

A firefighter in silhouette is walking through a field of intense fire. The firefighter is wearing a helmet and carrying a fire extinguisher. The fire is bright orange and yellow, with a large plume of smoke rising in the background. The scene is dramatic and emphasizes the theme of fire resistance.

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TESAFIRE FIGHTER SUIT 0025F

TECHNICAL DOCUMENTATION FOR PPE TYPE TESAFIRE FIGHTER SUIT 0025F ACCORDING TO STANDARDISED REGULATIONS EN ISO 13688:2013, EN 469:2020

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TESAFIRE FIGHTER SUIT 0025F

0. PURPOSE

TYPE ----- PPE TESAFIRE FIGHTER SUIT 0025F manufactured by TESAMED SAGLIK HIZMETLER SAN TIC A.S. ALTINTEPE MAH. ISTASYON YOLU SOK NO:3 MALTEPE ISTANBUL following the general health and safety requirements specified in accordance with Annex II of The Regulation (EU) 2016/425 and (EU) 2022/1157 of the European Parliament and of the Council of 9 March 2016 on personal protective equipment and, in particular the specifications contained in EN ISO 13688:2013, EN 469:2020, published by the European Committee for Standardisation (CEN), as Category III PPE.

1. GENERAL REQUIREMENTS

1.1 Design principles

The PPE has been designed to protect the body of the wearer, with the exception of the head, hands and feet, against the risks involved in works associated with outdoor firefighting and their support activities, take in to account the environments and conditions of the expected operational scenarios of such firefighting activities.

The ergonomic design takes into consideration the activities that the wearer might perform under normal conditions of use without exposure to additional risks, except in the event of the user's individual hypersensitivity.

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1.2 Innocuousness

The materials and components of the PPE DO NOT adversely affect the wearer under normal conditions of use, nor do they produce known toxic or allergenic effects as they are made from commonly-used materials. All parts that are in contact with the wearer are free of roughness, sharp edges and/or protrusions that could cause harm, because they are made with patterns that fit the morphology of the human body.

-The PPE has a pH value between 3.5 and 9.5, as required by standards EN ISO 13688:2013.

-No prohibited azo dyes have been detected in the PPE, in accordance with European Directive 2002/61/EC, as required by EN ISO 13688:2013.

1.3 Comfort and effectiveness

It provides the highest level of comfort possible to ensure appropriate protection against hazards due to its ability to adapt to cutting patterns.

Its design enables it to be correctly fitted and to remain in place during the period of foreseeable use.

It can be used with other PPE worn by the user.

2. ADDITIONAL REQUIREMENTS

The type --- PPE TESAFIRE FIGHTER SUIT 0025F, complies with the general design requirements and fitting systems, comfort, ageing, sizing and marking defined below.

2.1 Design and fitting systems

The PPE's design and fitting systems enable it to adapt to the morphology of the user as shown in the following documents:

- Description of the PPE in accordance with Annex I.
- Specification of materials and components in accordance with Annex I.

2.2 Comfort

Sweat is eliminated through the use of natural breathable fabrics. Resistance to water vapour is low due to the type of material used.

2.3 Ageing

The equipment must be washed according to the instructions in the information leaflet.

2.4 Sizing

The size designation of this model (always in cm) defines the user's body size with two control dimensions, chest/waist measurement and total height, in compliance with Annex D of standard EN ISO 13688:2013.

The PPE is available in the following sizes:

TESAFIRE FIGHTER SUIT 0025F

| SIZE | Total user height (cm) | User waist girth (cm) | User chest girth (cm) |
|------|------------------------|-----------------------|-----------------------|
| XS | 160-166 | 70-78 | 72-84 |
| S | 164-170 | 78-86 | 80-92 |
| M | 168-174 | 86-94 | 88-100 |
| L | 172-178 | 94-102 | 96-108 |
| XL | 176-182 | 102-110 | 104-116 |
| 2XL | 180-186 | 110-118 | 112-124 |
| 3XL | 184-190 | 118-126 | 120-132 |

2.5 Labelling

THE PPE TYPE TESAFIRE FIGHTER SUIT 0025F has the following visible, legible and durable markings:

- Name and/or manufacturer's identification mark
- Size designation
- EC marking in accordance with the characteristics defined in Article 30 of the Regulation (EC) n° 765/2008
- Standards EN ISO 13688:2013, EN 469:2020.
- Applicable pictogram and compliance levels
- Washing and/or cleaning instructions and maximum recommended number

3. FIELD OF APPLICATION OF EN 469:2020

This legislation is applied to protective gear for fire-fighters involved in fire-fighting activities.

The legislation specifies performance levels and test methods for the materials used in protective gear as well as including design recommendations.

4. GENERAL REQUIREMENTS OF EN 469:2020

The dimensions of the PPE are defined in the size chart, which indicates the bodily dimensions for each size as defined in point 2.4 of the technical documentation.

TESAFIRE FIGHTER SUIT 0025F

4.1 Dimensional stability.

The material used for this PPE does not shrink by more than 3%, in the warp or weft, after 5 wash cycles, in accordance with the manufacturer's washing instructions.

4.2 Design and ergonomics.

Protective gear for fire-fighters provides full body protection including the torso, neck, arms down to the wrists and legs down to the ankles, excluding the head, hands and feet.

The fire-fighter's suit comprises two parts; jacket and trousers, which overlap during the user's movements in compliance with Annexe D, EN 469:2020

Accessories which pass through the external layer are not in contact with innermost layer of the assembly or components which make up the suit.

5. SPECIFIC REQUIREMENTS OF EN 469:2020

These requirements are applicable to all the component materials on the PPE which are exposed to the risks for which it has been designed.

5.1 Limited flame propagation

In compliance with EN ISO 15025:2002 the results obtained, after the sample has been prepared, are:

- | |
|--|
| a) That no sample flames vertically or outwards. |
| b) That no simple releases burning remains |
| c) If there are embers, they must not extend beyond the damaged part of the sample |
| d) That no simple is perforated |
| e) The average post inflammation value must be 2 s. |

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5.2 Convective heat

In compliance with EN 367, the following was obtained as a minimum value: **LEVEL 2**

| Performance Level | Heat Transfer Index HTL ₂₄ | Heat Transfer Index HTL ₂₄ -HTL ₁₂ |
|-------------------|---------------------------------------|--|
| 1 | ≥9 | ≥3 |
| 2 | ≥13 | ≥4 |

Considering a heat flow of 80 KW/m²

5.3 Radiant heat

In compliance with EN 6942:2002, the following was obtained as a minimum value: **LEVEL 2**

| Heat transfer index | Performance Level 1 | Performance Level 2 |
|---------------------|---------------------|---------------------|
| RHTI 24 | ≥ 10.0 | ≥ 18.0 |
| RHTI 24 - RHTI 12 | ≥ 3.0 | ≥ 4.0 |

Considering a heat flow density of 40 kw/m².

5.SAMPLES SUBMITTED

The following were submitted:

- 1 (S) and 3 (XL)PPE garments type TESAFIRE FIGHTER SUIT 0025F
- 4 (4,0 m) of each fabric that makes up the PPE type TESAFIRE FIGHTER SUIT 0025F

6.MEANS OF CONTROL

The model TESAFIRE FIGHTER SUIT 0025F is subject to the following control mechanisms:

Control of raw materials: All raw materials we purchase from marketplace to produce TESAFIRE FIGHTER SUIT 0025F have certificates under EN Norms.

TESAFIRE FIGHTER SUIT 0025F

- When the raw materials arrive at our warehouse, we first check the certificates. Then, we deliver samples out of these raw material batch to the quality control department to perform a series of physical compliance test. Weight, Tensile Strength, Tear Strength, Water repellence checks, Yarn Types Checks.

- Control of the product in the manufacturing process: In each step of manufacturing process of TESAFIRE FIGHTER SUIT 0025F, we establish control points such as in cutting department, in stitching department, and packaging department. Quality at the source is the key goal of our quality system, and we manage to measure the key control values at every stage of manufacturing process.

- Control of the final product manufactured by means of sampling: When the production is completed, we first check the ergonomics of the final product by means of the sizes determined by EN ISO 13688. Then we start to control if the accessories such as Reflective Tapes, Panic Zip and other components are delicately stitched to the garment or not. If all controls are passed, we initiate packaging process and get ready the products to be dispatched from our factory.

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8. RISK ASSESSMENT

| Conditions | Garment Has To Be Worn | What Is The Probability Of A Hazard/Injury Happens | Importance Of Hazard/Injury | Risk Evaluation | Considerations Of Design That Are Applied To Mitigate The Risk Of Injury | Standard To Evaluate The Level Of Protection |
|--|--|--|-----------------------------|-----------------|--|--|
| Ergonomics | Comfort when working | Low | Slightly harmful | Insignificant | Ergonomics and design | EN ISO 13688:2013 |
| Defective Size | Sufficiency of comfort. Freedom of movement | Low | Slightly harmful | Insignificant | Ergonomics and design | EN ISO 13688:2013 |
| Day & Night Visibility | Fire Fighting Staff | High | Extremely harmful | Intolerable | High Visibility | EN 469:2020 |
| Protection against open Fire | A flame is directed towards the material surface. After 10 seconds | High | Extremely harmful | Intolerable | Limited flame spread - Surface ignition (A1) | EN 469:2020 |
| Protection against open Fire | A flame is directed towards the material surface. After 10 seconds | High | Extremely harmful | Intolerable | Limited flame spread Edgeignition (A2) | EN 469:2020 |
| The Protection against convective heat measures the time it takes to raise the temperature to 24°C degrees | Heat transfer from one place to another by the movement of fluids causes heat exhaustion | High | Extremely harmful | Intolerable | Flame resistant clothing (Protection against convective heat- B) | EN 469:2020 |
| Protection against 2nd degree thermal burns | Staff working near elements that release high temperature heat energy | High | Extremely harmful | Intolerable | Flame retardant clothing (Protection against radiant heat (C) | EN 469:2020 |
| Protection against 2nd degree thermal burns | Protection against 2nd degree thermal burns Contact with hot elements > 250°C | High | Extremely harmful | Intolerable | Flame retardant clothing (Protection against radiant heat (F) | EN 469:2020 |

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| Conditions | Garment Has To Be Worn | What Is The Probability Of A Hazard/Injury Happens | Importance Of Hazard/Injury | Risk Evaluation | Considerations Of Design That Are Applied To Mitigate The Risk Of Injury | Standard To Evaluate The Level Of Protection |
|--|---|--|-----------------------------|-----------------|--|--|
| Staff with possibilities of receiving Water Penetration inside garment | Protection against water penetration | High | Harmful | Intolerable | Water Penetration Resistance | EN 469:2020 |
| Staff with possibilities of receiving Water Vapor inside garment | Protection against 2nd degree thermal burns | Low | Harmful | Intolerable | Water Vapor Resistance | EN 469:2020 |
| Staff working near elements that release high temperature heat energy | Protection against 2nd degree thermal burns | Medium | Extremely Harmful | Important | Flame Retardant Clothing (Protection against Radiant Heat) | EN 469:2020 |
| Medium Risk of High Visibility | Visibility during daylight hours and when illuminated by headlights in the dark | Medium | Slightly Harmful | Tolerable | Protective Clothing. Visibility Clothing for non-professional use | EN 469:2020 |
| Accidental splashes of chemical products onto wearer, or through leakages of chemical products | Explosions at Chemical plants can cause a variety of lift threatening injuries. | High | Extremely Harmful | Intolerable | Protective clothing against Liquid Chemical | EN 469:2020 |

9. INFORMATION LEAFLET

The information sheet that accompanies every type --- PPE TESAFIRE FIGHTER SUIT 0025F a model of which is included in Annexe II, will be written in the official language of the country of sale, and other translations may be included.

TESAFIRE FIGHTER SUIT 0025F

ANNEX I

PPE DESCRIPTION

Set composed by a jacket and a pair of trousers made in navy blue woven fabric with a yellow non-woven fabric laminated in white between the lining and the outer fabric, the jacket is lined to a navy blue woven fabric, with a non-woven fabric adhered to it. The garments have 5 cm-wide stitched yellow/grey/yellow retroreflective tapes.

TESAFIRE FIGHTER SUIT 0025F

ANNEX II: INFORMATION LEAFLET

TESAMED A.Ş.
ALTINEPE MAH.
İSTASYON YOLU SOK
NO:3 MALTEPE
İSTANBUL TURKEY



EN ISO 13688:2013

NOTIFIED BODY
0161



EN 469:2020

TESAFIRE FIGHTER SUIT 0025F

This product has been manufactured in compliance with the demands of Regulation (EU) 2016/425 and (EU) 2020/1157, in compliance with EN ISO 13688:2013 (Protective Clothing, General Requirements), EN 469:2020 in compliance with certificate n° 220000399/1611 by ATEX, Flaco Emilio Sals n° 1, Alcoi, Spain, Notified Body 0161

Recommendations for use

- The PPE is manufactured in a woven material in (color) Dark Navy with a composition of 75% Meta-aramid, 23%para-aramid, 2% carbon, 200 g/m²
- Designed for use in industrial activities where the wearer is exposed to:
 - ◆ Brief contact with an open flame,
 - ◆ Sources of radiant heat of less than 20 kW/m²,
 - ◆ Small splashes of molten metal during soldering and joining techniques, minimising the risk of small electric shocks and accidental contact with electrical contacts of voltages up to 100V DC under normal working conditions,
 - ◆ The use of additional protection such as gloves, hoods etc, may be necessary,
 - ◆ The correct performance of the garment requires it to be correctly fastened at all times,
 - ◆ For full-body protection, the PPE must be worn fully fastened and accompanied by other appropriate protective gear such as clothing that protects the hips and lower extremities from the same risks as that of the PPE, a helmet with face-visor, protective gloves and boots,
 - ◆ The environmental conditions and risks associated with the operator's surroundings must be considered,
 - ◆ For correct performance, the garment must be correctly adjusted,
 - ◆ More information on selection, use, care and maintenance is given in CENTR 14560:2015.

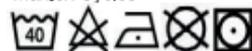
Recommendations against improper use

- ◆ This PPE must not be used against risks other than those previously described,
- ◆ Dirt and molten metal adhering to the garment may affect its performance,
- ◆ Never remove the garment when in an explosive or flammable environment or when handling explosive or flammable material,
- ◆ An increase in the oxygen content in the air may considerably reduce the level of protection offered by the PPE,
- ◆ The electrical insulation capability of the PPE may be seriously affected by damp, dirt or when soaked with perspiration,
- ◆ When the PPE comprises two pieces, the wearer must wear both pieces to achieve the stated level of protection,
- ◆ This PPE is not designed to protect the neck, head, arms and legs, feet or hands,
- ◆ The PPE must not be used with other clothing below, which is not fireproof or made of material which can melt,
- ◆ Any tears must not be repaired by the user. A flammable yarn or one which can melt may be extremely dangerous in the case of explosion or fire,

NB: the PPE must be worn with another which covers the lower limbs and protects them against the same hazard as this PPE has been designed for.

Washing instructions:

Max. 5x Cycles



- ◆ Do not wash above 40°C,
- ◆ Do not bleach,
- ◆ Iron at maximum 110°C,
- ◆ Not dry-cleaning,
- ◆ Tumble-dry at reduced maximum 60°C.

Storage: Keep the garment away from unnecessary exposure to sunlight, in dry places and protected against any aggressive agents.

Packaging: Plastic bag.

The maximum number of washes specified is not the only factor that determines the life of the garment. Useful life also depends on the use of the PPE, maintenance, storage, etc

The Declaration of Conformity shall be reached by the download link below:

<https://drive.google.com/file/d/1t6i1T6t0XKDyp5GTAmYNAZpqrJmGd4f0pzcY1n5ee7u5p5e4hmg/view>

Complex fully with the level of protection required by EN 469:2020, some of which are detailed below:

Limited flame propagation index 3EN EN 14116:2015

There is no destruction to the edges.

There is no perforation.

There is no melting.

Time of post-iridescence ≤ 2 s,

Time of post-carbonisation ≤ 2 s.

Convective heat: X2

| Heat Transfer Index | Level 1 | Level 2 |
|---------------------|---------|---------|
| HTI[E] | ≥ 3,0 | ≥ 13,0 |
| HTI[E] - HTI[I] | ≥ 3,0 | ≥ 4,0 |

Radiant heat: X2

| Heat Insulation Factor Index | Level 1 | Level 2 |
|------------------------------|---------|---------|
| RHTI[E] | ≥ 35,0 | ≥ 16,0 |
| RHTI[E] - RHTI[I] | ≥ 3,0 | ≥ 4,0 |

Water penetration: Y2

Level 1 = 20kPa, for garments with no moisture barrier

Level 2 = 20kPa, for garments with moisture barrier

Resistance to water vapour: Z2

Level 1 > 30mPa/W, without exceeding 45mPa/W

Level 2 < 30 mPa/W

The garment has a useful life of 5 years.
 Year of manufacture August 2024

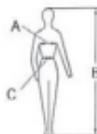
SIZES

A - CHEST MEASUREMENT

B - TOTAL HEIGHT OF THE USER

C - WAIST MEASUREMENT

| SIZE | A (cm) | B (cm) | C (cm) |
|------|---------|---------|---------|
| XS | 72-84 | 160-168 | 70-78 |
| S | 80-92 | 164-170 | 76-86 |
| M | 88-100 | 168-174 | 86-94 |
| L | 96-108 | 172-178 | 94-102 |
| XL | 104-116 | 176-182 | 102-110 |
| 2XL | 112-124 | 180-186 | 110-118 |
| 3XL | 120-132 | 184-190 | 118-126 |



TESAFIRE FIGHTER SUIT 0025F

ANNEX III: PHOTOS



TESAFIRE FIGHTER SUIT 0025F

ANNEX IV: LABEL

MANUFACTURER

TESAMED SAĞLIK HİZM A.Ş.

ADDRESS

ALTINTEPE MAH İSTASYON
YOLU SOK NO:3 MALTEPE
İSTANBUL TURKEY



0161
CAT III

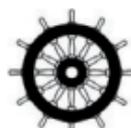
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Notified Body :0161

X2

Y2

Z2



EN 469:2020

Compliance with the Regulation
(EU) 2016/425 and (EU)
2022/1157



5X - MAX - 5 / NUMBER OF WASHES

SIZE

72-84 (cm)



160-166 (cm)

70-78 (cm)

COMPOSITION

Outer Shell:

75% meta-aramid;23%para-aramid; 2% Carbon , 220 g/m².

Moisture Barrier:

FR TPU Coated 100% Meta-Aramid Non Woven Fabric

Heat Barrier:

100% Meta-Aramid Non-woven 80gr/m² Fabric

Inner Liner:

%50 Viscose FR; %50 Meta-Aramid 110gr/m² Fabric

ALL SET OF GARMENTS SHALL BE WORN TOGETHER



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