



Keeping You Safe

[www.redahazardcontrol.com](http://www.redahazardcontrol.com)



EN469:2020



X  
Y  
Z

USER INFORMATION GUIDE

FIRE FIGHTERS PROTECTIVE SUITS

## **INDEX**

## **INTRODUCTION**

### **LAYER SYSTEM**

- 1.Outer layer
- 2.Moisture barrier
- 3.Heat barrier
- 4.Inner lining

### **DESIGN PROPERTIES**

### **GARMENT CLASSIFICATION AND TESTS DONNING AND DOFFING**

- A.Donning instructions
- B.Doffing instructions

### **CLEANING PROCEDURE**

### **STORAGE CONDITIONS**

### **EXPIRATION DATE**

### **WARNINGS**

### **LABELLING AND MARKINGS**

VIDAFOR® NXT FIRE FIGHTERS PROTECTIVE SUITS &  
VIDAFOR® NXT-C FIRE FIGHTERS PROTECTIVE COVERALL  
VIDAFOR® NXT Jacket-pants, article no: NXT  
VIDAFOR® NXT Coverall, article no: NXT-C

### **Approved Notified Body No. 2474 (module B):**

MIRTA-KONTROL d.o.o.  
Javorinska 3 HR-10040 Zagreb-Dubrava,  
Croatia  
Tel : 00 385 1 24 31 346 Fax : 00 385 1 24 31 347

### **Notified Body involved in the Annual Surveillance 2777 (Module D**

According to Regulation 2016/425):  
Satra Technology Europe Ltd  
Bracetown Business Park, Clonee, Dublin 15  
Dublin, Ireland  
Tel: +353 1 437 2484

## INTRODUCTION

We thank you for choosing **VIDAFOR®** garments, which are manufactured from special fabrics and provide high levels of protection for your safety

Firefighting contains various kind of risks which effect human health specially designed according to EN 469:2020 and 1149-5:2018 (under EU 2016/425 PPE Regulation) should be used to remove those effects.

**VIDAFOR®** series not only protect human body from flames, but also keep the heat stress of high temperatures below limits of human metabolism can handle.

To reduce possible risks;

- Proper training and practice in firefighting and emergency tactics and safety
- Proper selection and use of safety equipment
- Knowledge of design, performance and use limitations of EN standards.

**VIDAFOR®** series fireman garments are manufactured to reduce the risks of firefighting according to the related standard: "EN 469:2020 Protective clothing for firefighters - Performance requirements for protective clothing for firefighting". For proper selection of garments according to the requirements of different risk groups, alternative layer systems are designed.

## LAYER SYSTEM

**VIDAFOR®** fireman garments are specially manufactured garments for risk groups in which they will be used. Heat protection performance of the firefighting garments depends on multilayer fabric system, specially fabricated isolation fabrics and dry air spaces between layer systems. As air space between fabrics provides a good isolation, **VIDAFOR®** fireman garments are formed by using multiple isolating fabric layers. **VIDAFOR®** garment layers;

**Outer Layer:** 75% Meta-aramid + 23% Para-aramid + 2 %antistatic fiber  
Colour: the same dye stuff class

**Moisture Barrier:** FR-FELT + PTFE(R) - 80% Meta-Aramid, 20% Para-Aramid + PTFE Membrane

**Heat Barrier:** 100% aramid nonwoven

**Inner Layer:** 50% meta-aramid, 50% Viscose FR

**1-Outer Layer:** This is the layer which contacts directly to the heat and flame. Not only resists to burning, but also protects inner layers from tearing, puncturing, liquid splashes and abrasion. Also, water repellency property of outer layer prevents the water to reach the inner layers.

**2-Moisture Barrier:** Moisture barrier is optional. it does not admit the water from the outer environment but it ensures sending the sweat away and moisture at the inner part.

**3-Heat Barrier:** Heat barrier is designed to provide the maximum air space in its form. This layer has a light property and is quilted to the inner liner.

**4-Inner Lining:** Quilted to the heat barrier, light and comfortable fabric, which does not relinquish the heat resistance of the garment.

## DESIGN PROPERTIES

**VIDAFOR®** fireman garments, which can be chosen as jacket and trousers or coverall, protect the body, arms and legs of the user against harmful effects of water, high temperature and flame.

You may find measurements and sizes of garments according to **EN ISO 13688** Protective clothing - General requirements" on the table below.

SIZE		USER'S			
		LENGTH (CM)	CHEST (CM)	WAIST (CM)	JACKET LENGTH (CM)
<b>S</b>	46/48	164-170	88-96	76-84	83
<b>M</b>	50/52	170-176	96-104	84-92	83
<b>L</b>	54/56	176-182	104-112	92-100	85
<b>XL</b>	58/60	182-188	112-120	100-108	85
<b>XXL</b>	62/64	182-188	120-128	108-116	87

**VIDAFOR®** series garments are supplied with reflective tapes 50mm or 75mm wide on the chest, back, cuffs, below the knees and sides. Reflective tapes with their reflection property provide visibility in dark environments. Reflective tapes are optional. According to **EN 469:2020**, if a garment has reflective tapes, the minimum amount of separate performance reflective material per garment is 0.13m', whereas the minimum amount of the fluorescent material (orange or yellow) is 0.20m'.

## CLASSIFICATION OF THE GARMENTS AND THE TESTS

Classification of a garment according to **EN 469:2020** standard is decided according to the performance levels on the table below;

TESTS	TEST METHOD	PERFORMANCE LEVEL			
		Level 1	Marking	Level 2	Marking
Heat transfer-flame	EN ISO 9151	HT <sub>b4</sub> ≥9sn HT <sub>b4</sub> -HT <sub>l2</sub> ≥3sn	X1	HT <sub>b4</sub> ≥13sn HT <sub>b4</sub> -HT <sub>l2</sub> ≥4sn	X2
Heat transfer-radiation	EN ISO 6942	RHT <sub>b4</sub> ≥10sn RHT <sub>b4</sub> - RHT <sub>l2</sub> ≥3sn	X1	RHT <sub>b4</sub> ≥18sn RHT <sub>b4</sub> - RHT <sub>l2</sub> ≥4sn	X2
Resistance to water penetration	EN ISO 811	Level 1<20kPa	Y1	Level 2≥ 20kPa	Y2
Water vapour resistance	EN 11092	30m <sup>2</sup> Pa/W<Level 1<45m <sup>2</sup> Pa/W	Z1	Level 2 ≤30m <sup>2</sup> Pa/W	Z2

According to these performances, firefighting garments are divided into two; Level 1 and Level 2. Level 2 garments have higher performances than Level 1 garments. A garment to have Level 2 protection, all X, Y and Z levels should be submitted as grade 2. If one of them falls as Level 1, garment will be Level 1 as totally. As mentioned in (EU) 2016/425 Personal Protective Equipment directive, firefighting garments fail in Category III, due to the complex design intended to protect against mortal danger or against dangers that may seriously and irreversibly harm the health, the immediate effects of which the designer assumes the user cannot identify in sufficient time. Other tests according to **EN 469:2020** of **VIDAFOR®** series fireman garments can be seen on the table below.

EN 469 2020	TEST / PROPERTY	METHOD
4.0	Design	EN ISO 13688
6.2.1.1	Flame spread test	EN ISO 15025
6.2.1.2	Contact heat test	EN ISO 121271 (X2)
6.2.1.3	Heat transfer – Flame	EN ISO 9151 (X1 or X2)
6.2.1.4	Heat transfer-radiation	EN ISO 6942 (X1 or X2))
6.2.1.5	Residual tensile strength of material when exposed to radiant heat	EN ISO 139341 / EN ISO 6942
6.2.1.6	Heat resistance	ISO 17493
6.2.1.7	Heat resistance sewing thread	EN ISO 3146
6.2.2	Penetration by liquid chemicals	EN ISO 6530
6.2.3.1	Tensile strength - outer shell material	EN ISO 139341
6.2.3.2	Tensile strength - main seams	EN ISO 139352
6.2.3.2	Tear strength	EN ISO 139372
6.2.4	Water penetration	EN ISO 811 (Y1 or Y2)
6.2.5	Dimensional change	EN ISO 13688
6.2.6	Visibility	EN ISO 20471
6.3.1	Water vapour resistance	EN 11092 (Z1 or Z2)
8.1	Marking and labelling	EN ISO 13688
8.2	Information supplied by the manufacturer	EN ISO 13688

**EN 1149-5:2018**, Protective clothing – Electrostatic properties – Part 5: Material performance and design requirements.

- The person wearing the electrostatic dissipative protective clothing shall be properly earthed. Resistance between the person's skin and the earth shall be  $< 108 \Omega$ , e.g. by wearing adequate footwear on dissipative or conductive floors.
- Electrostatic dissipative protective clothing shall not be open or removed whilst in presence of flammable or explosive atmospheres or while handling flammable or explosive substances.
- Touch and close fasteners shall not be opened when operating in hazard zones.
- Electrostatic dissipative protective clothing is intended to be worn in Zones 1, 2, 20, 21 and 22 (see EN 60079-10-1 and EN 60079-10-2) in which the minimum ignition energy of any explosive atmosphere is not less than 0,016 mJ.
- Electrostatic dissipative protective clothing shall not be used in oxygen enriched atmospheres, or in Zone 0 (see EN 60079-10-1) without prior approval of the responsible safety engineer.
- Electrostatic dissipative performance of electrostatic dissipative protective clothing can be affected by wear and tear, laundering and possible contamination.
- Electrostatic dissipative protective clothing shall permanently cover all non-complying materials during normal use (incl. bending movements). Keep all metallic hardware and other equipment inside pockets or covered in similar way.
- Electrostatic dissipative protective clothing shall be properly earthed by adequate footwear in use, adequate overlapping of garments and continuous earthing methods (e.g. conductive / dissipative stripes, touching of grounded metal equipment) and only in environments where no risks can occur.
- This garment does not protect against main and high voltages (electric risks)

EU Declaration of conformity document is available on [www.cigsafety.com](http://www.cigsafety.com)

**VIDAFOR®** fireman garments protect, neck, torso, arms to the wrists, legs to the ankles according to the requirements of **EN 469:2020**. Firefighting contains various risks, so, rest of the body should be protected with various equipments.

Other equipment which can be used with **VIDAFOR®** garments;

**EN 443** Fireman Helmets,

**EN 659** Fireman Gloves,

**EN ISO 20345/EN 15090** Fireman Boots.

On the other hand, SCBAs, which are certified according to EN 137 Type II, back plate and harness are made of aramid or other flame retardant materials, can be used with this garment safely.

## **DONNING AND DOFFING**

You may find the instructions below to help you donning and doffing your "VIDAFOR®" fireman garment.



Proper training and practice in firefighting before operation.  
Proper selection and use of safety equipment.  
Knowledge of design, performance and limitations of use of EN standards.

### **A. Donning**

- Check the lower part of your trousers' legs after you wear your trousers and foot protectors. Make sure that trousers cover the boots and do not open in any position.
- Adjust them to use it easily in any position.
- Close all closure elements without leaving any space, holes or openings.
- Make sure that all accessories and equipments are intact.
- Wear the jacket with all closure elements closed and without leaving any opening.
- Keep the collar upright position and close all closure elements.

### **B. Doffing**



Doffing procedure of the garment could change due to the abrasion and contamination in the last usage.

- Check your garment after each use. Look for tears or punctures or any other damages in the garment.
- If you are sure that the garment is undamaged or uncontaminated, follow the instructions in reverse to doff the garment and store it according to storage instructions.

If you notice a damage or contamination;

- Avoid contact without protective equipment.
- Avoid contaminated garment to touch your personal belongings, vehicles etc.
- Put the garment in sealed case and label it.
- Inform your supervisor or employer.

- Do not use the garment before the problem is solved.
- Destroy the contaminated garment according to local/international standards and/or regulations.
- If the garment will be used again, a proper cleaning procedure is required.

## CLEANING PROCEDURE



Performance level of your garment can be adversely affected easily. Please care to keep the garment clean. Cleaning instructions can be found on the label. Please check the labeling and marking for detailed information.

- Clean your garments in every 6 months at least.
- Contaminated garments will protect you less than a clean garment and increase the possibility of electric shocks.
- Contaminated garments can conflagrate easily.
- Do not bleach or use chlorine while cleaning your garments. Garments can be washed in the washing machine (lower spin rate) at maximum 40°C. Washing time should be maximum 1 hour.
- Detergents in the market might be suitable for washing.
- Garments should be rinsed with cold water.
- Centrifuge drying can be applied after rinsing.
- Do not use fabric softener or conditioner while washing your garments.
- Iron your garments at maximum 110°C.
- Cover the reflective parts with a piece of cloth while ironing the garment.
- Dry cleaning can be applied with normal solvents (preferably perchloroethylene) excluding trichloride and trichloroethylene. Water and/or mechanical stress and/or drying temperature levels should be carefully selected.
- Do not label your garments with a needle or similar material and do not puncture while cleaning. This will damage the moisture barrier.
- Contaminated or wet garments will protect you less than a clean/dry garment and increases the possibility of electric shocks.

**NOTE :If chemicals and flammable liquids contaminate the garment, it should be removed immediately and cleaned if the garment is undamaged.**

- If you notice a damage or contamination;
- Avoid contact without protective equipment.
- Avoid contaminated garment to touch your personal belongings, vehicles etc..
- Put the garment in sealed case and label it.
- Contact with your supervisor or employer.
- Do not use the garment before problem is solved.
- Destroy the contaminated garment according to local/international standards and regulations.
- If the garment will be used again, a proper cleaning procedure is required.

**NOTE:** Re-impregnation after cleaning is not given. Tests were conducted after 5 wash cycles. After that, check properties (e.g. Resistance to penetration test by liquid chemicals) or discard garments.



## STORAGE CONDITIONS



Proper storage conditions reduce the potential dangers and help the garments to be used safely for longer period.

- Keep the garments in their original case.
- Use carton cases during transportation.
- Do not expose to direct sunlight (UV).
- Keep the garments in dry and cool environments. Wet and humid environments can cause harmful bacteria, fungus and other organisms to grow.
- Do not store in too hot or cold temperatures.
- Avoid contact with sharp elements.
- During storage, besides keeping in original cases, garments can be hanged out with proper hangings preferably.

## EXPIRATION DATE

Your firefighting department or employer can decide when to change your protective garment. If you are not sure to change your garment, consult your firefighting department or employer.

Life of the garment depends on the way it is used, how it is cleaned and how it is stored. If any accessory of the garment gets old, do not use the garment.

Destroy the contaminated garments and contaminators according to local/international standards and/or regulations.

Contaminators: blood, blood plasma, toxins, radioactive materials, chemicals and dangerous materials, etc.

## WARNINGS



Do not label your VIDAFOR® fireman garments with a needle or similar material and do not puncture. This will damage the moisture barrier.



VIDAFOR® fireman garments will not protect you from burning or other possible risks completely. This product may not protect you against extremely hot temperatures, very long exposures to heat and contact to fire.



VIDAFOR® fireman garments will not protect you from electric shocks, biological, chemical and radiation which may cause injuries or death.



Using VIDAFOR® fireman garments may increase your heat stress. Improper usage of people with health problems may cause heart-throb, heart attack, dehydration or death. All layers (outer layer, moisture barrier, heat barrier, inner liner) of VIDAFOR® fireman garments must be used together. All closure elements (zippers, buttons, hooks, neck protector) should be closed carefully. Otherwise, this may cause serious injuries or death. VIDAFOR® fireman garments should be checked periodically and also after each wash and use. Make sure that there is no damage on the garment.



If chemicals and flammable liquids contaminate the garment, it should be removed immediately and cleaned if the garment is undamaged.



Damaged, contaminated, torn garments must not be used again and must be replaced.



VIDAFOR® protects when used in conformity with the instructions. The user/ is responsible of choosing the right protective garments.



If any accessory of the garment gets old, do not use it. Repairs of any kind are not allowed.














Moisture, moisture or wetting inside or outside the garment has a different effect on the performance of the garment than the performance of the same garment in a dry condition.

More information on selection, use, care and maintenance is given in CEN/TR 14560:2018.

## **LABELLINGS AND MARKINGS**

VIDAFOR® fireman garments' labels are detailed. If proper conditions are provided, as it is instructed in the label, the garments could be used safely for a longer period.

### **Warnings of the symbols included in the label**

 EN 469:2020 X2 Y2 Z2	EN 469:2020 Protective clothing for firefighters - Performance requirements for protective clothing for firefighting. X: Heat Protect Y: Resistance to water penetration Z: Water vapour resistance.		Do not use chlorine during the cleaning of the garment.
	It means that the garment fulfills the specifications of electrostatic dissipative protective clothing according to EN 1149-5 standard		Iron it at maximum 110 C degree. Close the reflective parts with a cloth.
	It means that the garment meets the general performance requirements for ergonomics, innocuousness, size designation, ageing and compatibility according to EN ISO 13688 standard.		It can be washed inside the machine with water at max 40 C temperature. The machine cycle must be slow (delicate), and it must be rinsed with cool water.
	It shows that the garment is approved according to Personal Protective Equipment Directive (EU) 2016/425.		Centrifugal drying may be applied.
2777	Beside the CE marking, the number of the notified body is given.		Dry cleaning may be applied by using normal solvents except trichloride and trichloroethylene (Preferably perchloroethylene). However special attention must be paid to the parameters such as water addition and/or mechanical stress and/or drying temperature.
	Manufacturer to indicate on the marking that the manufacturer's instructions have to be consulted		It means that the garment fulfills the specifications of electrostatic dissipative protective clothing according to EN 1149-5 standard



# VIDAFOR<sup>®</sup>

Keeping You Safe

**Address:** King Fahd Road, Khobar, Saudi Arabia

**Tel.:** +966 920001679

**Email:** [sales@redahazardcontrol.com](mailto:sales@redahazardcontrol.com)

[www.redahazardcontrol.com](http://www.redahazardcontrol.com)

