RECOMMENDATION OF SUITABILITY No. RP-0026/2025

Centrum Naukowo-Badawcze Ochrony Przeciwpożarowej
im. Józefa Tuliszkowskiego
Państwowy Instytut Badawczy
(***Scientific and Research Centre for Fire Protection***
National Research Institute)
ul. Nadwiślańska 213, 05-420 Józefów near Otwock

tel. +48 22 7693 300;
www.cnbop.pl e-mail: cnbop@cnbop.pl

TESTOWANIE WYROBÓW INNOWACYJNYCH
CNBOP-PIB

Series:
Recommendation of Suitability

Recommendation of Suitability for use in fire protection
No. RP-0026/2025

Centrum Naukowo-Badawcze Ochrony Przeciwpożarowej – Państwowy Instytut Badawczy upon the request of:

SEHON INNOVATIVE LACKIERANLAGEN GmbH

Herdweg 3

D-75391 Gechingen, Germany

based on the assessment of the tested product, a Recommendation of Suitability for use in fire protection

is granted for the product named:

FIPROTEX S-TYPE fire blanket

Manufactured by: Fingerhuth Heat Protection – Isolier – und Textiltechnik
Vulkanhof 1, 56651 Niederzisse, Germany

DIRECTOR OF CNBOP-PIB

pp Deputy Director
for Certification and Admittance
st. bryg. Jacek Zboina, D.Sc. Eng.

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Without a fixed deadline

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This document was originally translated from Polish to English between 30.09-01.10.2025.
In case of conflict between the Polish Recommendation of Suitability and this translation, the Polish document shall be binding.

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1. SUBJECT OF THE RECOMMENDATION OF SUITABILITY

1.1. General technical characteristics of the product

According to the manufacturer's declaration, FIPROTEX S-TYPE fire blanket is intended for extinguishing and limiting the effects of motor vehicle fires. It can be part of the equipment of, among others, fire brigade vehicles, above-ground and underground car parks, road tunnels, ferries, petrol stations, car workshops, and electric vehicle charging stations.

The blanket is made of silica fabric covered with a vermiculite coating. It is stitched with Kevlar-aramid threads.

Photo 1. Fire blanket type: FIPROTEX S-TYPE
Source: CNBOP-PIB.

Photo 2. Unfolded fire blanket type: FIPROTEX S-TYPE
Source: CNBOP-PIB.

Photo 3. Test installation of a FIPROTEX S-TYPE fire blanket on a car.
Source: CNBOP-PIB.

Product properties declared by the manufacturer:

✓ Dimensions	6,0 m x 8,0 m (48 m^2)
✓ Thickness:	0,78 ± 0,07 mm
✓ Weight:	0,60 ± 0,03 kg/m^2
✓ Mass:	30,21 kg
✓ Material:	silicon fabric coated with vermiculite
✓ Short-term operating temperature:	> 1600 °C
✓ Long-term operating temperature:	> 1300 °C
✓ Application:	reusable

2. INTENDED USE, SCOPE AND CONDITIONS OF USE AND RESTRICTIONS

2.1. Intended use

FIPROTEX S-TYPE fire blanket is intended for extinguishing and limiting the effects of car fires.

2.2. Scope, conditions of use, and limitations

According to the manufacturer's declaration, the FIPROTEX S-TYPE fire blanket is reusable.

After use, the blanket must be returned to the manufacturer or an authorized service centre for washing and maintenance.

3. TESTING OF THE PRODUCT

3.1. Assessment of the product's suitability for testing

As of the date of issuance of this recommendation, FIPROTEX S-TYPE fire blanket is not subject to the requirement to obtain admittance for use under Article 7 of the Act of 24 August 1991 on fire protection. After analysing the technical documentation of the product in question, which was attached to the application for testing an innovative product, Centrum Naukowo-Badawcze Ochrony Przeciwpożarowej – Państwowy Instytut Badawczy (CNBOP-PIB) positively assessed the possibility of testing FIPROTEX S-TYPE fire blanket in organizational units of the State Fire Service.

3.2. Program and course of testing

The testing of FIPROTEX S-TYPE fire blanket was conducted in accordance with the testing program approved by the Commander-in-Chief of the State Fire Service at the Testing Unit designated by the Commander-in-Chief of the State Fire Service.

The testing took place on 2 July 2025.

The purpose of the testing was to assess the suitability of FIPROTEX S-TYPE fire blanket for extinguishing passenger car fires.

The practical tests were conducted by the County Headquarters of the State Fire Service in Otwock at a location specially prepared for these activities.

As part of the testing, the following activities were carried out:

- applying the blanket onto vehicles parked in various arrangements to simulate real-life situations, e.g., in car parks or garages;
- repeatedly unfolding and folding the fire blanket;
- conducting two test fires of passenger cars (one vehicle with a conventional drive and the other with an installed EV battery), and assessing its practical suitability during firefighting operations;
- inspection of the blanket after use.

1. Fire of a passenger car with a conventional drive

A Ford Fiesta wreck was used; the vehicle had its front and rear windows on the driver's side slightly open. The ignition area was soaked with approximately 3 litres of unleaded gasoline.

The fire was initiated by igniting the rear seat. After about 3 minutes from the start of the test, the vehicle fire was fully developed, and its temperature exceeded 650 °C. Firefighters placed the fire blanket on the vehicle and spread the sides of the blanket onto the ground.

The blanket was kept on the vehicle for a period of 30 minutes. During this time, the vehicle was monitored, and temperature measurements were taken at 5-minute intervals using a camera from the equipment of the Fire and Rescue Unit.

Table 1 contains the results of the temperature measurements:

Table 1. Results of temperature measurements – fire in a passenger vehicle with a conventional drive

	Front of the vehicle	Side of the vehicle	Rear of the vehicle
Temperature of the burning vehicle [°C]	650	650	650
Temperature of the burning vehicle at the moment of applying the blanket [°C]	100	240	180
Temperature of the burning vehicle [°C] 5 minutes after covering with the blanket	170	210	210
Temperature of the burning vehicle [°C] 10 minutes after covering with the blanket	190	200	190
Temperature of the burning vehicle [°C] 15 minutes after covering with the blanket	130	140	190
Temperature of the burning vehicle [°C] 20 minutes after covering with the blanket	130	140	140
Temperature of the burning vehicle [°C] 25 minutes after covering with the blanket	105	120	115
Temperature of the burning vehicle [°C] 30 minutes after covering with the blanket	102	110	106

After 30 minutes, the blanket was removed, and the vehicle was observed for visible flames and re-ignition.

No flames were visible, and there was no re-ignition.

Photographic documentation of the conducted fire test is presented on the following pages.

Photo 4 – 6 Development of the fire

Source: CNBOP-PIB.

Photo 7. Covering a burning vehicle with a blanket

Source: CNBOP-PIB.

Photo 8. Vehicle covered with a fire blanket

Source: CNBOP-PIB.

Photo 9. Removing the blanket

Source: CNBOP-PIB.

Photo 10-11. Vehicle after removing the blanket

Source: CNBOP-PIB.

Photo 12. Appearance of the blanket after the first fire

Source: CNBOP-PIB.

Conclusions:

FIPROTEX S-TYPE blanket effectively isolates the access of oxygen to the combustion zone and suppresses the vehicle fire, while also isolating the fire's effects on the surroundings.

FIPROTEX S-TYPE blanket was not damaged or burned through. The fire blanket showed signs of sooting and the effects of high temperature.

2. Fire of a passenger car with an inserted EV battery

A Citroen Picasso wreck was used; the vehicle had its front and rear windows open. To simulate an EV vehicle fire, one EV battery was used. The battery was placed behind the front seats, in front of the rear seat. The fire was initiated by igniting the battery with a gas torch.

After about 15 minutes from the start of the test, the vehicle fire was fully developed, and its temperature exceeded 650 °C. Firefighters placed the fire blanket on the vehicle, and the sides of the blanket were tucked under the vehicle. The firefighters used the same blanket a second time, with the same side facing the burning vehicle.

The blanket was kept on the vehicle for 30 minutes. During this time, the vehicle was monitored, and temperature measurements were taken at 5-minute intervals using a thermal imaging camera. Due to the location of the battery inside the vehicle, it was not possible to measure its temperature. Approximately two minutes after covering the car with the blanket, flames were observed to have broken through the material, which necessitated cooling it down with a stream of water.

Table 2 shows the results of temperature measurements at the points where the temperature was highest.

Results of temperature measurements - fire in a passenger vehicle with a battery.

	Front of the vehicle	Side of the vehicle	Rear of the vehicle
Temperature of the burning vehicle [°C]	650	650	650
Temperature of the burning vehicle at the moment of applying the blanket [°C]	470	430	460
Temperature of the burning vehicle [°C] 5 minutes after covering with the blanket	400	430	410
Temperature of the burning vehicle [°C] 10 minutes after covering with the blanket	290	260	230
Temperature of the burning vehicle [°C] 15 minutes after covering with the blanket	260	205	230
Temperature of the burning vehicle [°C] 20 minutes after covering with the blanket	250	220	205
Temperature of the burning vehicle [°C] 25 minutes after covering with the blanket	215	188	174
Temperature of the burning vehicle [°C] 30 minutes after covering with the blanket	208	180	170

After 30 minutes, the blanket was removed, and the vehicle was observed for visible flames and re-ignition.

After removing the blanket, no flames were visible. No re-ignition of vehicle components was observed. After the test, the battery was placed in a water tank for 72 hours.

Photographic documentation of the conducted fire test is presented on the following pages.

Photo 13 – 16. Development of the fire

Source: CNBOP-PIB.

Photo 17. Covering a burning vehicle with a blanket

Source: CNBOP-PIB.

Photo 18. Cooling the blanket

Source: CNBOP-PIB.

Photo 19. Vehicle covered with a fire blanket

Source: CNBOP-PIB.

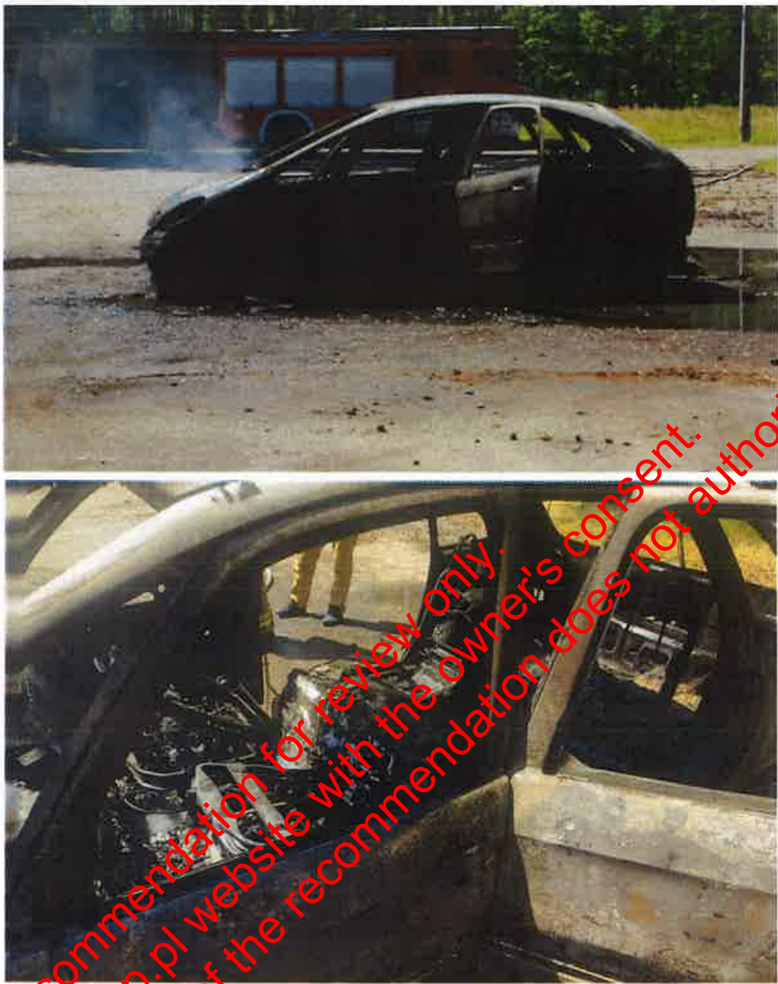

Photo 20-21. Vehicle after removing the blanket

Source: CNBOP-PIB.

Photo 22. Battery after the fire

Source: CNBOP-PIB.

Photo 23-24. Appearance of the blanket after the second fire
Source: CNBOP-PIB.

The blanket was inspected to detect any potential damage or burn-through.

Conclusions:

FIPROTEX S-TYPE blanket isolates the flow of oxygen to the combustion zone.

3.3. Assessment of the tested product

Assessment of the tested product: **positive**

FIPROTEX S-TYPE fire blanket is suitable for isolating and suppressing fires in passenger vehicles with conventional and electric drives. In the case of fires in electric vehicles with batteries, re-ignition of flame combustion is possible after the blanket is removed. This depends on the specific conditions and course of the vehicle fire, as well as the chemical reaction that occurs in the batteries due to high temperatures.

It has been confirmed that the blanket can be used multiple times; this assessment was based on the two uses/tests described in this recommendation.

The number of possible applications depends on, among other things, the fire conditions in which it was used, as well as the construction of the vehicles, as it may be mechanically damaged by being dragged across protruding or sharp vehicle components.

or electric vehicles, after the blanket is removed, further temperature observation is necessary, and the batteries must be cooled if needed.

Advantages of using the blankets:

- The fire blanket effectively suppresses fires in conventional vehicles, while for electric cars, its effectiveness depends on the specifics of the situation and incident conditions.
- It provides effective isolation of the burning vehicle from its surroundings, which limits the extent of the damage and allows for other rescue and firefighting activities to be carried out in parallel, such as evacuating people or moving nearby vehicles.
- It limits the emission of toxic gases and volatile combustion products, which is particularly important for operations conducted in confined spaces.
- Simple to use – the blanket can be easily placed on a burning vehicle or device. Handling loops in the corners significantly facilitate its deployment.

Challenges of using the blankets:

- In the case of vehicles equipped with additional roof-mounted equipment—such as antennas, roof bars, luggage racks, or carried equipment (e.g. bicycles)—difficulties or even the inability to properly use the fire blanket may arise.
- Problems with deploying the blanket may also occur in situations where vehicles are parked in close proximity.

Suggestions for improving the product:

- Given the possibility of using the fire blanket in various parking arrangements, it is recommended to lengthen the handles used for stretching it. This change will improve the ergonomics of the rescuers' work and facilitate quick deployment of the blanket, for example, by stretching it over several vehicles and tightly fitting it only to the one that has actually ignited.
- Due to limited visibility caused by intense smoke during a vehicle fire, it is suggested to permanently and clearly mark the blanket's axis of symmetry. This will help rescuers to correctly and quickly position the product on the burning car.
- To ensure proper application of the product (in accordance with the user manual), it is recommended to clearly (to avoid mistakes) mark the "inner" and "outer" layers.

4. MARKING THE PRODUCT WITH THE "TESTING RECOMMENDATION" MARK

4.1. General Rules

The applicant may mark the product covered by this CNBOP-PIB Recommendation with the TESTOWANIE REKOMENDACJA (TESTING RECOMMENDATION) mark, the design of which is shown in point 4.2.

The TESTOWANIE REKOMENDACJA mark may be placed:

- directly on the product or on a label attached to it in a visible, legible, and indelible manner. The number of this Recommendation of Suitability must be placed below the mark.
- if it is not technically possible to mark the product in the manner specified above, the mark shall be placed on the product's individual or collective packaging, or on commercial documents accompanying the product, and/or the product's data sheet, user manual, and other commercial documents accompanying the product.

4.2. Design of the "TESTOWANIE REKOMENDACJA" mark

Photo 26. Design of the "TESTOWANIE REKOMENDACJA" mark
Source: CNBOP-PIB own elaboration.

5. FORMAL PROVISIONS

5.1. Product testing was carried out in accordance with the Procedure for testing innovative products, issue 2 of 12 March 2015.

5.2. CNBOP-PIB Recommendation of Suitability **No. RP-0026/2025** was issued based on the application for innovative product testing registered under number 1/TWI/2025 and is a voluntary document stating the product's suitability for use in fire protection, to the extent resulting from the provisions of this Recommendation.

5.3. CNBOP-PIB Recommendation of Suitability **No. RP-0026/2025** confirms the suitability of the product as it is manufactured by the Manufacturer and submitted by the Applicant for testing.

5.4. The Recommendation of Suitability is not a document authorizing the marking of a product with any other mark than the one presented in point 4 of this Recommendation.

5.5. The Recommendation of Suitability does not release the manufacturer from responsibility for the quality of the product, each batch of this product, and its individual units.

5.6. A guarantee for the product covered by this Recommendation of Suitability must be granted by the Manufacturer on the basis of separate regulations.

5.7. In the content of issued prospectuses, advertisements, and other documents related to the product covered by this Recommendation of Suitability, information about CNBOP-PIB Recommendation of Suitability **No. RP-0026/2025** granted to this product must be included.

5.8. The Recommendation of Suitability CNBOP-PIB does not infringe upon the rights resulting from regulations on industrial property protection, and in particular the Act of 30 June 2000, Industrial Property Law (i.e. Polish Journal of Laws: Dz. U. z 2023 r., poz. 1170). Ensuring these rights is the responsibility of the party using this Recommendation of Suitability.

5.9. The manufacturer is responsible for checking whether the solution that is the subject of the CNBOP-PIB Recommendation of Suitability does not infringe upon the rights of third parties.

5.10. Liability for any damage caused to anyone due to product defects rests with the Manufacturer.

5.11. By granting the Recommendation of Suitability, CNBOP-PIB does not assume responsibility for any potential infringement of exclusive and acquired rights.

5.12. CNBOP-PIB may make changes to this Recommendation of Suitability on its own initiative or at the request of the owner of the Recommendation.

5.13. CNBOP-PIB Recommendation of Suitability may be revoked by CNBOP-PIB in the event of changes in separate regulations, standards, scientific foundations, or the state of technical and practical knowledge, or if the product's suitability for a given application is not confirmed during use. The Recommendation of Suitability may be revoked on CNBOP-PIB's own initiative.

6. VALIDITY PERIOD

CNBOP-PIB Recommendation of Suitability **No. RP-0026/2025** is valid indefinitely, provided that:

- no significant changes are introduced to the product;
- no changes occur in separate regulations, standards, scientific foundations, or the state of technical and practical knowledge;
- it is not revoked by CNBOP-PIB.

END OF RECOMMENDATION OF SUITABILITY

Recommendation of Suitability prepared by	**Tomasz Markowski, M.Sc. Eng.** Title or equivalent designation, first name and last name
Recommendation of Suitability authorised by	Manager of the Certification Department **Michał Chmiel, Ph.D. Eng.** Title or equivalent designation, first name and last name