



# SFI-5 Automotive Fire Suit Guide

## Quality...from Professionals...for Professionals!

Vanson Leathers understands professional racers. They depend on premium quality protective garments, fast knowledgeable service and styles and graphics to showcase the racer and his or her sponsors.

Vanson Custom Suits are made from top-grain U.S. cowhide approximately **3 1/2 oz.** per square foot and **1.4 -1.7 mm.** We are constantly developing new features and experimenting with new materials. This ensures that we can offer the best product and service to professional riders. Vanson offers a complete "menu" of options and lettering styles to choose from, allowing you to design the suit you want.

## How to use this Form

Select the **Style** of suit based on the standard features which meet your racing needs. For each Style, there is a list of available **Options**. These Options are available at an additional cost to the base price of the suit. Select the **Style** then the **Options**. Next, you can **Draw Your Own Design** or choose from the many standard **Graphic** designs we have provided for you. Color selections can be made from Vanson's wide selection of drum-dyed colors.

Sample leather color swatches are available upon request. Remember, you can change colors at any seam line for **no extra charge!** To add a personalized touch to your custom suit use the **Lettering and Logos** section.

**Note: Foils and Special Effects leather cost 15% more.** Be sure to show the placement of any custom lettering in the spaces provided. Then, using the special **Vanson Measuring Device**, complete the **Take Your Measurements** section. Be sure to follow the directions carefully and fill out all the measurements in this section. In order to verify your measurements, it is **required** that you include your **Height, Weight, and Age.**

Finally, using the Custom Measuring Guide, take your measurements, complete the form and your order by filling out the **Shipping Information** and adding the cost from each section including any options to determine the **Total Cost** of your suit.

## The Proof is in the Patents

Buying a Vanson suit is purchasing a unique piece of leather working history. Over the years, as we have developed our own, unique way of producing a better quality garment we've come up with entirely new concepts for our riders. As these innovations have been discovered and perfected, they have been patented.

Currently **Vanson holds over 10 unique patents.** These cover everything from the way we set the zippers in our garments for our venting system to our Floating Armor System. Carefully designed for your comfort and safety when working with our superior materials, we always seek to innovate without sacrificing the longevity of our suits.



**Custom Racing Suits • Experience the best!**

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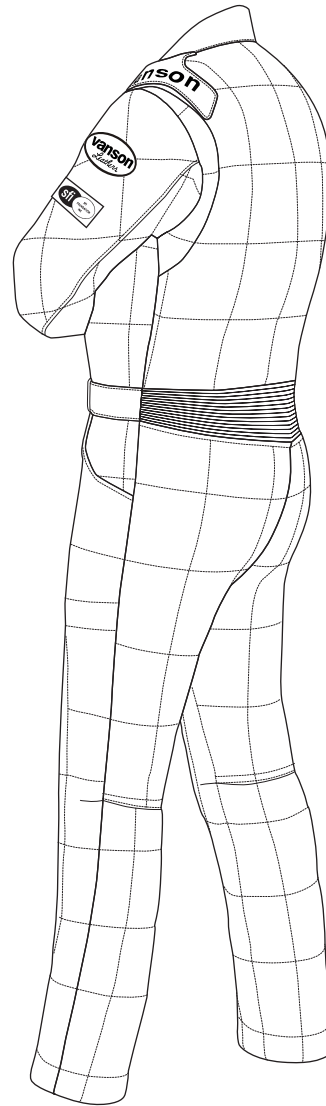
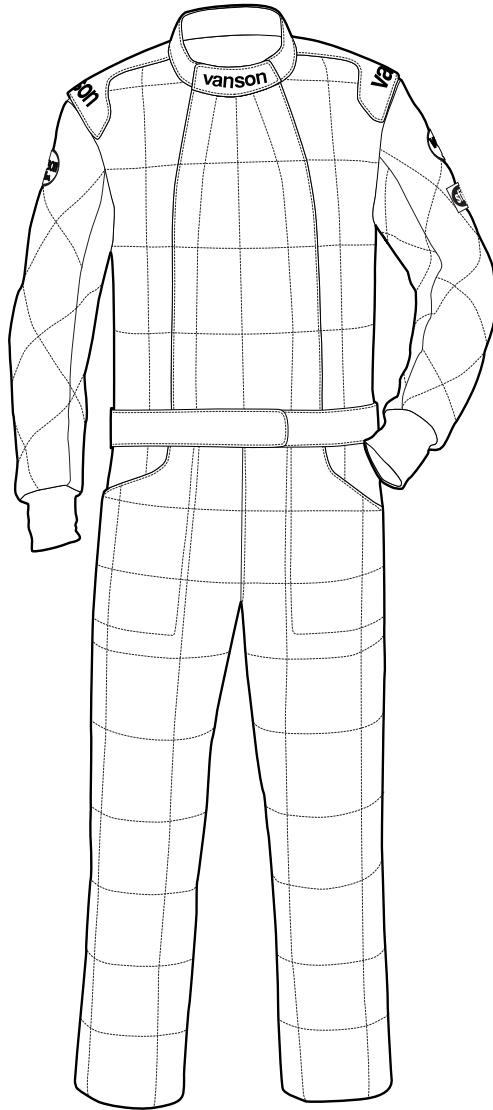
**NOTE: You must use the Custom Measuring Guide to Design and Record Your Measurements Along with the Order Form**

# FD05 One Piece Automotive Fire Suit

Double-zip front driver/crew suit with an SFI-5 level of protection.

Custom Suit  
starting from

**\$1,579**



## Vanson FD05 PROfit® CarbonX Fire Suit

The FD05 (twin zipper) Profit Fire Suits are constructed of a double - outer layer CarbonX TWT-60 (6.9oz., 2x2 twill weave) and a quilted liner layer of DJ77 (8oz., double jersey interlock knit).

Vanson's fire suits are developed for drivers racing in advanced competitions and are compliant with SFI level 5 (SFI Foundation, Inc.) certified safety compliance rating. Our Profit FD05 Suit is form fitting incorporating expander gussets at the shoulder, pre-curved arms for a more relaxed feel and an expander panel in the lower back, which allows for a form fit with flexibility when seated, while preventing the suit from being pulled down in the shoulders.

### Why CarbonX

CarbonX is a loose weave carbon patented blend of material that when exposed to high heat expands to give you optimum PPE protection during a high heat/fire situation. Our materials are lightweight, flexible with a soft touch very similar to cotton, allowing for maximum breathability comfort. Unlike our competitors, CarbonX will wick away moisture and dries quickly reducing fatigue and heat stress which enhances the wearer's comfort.

CarbonX has a long wear life, allowing Vanson's PPE race fire suits to be worn daily providing great value to our users. This is achieved because of the inherently non-flammable propertied CarbonX's which will not wash or wear out.

### Construction

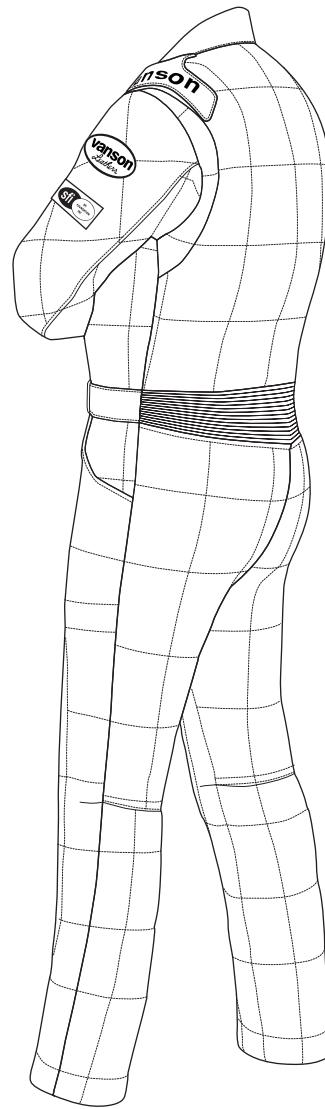
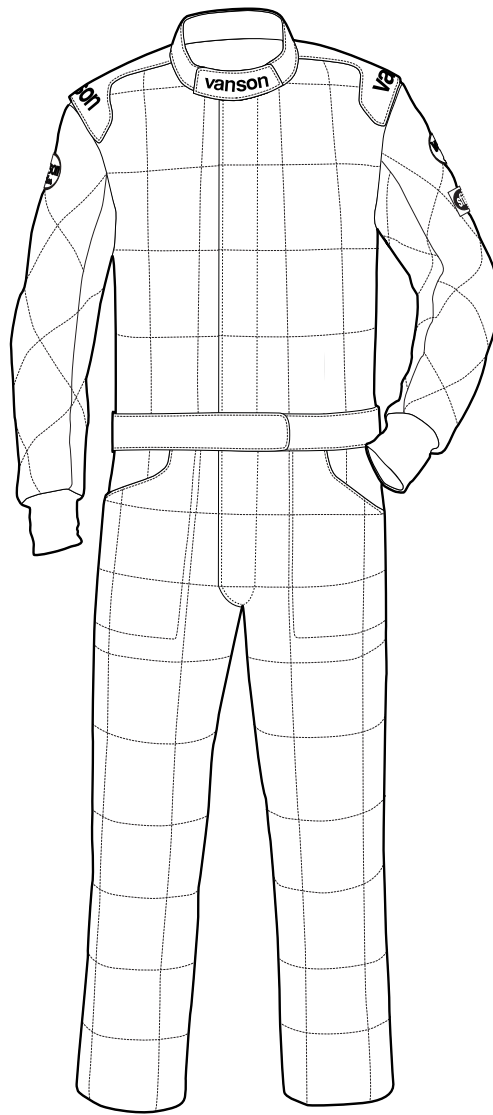
- Double outer layer of CarbonX TWT-60 (6.9oz., 2x2 twill weave) with an inner layer of CarbonX DJ77 (8oz., double jersey interlock knit).
- Expander gussets on the back of the shoulders allows the suit to move with the driver without riding up on the drivers shoulders and causing discomfort.
- Reinforced Epaulets, Daytona style reinforced epaulets standard for quick removal from vehicle.
- Expander Panel in the lower back area helps to prevent the suit from pulling down on the driver's shoulders.
- Pre-curved Arms, prevents underarm pressure which can put your hand to sleep during extended time in the driver's seat.
- Adjustable collar and belted waist ensure a comfortable precise fit.
- Serial Numbered for identification of ownership and cataloging of patterns and alterations. (Located under Belt)

# FS05 One Piece Automotive Fire Suit

Single-zip front driver/crew suit with an SFI-5 level of protection.

Custom Suit  
starting from

**\$1,469**



## Vanson FS05 PROfit® CarbonX Fire Suit

The FS05 (single zipper) Profit Fire Suits are constructed of a double - outer layer CarbonX TWT-60 (6.9oz., 2x2 twill weave) and a quilted liner layer of DJ77 (8oz., double jersey interlock knit).

Vanson's fire suits are developed for drivers racing in advanced competitions and are compliant with SFI level 5 (SFI Foundation, Inc.) certified safety compliance rating. Our Profit FFS05 Suit is form fitting incorporating expander gussets at the shoulder, pre-curved arms for a more relaxed feel and an expander panel in the lower back, which allows for a form fit with flexibility when seated, while preventing the suit from being pulled down in the shoulders.

### Why CarbonX

CarbonX is a loose weave carbon patented blend of material that when exposed to high heat expands to give you optimum PPE protection during a high heat/fire situation. Our materials are lightweight, flexible with a soft touch very similar to cotton, allowing for maximum breathability comfort. Unlike our competitors, CarbonX will wick away moisture and dries quickly reducing fatigue and heat stress which enhances the wearer's comfort.

CarbonX has a long wear life, allowing Vanson's PPE race fire suits to be worn daily providing great value to our users. This is achieved because of the inherently non-flammable propertied CarbonX's which will not wash or wear out.

### Construction

- Double outer layer of CarbonX TWT-60 (6.9oz., 2x2 twill weave) with an inner layer of CarbonX DJ77 (8oz., double jersey interlock knit).
- Expander gussets on the back of the shoulders allows the suit to move with the driver without riding up on the drivers shoulders and causing discomfort.
- Reinforced Epaulets, Daytona style reinforced epaulets standard for quick removal from vehicle.
- Expander Panel in the lower back area helps to prevent the suit from pulling down on the driver's shoulders.
- Pre-curved Arms, prevents underarm pressure which can put your hand to sleep during extended time in the driver's seat.
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## Driving & Over the Wall Crew Person

### FJ05 Jacket - two piece suit

Driver/Crew Jacket with an SFI-5 level of protection.

Custom Suit  
starting from

**\$649**

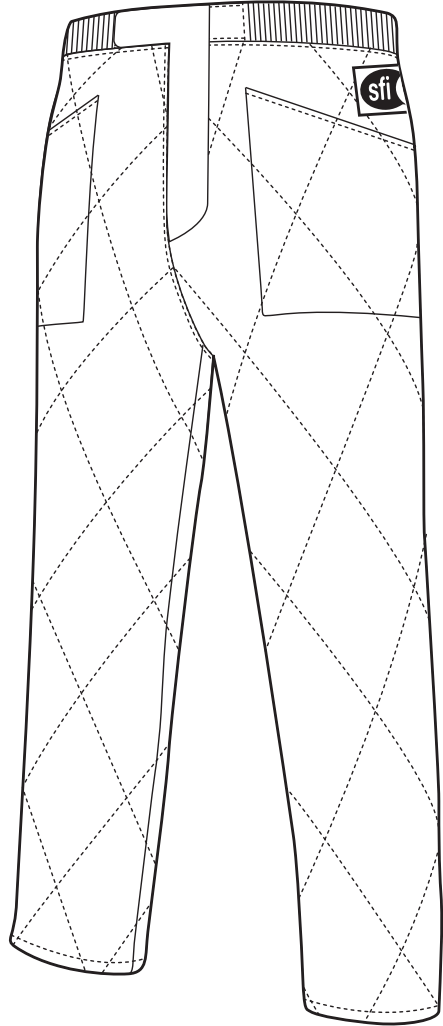


### FP05 Pants- two piece suit

Driver/Crew Pants with an SFI-5 level of protection.

Custom Suit  
starting from

**\$649**



### Vanson FJ05 Jacket & FP05 Pants PROfit® CarbonX Two Piece Fire Suit

The FJ05 and FP05 are constructed of a double layer of CarbonX twt-60. These jackets and pants are the halves of our two piece fire suit. The jacket incorporates a single front zipper, expander gussets at the shoulder and pre-curved arms for a more relaxed feel.

Vanson's fire jackets and pants are developed for drivers racing in all competitions who want the ability to take the jacket off in between races while allowing them to keep on the bottom half so that they don't have to completely change out of their racing gear. The FJ05 & FP05 will meet the SFI level 5 (SFI Foundation, Inc.) safety compliance rating.

#### Why CarbonX

CarbonX is a loose weave carbon patented blend of material that when exposed to high heat expands to give you optimum PPE protection during a high heat/fire situation. Our materials are lightweight, flexible with a soft touch very similar to cotton, allowing for maximum breathability comfort. Unlike our competitors, CarbonX will wick away moisture and dries quickly reducing fatigue and heat stress which enhances the wearer's comfort.

CarbonX has a long wear life, allowing Vanson's PPE race fire suits to be worn daily providing great value to our users. This is achieved because of the inherently non-flammable properties of CarbonX's which will not wash or wear out.

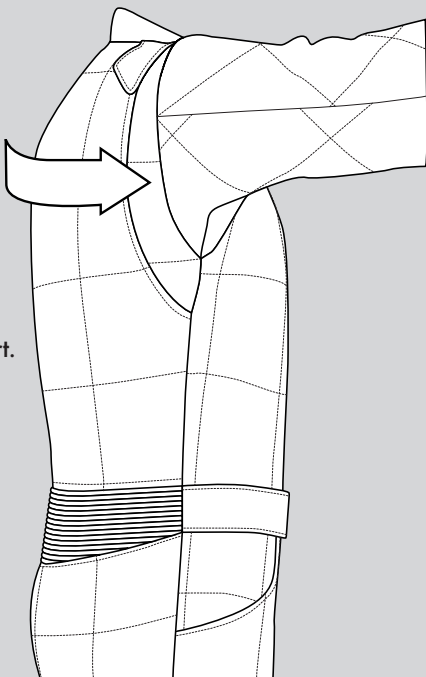
#### Construction

- Double outer layer of CarbonX TWT-60 (6.9oz., 2x2 twill weave) with an inner layer of CarbonX DJ77 (8oz., double jersey interlock knit).
- Expander gussets on the back of the shoulders allows the suit to move with the driver without riding up on the drivers shoulders and causing discomfort.
- Reinforced Epaulets, Daytona style reinforced epaulets standard for quick removal from vehicle.
- Expander Panel in the lower back area helps to prevent the suit from pulling down on the driver's shoulders.
- Pre-curved Arms, prevents underarm pressure which can put your hand to sleep during extended time in the driver's seat.
- Adjustable collar and belted waist ensure a comfortable precise fit.
- Serial Numbered for identification of ownership and cataloging of patterns and alterations. (Located under Belt)

## Unique features that are standard on the Vanson PROFIT driving suit.

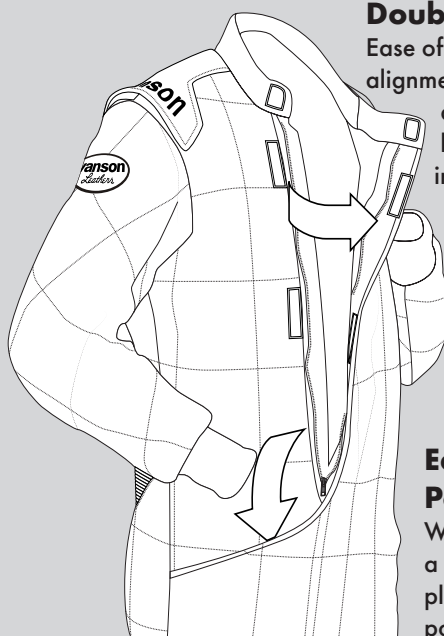
### Expander Gussets

Expander gussets on the back of the shoulders allows the suit to move with the driver without riding up on the drivers shoulders and causing discomfort.



### Double Front Zip

Ease of entry. Side alignment of zippers allows for less bulk when sitting in the car which makes for easier harness closure and better fit.

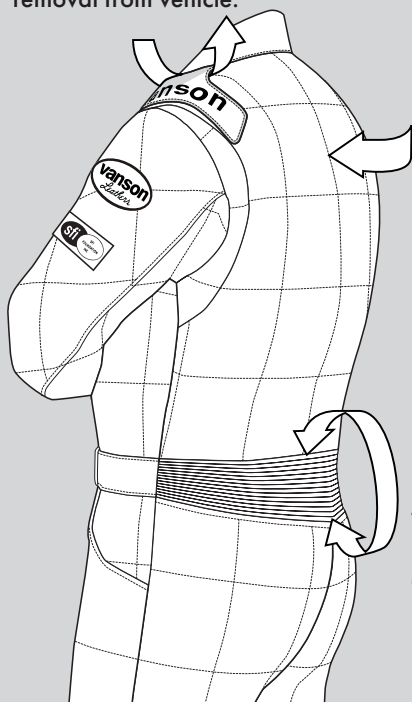


### Easy Access Pockets

Who doesn't love a couple of well-placed usable pockets?

### Reinforced Epaulets

Daytona style reinforced epaulets standard for quick removal from vehicle.



### Quilted

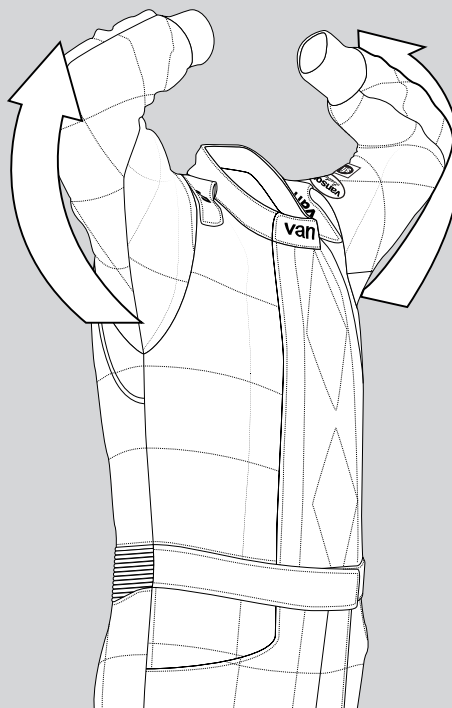
All multi layer suits are quilted for prevention of fabric shifting and fire stoppage.

### Expander Panel

Expander panel in the lower back area helps to prevent the suit from pulling down on the driver's shoulders.

### Precurved Arms

The precurved arms prevent underarm pressure which can put your hand to sleep during extended time in the drivers seat.



### Serial Numbered

Serial numbered for identification of ownership and cataloging of patterns and alterations. (Located under Belt)



CALIFORNIA PROP65 WARNING: This product can expose you to chemicals, substances and materials known to the State of California to cause cancer and birth defects or other reproductive harm. For more information: [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

# CARBON



## Vanson CarbonX® Race Suits

You're a racecar driver, and behind the wheel you need to be alert, cool and comfortable.

When you're wearing a Vanson Carbon X racecar suit you're benefiting from over 40 years of motorcycle road-race suit development. We've engineered and constructed our suits for extreme functionality. With our unique triangular pivot armholes you gain freedom of movement; with our twin-zip-front design you eliminate bulk while seated and lose the risk of sharp zipper teeth injuring your neck.

We use CarbonX® material which easily meets all current safety standards while being breathable and comfortable. You can shift easily through the gears and corners - no pulling, no fighting the suit - just simple, fluid, smooth movements.

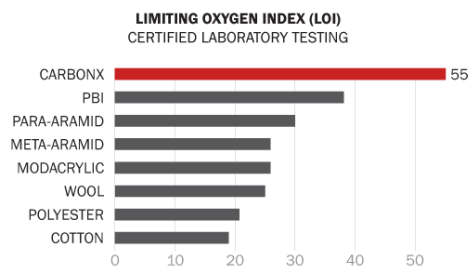
Many racing suits out there look the part of a racecar driver, but the Vanson is for real. It'll fit you like a second skin, letting you mold into the seat...become one with the car...comfort creating concentration...which equals a focus on winning.

### CARBON X-How it works Science/Innovation

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 products 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.

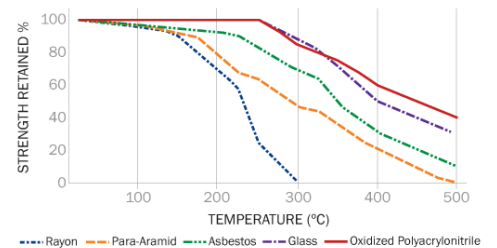
### Limiting Oxygen Index

The Limiting Oxygen Index measures the amount of oxygen required in the environment for a fabric to support combustion. Any material with a LOI less than 20.95 (the oxygen volume of air) will burn in air. The CarbonX blend of fibers has a LOI rating of 55, indicating it requires an oxygen level of nearly three times that of air to burn. When exposed to intense heat or flame, our patented fiber blend carbonizes and then expands, eliminating any oxygen content within the fabric.



### Strength Retention

A compelling demonstration of CarbonX's extraordinary performance is its strength retention after exposure to flame and increasing temperatures over time. After intense exposure to 250°C heat, the CarbonX fiber blend possesses 100 percent of its original strength. Turning up the heat to 500°C, our innovative fiber blend retains an astonishing 40 percent of its strength, even after 10 minutes of exposure.



CarbonX Strength retention graph

### Wife of a burn victim in a steel mill accident.

"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."



Image of CarbonX hood and underwear he had on

### Partners in Protection

CarbonX has the advantage of being owned by TexTech Industries Inc., a leading global developer and manufacturer of engineered, high-performance materials. TexTech's global distribution platform and in-house engineering, testing, and manufacturing capabilities enable the development and introduction of new CarbonX products to the market much more quickly.

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## SFI Specs

### SFI Foundation Specs

#### Assure Quality Driver Suits

by Jennifer M. Faye

Years ago, drivers fearlessly climbed into their racecars wearing only cotton T-shirts and jeans. These days, most of us are more informed about driver safety and the importance of being protected from head-to-toe in any racing event. The ability of someone to emerge from a burning car virtually unscathed is a direct result of this recent increase in personal safety awareness.

Of course, racing is inherently risky but the chance of injury can be reduced if you take the time to protect yourself properly. Personal safety is a system of the driver suit, accessories, and helmet. The hub of this system is the driver suit.

There are many things that influence what kind of suit you get such as sanctioning body rules, track requirements, the type and speed of your car, etc. How do you put these factors together to ensure you buy the suit that is right for you? Some drivers look for a manufacturer's name they know or trust. Other people may be new to the sport and not as familiar with the products available.

No matter how much you already know (or don't know) about driver suits, you always have a standard that will guide you in your choice of a well-made garment. That standard is the SFI Foundation Specification 3.2A for Driver Suits. You have probably noticed the black and white SFI patch on many drivers' left shoulders at various tracks, from drag strips to dirt ovals. The patch demonstrates that the manufacturer certifies the suit to meet or exceed the SFI specification.

What does this mean to the consumer? It means that there is a way to differentiate the quality-assured products from the untested products. A driver suit that is certified to meet the SFI spec has been laboratory tested and has passed the requirements of that test. Before getting into the details of the testing procedures, it is necessary to understand what the SFI Foundation is and what it does.

SFI is a non-profit organization established to issue and administer standards for specialty/performance automotive and racing equipment. This includes parts like clutch assemblies and fuel cells as well as personal driver safety items.

The standards/specifications are created via a committee process. The technical committees

are comprised of individuals from all facets of the industry. Through their expertise and research, a spec is drafted and then offered to all interested parties in the form of a public hearing. Once revised to the committee's satisfaction, the spec is presented to the SFI Board of Directors for approval. If approved, the spec is published and made available to the public. Sanctioning bodies all over the world include SFI specs in their rulebooks and use them as minimum requirements.

The driver suit spec 3.2A tests a garments fire retardant capabilities. The spec contains a rating system based on the garments capability to provide Thermal Protective Performance (TPP) in the presence of both direct flame and radiant heat. The purpose of the TPP is to measure the length of time the person wearing the garment can be exposed to a heat source before incurring a second degree, or skin blistering, burn.

The TPP rating is the product of exposure heat flux and exposure time. The TPP results can be converted to the time before a second degree burn occurs. The higher the garment rating, the more time before a second degree burn. Here are the SFI ratings with the corresponding TPP values and times to a second degree burn:

SFI Rating	TPP Value	Time to 2nd Degree Burn
3.2A/1	6	3 Seconds
3.2A/3	14	7 Seconds
3.2A/5	19	10 Seconds
3.2A/10	38	19 Seconds
3.2A/15	60	30 Seconds
3.2A/20	80	40 Seconds

Another test included in the spec is the after-flame test. When a direct flame is applied the fabric and then removed, the time it takes the material to self-extinguish is measured. This is called after-flame time and it must be 2.0 seconds or less for the layer of fabric to pass. Cuff material is also subjected to this test.

The flammability test evaluates single layers of fabric only. The individual layers of a multiple-layer suit are tested for after-flame time separately.

The TPP test can be used to evaluate multiple-layer configurations as well as single-layer fabrics. The samples used in testing are assembled with the identical fabrics and layer order as an actual driver suit.

Other tests required by Spec 3.2A include thread heat resistance, zipper heat resistance, and multiple layer thermal shrinkage resistance.

A common misunderstanding about SFI ratings is that they represent the number of fabric layers in the garment. It is actually possible for driver suits with various numbers of layers to have the same performance rating. This is due to the wide range of materials used by manufacturers today.

The radiant heat portion of the spec is significant because the majority of racer burns are caused by heat transfer rather than direct flame. Insulation is the best way to prevent this kind of burn. Using multiple layers of fabric helps keep the heat source away from the skin longer because each layer creates air gaps that have to heat up. The extra seconds gained with each layer are precious to a driver trying to escape from a burning car.

Another way to obtain extra air gaps is to wear racing underwear. Fire resistant underwear should be worn with every type of driver suit, especially single layer suits because it will double the minimum protection time (+3 seconds). The 3.2A rating does not include underwear. It is certified through SFI Spec 3.3 for Driver Accessories and undergoes the same TPP and flammability tests as the driver suit outerwear.

A garments insulation capability is also affected by the fit of the suit. A suit worn too tight will compress the air gaps and allow heat to reach the skin faster.

There are other things you can do besides finding a correct fit to optimize the protection performance of your driver suit. For maintaining the quality of your suit, it is absolutely essential to read the care tag on the garment and closely follow the manufacturer's instructions.

Avoid wearing your suit while working on the car. Not only would you be ruining an expensive piece of equipment, but you would essentially be inviting a fire to burn you. Grease, fuel, oil, and even cleaning fluids can soak into the fabric and support the flames of a fire, causing high heat. Fluids soaked into a suit also produce steam when exposed to heat and cause liquid vaporization burns.

If you are ever involved in a fire, discard your suit and get a new one. Even the smallest singe is a weak spot in the material and can cause a problem if exposed to fire again. Proper maintenance of a driver suit will help extend its useful life and provide you with years of protection.

Auto racing is the fastest, most exciting sport in the world and with speed comes danger. Drivers put themselves at risk every time they climb into their racing machines. Fortunately, there is a program in the form of the SFI Foundation to help guide drivers in choosing quality protective equipment.

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## SFI-5 Suit Options

Quality...from Professionals...for Professionals! Quality...from Professionals...for Professionals!

#	Description of option	Price \$
KRND	INSIDE LEATHER PATCH - DOUBLE LEATHER PROTECTION POWERSTRETCH + LEATHER-Aramid sandwich at shoulder, arm, hips, seat and legs. KRND is Vanson's own special layers of material - including ARAMID (Kevlar) and leather	180.00 SET
	WRIST DETAILS Wrist details are very important to achieving the perfect fit with as little bulk as possible.	
40L	'D' Ring - Left wrist - for kill switch cord	10.00 EACH
40R	'D' Ring -Right Wrist - for kill switch cord	10.00 EACH
	PANT + LOWER LEG + ANKLE DETAILS Pant options for security and comfort	
KS	Powerstretch Stirrups at end of pant hem - to hold pants down inside boots.	60.00 PAIR
	POWERSTRETCH NYLON + ARAMID WOVEN PANELS Powerstretch reduces bulk in the same manner as spandex, but is woven using high strength cordura nylon and aramid to achieve a high resistance to abrasion.	
ARMR	Arm restraints on forearms-single layer of webbing sewn to inside of both forearms with 2 D rings on each strap.	60.00 EACH

#	Description of option	Price \$
CERX	CERMEX is a high temp material that goes on the right lower leg to protect driver from the heat coming of the transmission tunnel	300.00
	HEAT SHIELDS AND HEAT PROTECTION Heat shield options. Automotive and Motorcycle race suits. Top Fuel / Pro Fuel	
KGRD	GRIND Kevlar-Leather-Nomex thermal protection added to likely impact areas.	190.00
TOTAL OPTIONS \$		<input type="text"/>



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