

CARBON

X

ALUMINIZED FLEECE

THERE IS A COMMON PERCEPTION AMONG PROFESSIONALS WORKING IN MOLTEN-METAL AND HIGH-HEAT ENVIRONMENTS THAT ALUMINIZED PROTECTIVE APPAREL MUST BE HEAVY AND RIGID IN ORDER TO ADEQUATELY PROTECT AGAINST BOTH RADIANT HEAT AND MOLTEN METAL SPLASH. LIGHTER-WEIGHT ALTERNATIVES ARE REGARDED FOR RADIANT HEAT PROTECTION ALONE, BUT PROVIDE LITTLE RESISTANCE TO MOLTEN SPLASH HAZARDS.

CONSIDERING THESE GARMENTS ARE USUALLY WORN IN ENVIRONMENTS WHERE AMBIENT TEMPERATURES CAN EXCEED 200° F, THE USE OF HEAVY, RIGID APPAREL MAY POSE SERIOUS RISKS TO THE WEARER'S SAFETY AND PRODUCTIVITY. ADDED WEIGHT COMBINED WITH RESTRICTED MOVEMENT CAN CAUSE THE WEARER TO EXPEND MORE ENERGY IN DOING HIS OR HER JOB, THEREBY INCREASING THE POTENTIAL FOR HEAT-STRESS RELATED INJURIES WHILE REDUCING PRODUCTIVITY.

CarbonX Aluminized Fleece applications include: coats, jackets, hoods, full-body suits, pants, leggings, and overshoes/spats.

CARBONX ALUMINIZED FLEECE IS LIGHTWEIGHT, YET OFFERS MAXIMUM PROTECTION AND ENHANCED COMFORT

The new CarbonX® Aluminized Fleece enhances both protection and comfort for individuals working in molten-metal and high-heat environments. Our Aluminized Fleece is flexible and lightweight at 12 oz/yd², yet still provides maximum temperature resistance, extraordinary protection against molten metal splash, and superior comfort.

Constructed using advanced patented technology, the base fabric is a fleeced knit comprised of a proprietary blend of high-performance fibers. It is coated with multiple layers of aluminum, protective films, and heat-stable adhesives so if one layer of aluminum breaks down, another layer is there to protect against radiant heat. This multi-layer structure improves abrasion resistance and helps ensure the fabric remains highly reflective even after repeated use and proper care and cleaning.

Upon contact with certain molten substances, the aluminized coating will melt away; however, the CarbonX base fabric will continue to protect and provide a persistent barrier. Our Aluminized Fleece is one of the lightest materials on the market able to pass the ASTM F955 pour test for both molten iron and aluminum. It has remarkable abilities to shed spatter, sparks, and other hot liquids and molten metal and to withstand extremely high temperatures.

Inherently flame resistant, our Aluminized Fleece delivers:

Unmatched Protection: The base fabric will not burn, melt, or ignite, and significantly outperforms competitive fabrics when subjected to extreme heat and molten metal splash. Even after intense exposure, the fabric maintains its strength and integrity and continues to protect. It also limits heat transfer much more effectively than other aluminized products of similar weight.

Comfortable Protection: The base fabric maintains its flexibility even after it is aluminized and is soft-to-the-touch, enhancing the wearer's comfort and productivity.

Permanent Protection: Because our Aluminized Fleece is inherently flame resistant, its thermal protective properties will not wear away. Proper care and cleaning will extend the life of garments made from our Aluminized Fleece. Apparel that is torn or damaged should be removed from service.



SETTING A NEW STANDARD IN FR PROTECTIVE APPAREL

CARBON



CARBONX ALUMINIZED FLEECE

TOTAL WEIGHT (OZ/YD²)

12.0 OZ

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).

TECHNICAL PERFORMANCE—ASTM F955 POUR TEST RESULTS

Maximum calorimeter temperature rise during the first 30 seconds and time to second-degree burn after impact with molten iron

	Baselayer	Max Temp. Rise (°C) After 30 Seconds		Time to Second-Degree Burn According to Stoll Curve (Seconds)
		Top Cal.	Bottom Cal.	
CarbonX Aluminized Fleece	Cotton T-Shirt	20.8	9.7	None
CarbonX Aluminized Fleece	CarbonX Ultimate™ Fabric	11.7	8.6	None

Average visual rating of outer layer fabric exposed to molten iron

	Baselayer	Charring	Shrinkage	Adherence	Perforation
CarbonX Aluminized Fleece	Cotton T-Shirt	3 Moderate charring*	1 No shrinkage	1 None	1 None
CarbonX Aluminized Fleece	CarbonX Ultimate™ Fabric	3 Moderate charring*	1 No shrinkage	1 None	1 None

*Fabric was mostly black in impacted area.

Evaluated visually for:

- Extent of charring. Five grades ranging from 1=slight scorching, fabric had small brown areas to 5=severely charred, large holes or cracks, very brittle.
- Shrinkage or the extent of fabric wrinkling around the splash area. Five categories ranging from 1=no shrinkage to 5=extensive shrinkage.
- Adherence or amount of metal sticking to the front of the fabric. Five categories ranging from 1=none to 5=large amount of adherence of metal to the fabric.
- Perforation or the extent of the destruction of the fabric, usually by holding it up to a light. Five grades ranging from 1=none to 5=heavy perforation, the fabric exhibited gaping holes or large cracks or substantial metal penetration to the back side.

ASTM F955 Pour Test: The standard test method for evaluating heat transfer through materials for protective clothing upon contact with molten substances.

DEMONSTRABLY SUPERIOR

CarbonX fabrics and apparel deliver better ounce-for-ounce protection against direct flame, molten metal, hot/flammable liquids, arc flash, and extreme heat than competitive products. Every day, professionals and enthusiasts who work and play in some of the world's most hazardous environments rely on CarbonX to provide them with the protection they deserve.

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