperature & Chemicals: Protective garment for industrial works;

Against Molten Metal: Protective garment for foundry, welding and refinery personnel;

Fuel & Explosive Warehouse, Facilities & Vehicles: Anti-static Protective garments for fuel and explosive warehouse, facilities and vehicles personnell.

Standards Met and Exceeded:

NFPA 1971 (meets and exceeds)

EN 13911 (meets and exceeds)

Tested and classified by UL in accordance with CAL-OSHA, Title 8, Article 10.1, Section 3406 and 3410(d) as well as OSHA Rule 29 CFR, Part 1910, 269.

Also meets the following standards:

- ANSI/NFPA 1975:1994
- NFPA2112
- EN 469:1997
- EN 470-1:1997
- EN 531:1995
- FTMS 191.A-5903
- CS 191-53
- CNS 10285A-4
- CNS 3845 L3704
- UV2100

**Does not contain
carcinogenics such as
asbestos/amiant,
fiberglass or silica.**

**KarbonTek® after
90 Seconds**



Brand 1



5 Seconds

Brand 2



5 Seconds

Brand 3



5 Seconds

Brand 4



5 Seconds

PRODUCT RANGE

Jacket, Trousers, Jumpsuits, Underwear, Apron, Hood, Gloves, Leggings, etc. that are produced from KarbonTek® fabrics have successfully passed from these tests: Resistance to Flame, High Temperature and Molten Metals, Non-fading, Thermal Protection, Highest LOI (Limited Oxygen Index).

KarbonTek® products do not burn, char, shrink, melt or puncture; has anti-static properties and provides excellent heat insulation. Has very high LOI value.

Knitted Fabrics (Protective Hoods and Underwear)

KarbonTek® knit fabrics are best for protective hoods, underwear, gloves, etc. Suitable for both fire-fighting and industrial personnell in providing the ultimate protection. They are indispensable garmets for fire-fighters, special forces, and auto racing personnell.

Protective hoods are made of single or double layer knitted fabrics and have an excellent resistance against flame and heat. Used single layer for short or long underwear to provide extra protection additional to outer garment.

Only available in black color, KarbonTek® knitted fabrics offer excellent moisture management and breathing. Comfortable, multi-directional elastic and anti-static. Does not fade due to washing, drying and UV rays. Inherently non-flammable and does not lose its property.



Woven Fabrics

KarbonTek® woven fabrics are used as as single layer or as outershell for multilayer garments due to their strength against external effects. Used for jumpsuits, work suits, firefighters suits, welding blankets, foundry suits, aprons, and hoods according to weaving style and properties. Available in colors of black, dark blue and olive green.

They are anti-static; have high tensile strength and do not fade due to UV rays, washing or drying.



Non-Woven (Felt)

KarbonTek® felts (non-woven) have very high heat insulation capability. While having 1.100°C on one side of the felt, temperature on the other side does not exceed 72°C for 180 seconds. Due to this specialty of the felt, it is suitable to be used as a heat barrier for multi-layer suits like fire-fighters' or foundry suits. Also performs excellent when used as fire and heat curtain, fire blanket, seat insulation and all types of heat insulation.



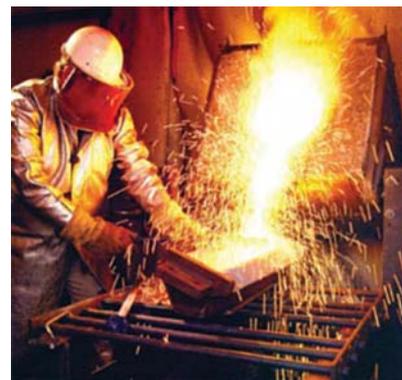
Laminated Products

KarbonTek® 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.

KarbonTek® Protects Against Electrical Arcing

Arc flashing can produce temperatures up to 20,000 degrees (C) in less than a second. This sudden intense heat can ignite most flame-resistant clothing, melt clothing into skin and cause serious second and third degree burns.

KarbonTek® 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.



TESTS & PERFORMANCE

KARBONTEK® FIRE BLANKETS

KarbonTek® is best fire blanket in the world and suitable for all factories, fuel and gas stations, public transportation, dangerous goods transportation, hotels, houses and everywhere giving importance to fire safety.

Used to suppress fire at the beginning phase, wrap yourself in and escape from fire, save sensitive equipment from fire.

- Available as 2mm/250gr/m², 4mm/450gr/m² and 6mm/900gr/m², with and without support mesh inside. Made of 100% KarbonTek® fiber.
- Has pockets to hold on all 4 corners. Inside carry bag to be carried by hand, on back or hanged on the wall. Special designs and applications available according to customer needs.



THERMAL PROTECTIVE PERFORMANCE

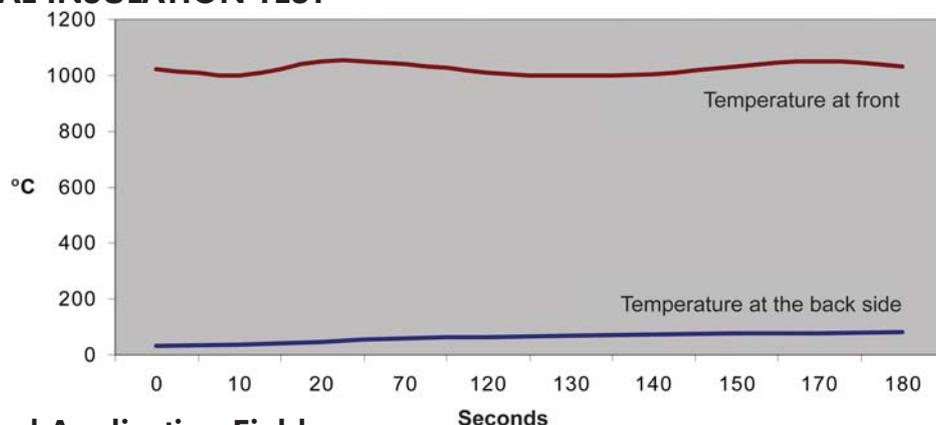
One of the rating systems that has been used for years is the Thermal Protective Performance (TPP). TPP shows garment's ability to provide thermal protection when exposed to both direct flame and radiant heat, and the length of time before a person is subject to second-degree burns.

After extensive TPP, flammability and shrinkage tests, the leading FR fabrics burn, begin to shrink while charring, then crack and decompose at approximately 350°C 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, KarbonTek® 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. KarbonTek® will not ignite or burn even when exposed to temperatures exceeding 1500°C for over 120 seconds. No material shrinkage exist with KarbonTek®.



THERMAL INSULATION TEST

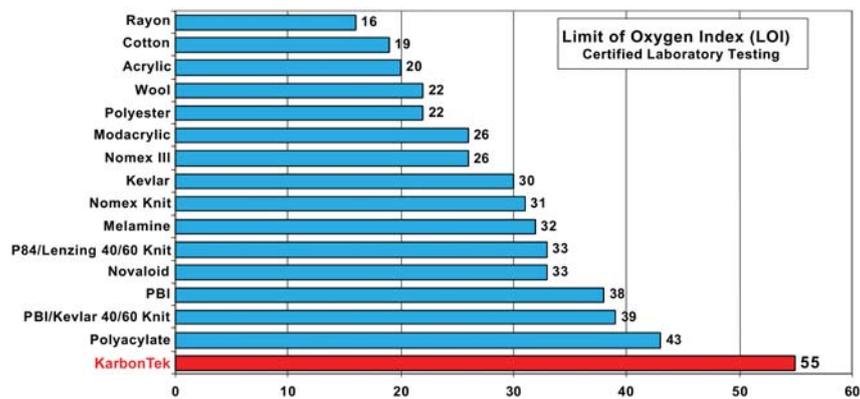


Unlimited Application Fields:

- Fire & Safety Apparel
- Industrial Safety Apparel
- Police, Military, Special Forces
- Industrial Non-Apparel
- and more...

GENERAL SPECIFICATIONS

- Non-flammable** When exposed to extreme heat or flame, KarbonTek® fabric will glow but will not burn. It will last its strength against heat flame even after more than 60 seconds of exposure to 1200°C, it keeps strength to heat.
- No Melting** KarbonTek® fabrics never melt or stiffen. Keeps its softness after exposure to flame.
- No Shrink** KarbonTek® fabrics show almost no shrink or contraction after exposure to flame or heat.
- No Puncture** As KarbonTek® fabric doesn't melt or shrink, there will be no puncture on the fabric.
- No Tar** KarbonTek® fabric leaves no tar like scrap.
- Heat Insulation** While achieving 1.000°C heat on one side of the KarbonTek® fabric, temperature doesn't exceed 74°C on the other side 2,5 cm away from the fabric.
- Comfortable** KarbonTek® fabric has an excellent moisture regain and breathability which provides quick evaporation and prevents allergic reactions.
- Highest LOI** Flammability is generally measured with LOI (limited Oxygen Index; the amount of oxygen needed in the environment necessary to have burning). Fabrics with a LOI value higher than 28% are called self extinguishing. Higher LOI values indicate higher resistance to fire. KarbonTek® fabrics have LOI value of more than 55 and they are inherently non-flammable. The higher KarbonTek® fabrics are inherently non-flammable. This value is 50% higher than Nomex and 30% higher than PBI.



- UV Resistance** KarbonTek® fabrics do not fade or wither when exposed to UV rays.
- Chemical Strength** KarbonTek® fabrics are very strong against organic solvents, weak alkalis and weak acids. Also resistant to strong alkalis and acids for short duration.

ADDITIONALLY:

- Ability to absorb and neutralize odour
- Non-reflective to infrared rays

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