

TITLE:

Test with a fire blanket on a burning vehicle

SPONSOR:

Bridgehill AS

PRODUCT/SPECIMEN:

Bridgehill Car Fire Blanket Standard 2

STANDARD/METHOD:

Bespoke / Ad-Hoc



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## Test with a fire blanket on a burning vehicle

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*Any test results relate only to the item tested.*



# TEST REPORT

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## Document history

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## 1 Summary

The *Bridgehill Car Fire Blanket Standard 2* was tested on a vehicle which was set on fire. The Blanket was pulled over the vehicle 8 times as planned, with an average fire exposure time of 13 minutes. The blanket had a few rifts after the test series.

The centre part of the blanket was more discoloured and felt stiffer than the outer parts of the blanket after the whole test series.

The blanket was able to reduce the temperature inside the vehicle after being applied to the vehicle.

## 2 Remarks and deviations

### 2.1 Remarks

No evaluation has been done on how the blankets will age and retain their properties after exposure to multiple vehicle fires over a longer time span.

Only visual observations have been made, and no material tests have been performed.

The testing has not been performed according to any known or published test standard.

### 2.2 Deviations

The testing has not been performed according to any known or published test standard, and therefore, no deviations have been noted.

## 3 Test specimen

### 3.1 General information

The test specimen was a fire blanket from Bridgehill (hereafter referred to as blanket), with dimensions 8 m x 6 m (L x W) and with a weight of approximately 27 kg/blanket. The blanket was labelled "Car Standard 2 Fire Blanket".

### 3.2 Description

The blanket was delivered in a bag suitable for testing. The blanket was folded to make it easy to place the blanket in front of the vehicle and be ready to pull over the burning vehicle.

See also drawings supplied by the sponsor in Appendix C.

### 3.3 Manufacturers / Suppliers

Table 1 Manufacturers/suppliers of some materials/components included in the test specimen.

Designation/Name	Specifications	Manufacturer/Supplier
Car Standard 2 Fire Blanket	Fire blanket	Bridgehill AS
Nissan Qashqai	Discarded vehicle. Production year unknown.	Nissan

### 3.4 Installation / Mounting / Construction

Not applicable for this test.

### 3.5 Conditioning

The blankets were stored indoors from the day of arrival to the day of testing. The vehicles were placed outside from the day of arrival to the day of testing.

### 3.6 Selection / Delivery

RISE acquired the vehicles used in the test from a scrapyards, but did not pick which vehicles to be delivered. RISE only specified that it must be a fully functional, regular-sized vehicle. RISE was not involved in the selection of the blankets or any materials/products that the tested blankets consisted of.

RISE acquired the vehicle used in the test series. RISE was not involved in the selection of the blankets or any materials/products that the tested blanket consisted of.

RISE was not involved in setting the performance criteria described in section 5.3.

## 3.7 Verification

RISE did not receive drawings on the tested specimen before the test and was therefore not able to perform a verification.

### 3.7.1 Measured properties for some materials

No material properties were measured at RISE.

## 4 Test procedure

### 4.1 Test setup

A vehicle was transported to RISE the week before testing. The vehicle was drained for fuel, oil and other liquids days before testing. Pressurised containers used in e.g. seatbelts, airbags, closing devices, etc., were not removed. The tyres were still inflated.

The vehicle was placed on the concrete of the outside testing area. Windows on each side of the vehicle were opened/broken before the test to allow sufficient circulation and access to oxygen. The vehicle was placed in a way that allowed sufficient space around the vehicle for handling the blankets used in the test. The vehicle used during the test was used for both the *Bridgehill Car Standard 2 Blanket* and the *Bridgehill Car Single Use Blanket* alternately. For *Bridgehill Car Single Use Blanket*, see test report 0535-25BRM-C.

A blanket was placed approximately 5 meters in front of the vehicle. The blanket was folded a couple of times according to instructions given by the sponsor to allow for easier handling of the blanket. The ground was continuously cooled with water from a water sprinkling device during the test series.

The test was initiated by igniting a zip-lock bag with a mixture of diesel and heptane, which was placed inside the vehicle. After the vehicle was set on fire, the temperatures were monitored. After the temperature at the top of the vehicle, detailed in section 3.2, reached approximately 800 °C, the blanket was pulled over the vehicle after instructions given by the sponsor. This was done by pulling the loops on two corners facing the vehicle and lifting it as high and firmly as possible so that the blanket managed to cover the entire vehicle. The two people doing this were fully equipped with firefighting gear.

After the blanket had covered the vehicle, it was wrapped around the vehicle using the feet to move the blanket closer to the vehicle near the ground.

After the temperature had dropped to around 300 °C – 400 °C, measured in the ceiling at the top of the vehicle, the blanket was removed. The blanket was removed by pulling the loops in the opposite direction of the blanket and pulling it back to the starting position. The blanket was then folded as it was initially done, and placed in the same position as before pulling the blanket over the vehicle.

When most of the combustible interior of the vehicle was burned out, pieces of wooden pallets were placed inside the vehicle to keep the fire going. The test was repeated 8 times with the *Standard 2 Blanket*.

### 4.2 Instrumentation

Shielded thermocouples, type K, were installed to measure the temperature in different positions of the vehicles. These were used to monitor the temperature of the vehicles and to use as an indicator for when to apply the blankets to the vehicles and when to remove them. Positions are also given in Table 2 and Figure 1.

Table 2 Positions of the thermocouples for temperature measurements.

ID no.	Position
1	Inside the vehicle, around the gear stick.
2	In the centre top of the vehicle, approximately 2 cm underneath the roof.
3	Inside the vehicle, towards the trunk.

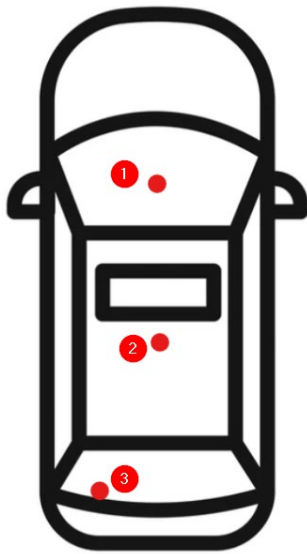


Figure 1 Position of thermocouples. The figure is for information only and is not to scale and not representative for the vehicle used during the tests.

### 4.3 Test conditions

The tests were done outside. The weather was partly cloudy. The air temperatures were approximately 15 - 20 °C, and wind speeds were approximately 2 – 5 m/s.

### 4.4 Witnessing of test

Table 3 Witnesses during the test.

Name	Role	Representing
Petter Eide	Principal test engineer.	RISE
Jan Erik Andersen	Technician	RISE
Thomas H. Jahren	Sponsor	Bridgehill AS
Joakim Sørensen Lundberg	Sponsor	Bridgehill AS

## 5 Measurements, observations and results

### 5.1 Measurements

Temperature measurements inside the vehicle are given in Appendix A.

### 5.2 Observations

Observations made during the test are given in Table 4. Note that both the Standard 2 blanket and the Single use blanket were tested alternately on the same vehicle. Observations related to the Single use blanket are removed from the table.

*Table 4 Observations made during the test series. The times given in the table are relative to the test start. Number of times the blanket is pulled over the vehicle in parentheses. Whether the vehicle self-ignited or was reignited by one of the operators is not described in the observations.*

Time [hour:min]	Observations
00:00	<b>Test starts</b> at 2025-09-03 at 08:47. The vehicle is a discarded Nissan Qashqai, where part of the ceiling is glazed. The vehicle is set on fire and the blanket is placed in front of the vehicle. A representative from the sponsor and a representative from RISE are handling the blanket during the test day.
00:03	Pulling the blanket over the vehicle (1).
00:06	Hearing a loud bang. Not identified with a specific event or part of the vehicle.
00:07	Removing the blanket
00:32	Pulling the blanket over the vehicle (2).
01:00	Removing the blanket.
01:27	Pulling the blanket over the vehicle (3).
01:39	Removing the blanket.
01:53	Pulling the blanket over the vehicle (4).
02:03	Removing the blanket.
02:07	Pulling the blanket over the vehicle (5).
02:17	Removing the blanket.
02:23	Pulling the blanket over the vehicle (6).
02:39	Removing the blanket.
02:43	Pulling the blanket over the vehicle (7).
02:59	Removing the blanket.
03:22	Pulling the blanket over the vehicle (8).
03:33	Removing the blanket.
03:33	<b>The end of the fire test is at the request of the sponsor.</b> The test is terminated due to time constraints and because the number of tests planned has been performed. Directly after the end of the test the blankets are inspected. The centre part of the blanket is more discoloured and feels stiffer than the outer parts of the blanket after the whole test campaign. Some rifts in the blanket are observed.

### 5.3 Performance criteria

The performance criterion given by the sponsor was to perform the test between 5 and 10 times.

### 5.4 Results

The test was repeated 8 times, and time constraints did not allow for more tests to be performed. The number of tests was in accordance with the performance criterion set by the sponsor.

## Appendix A. Visualisation of measurements

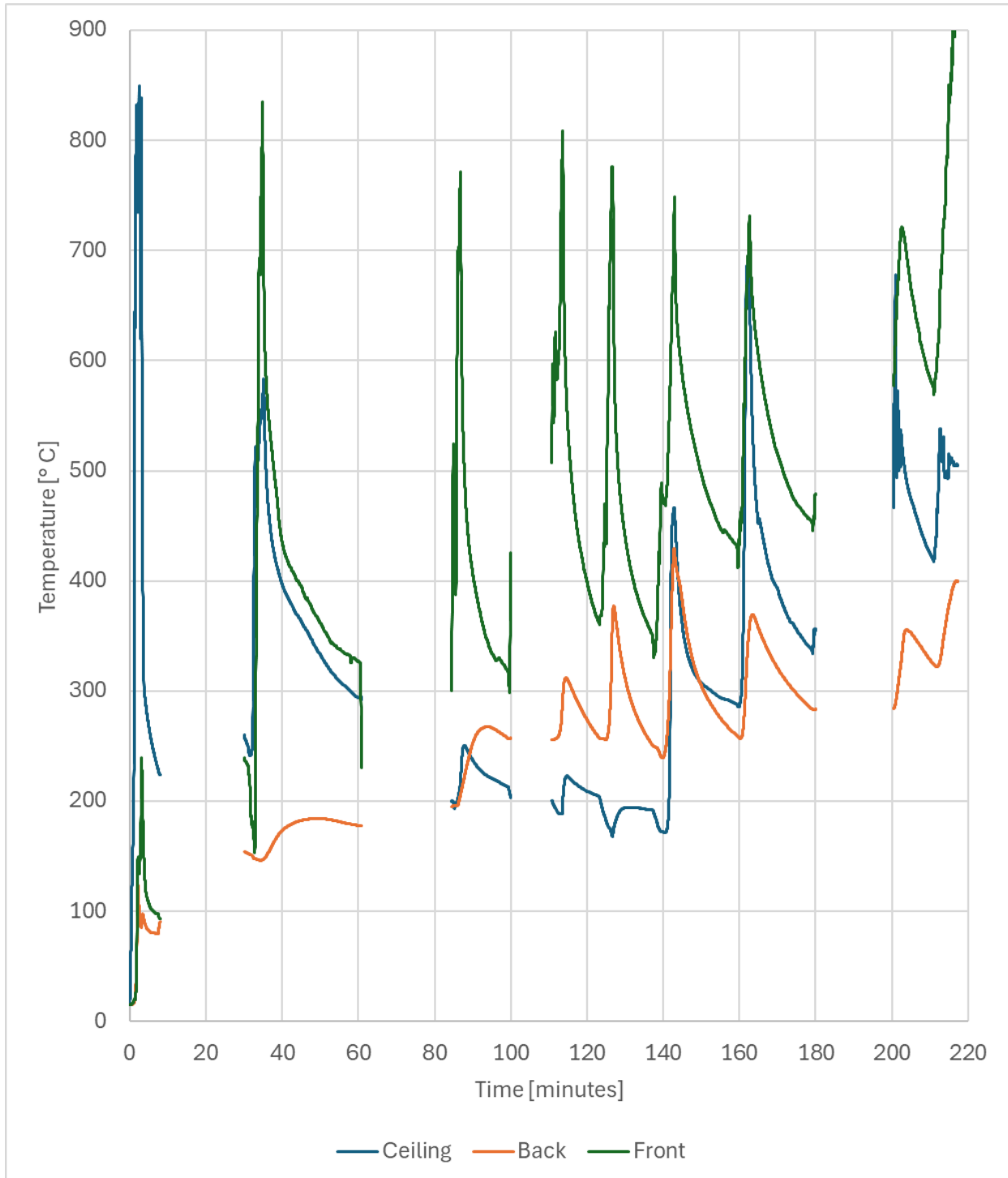


Figure 2 Temperature measurements inside the vehicle during the test series. Gaps in the measurements indicate testing with the Single use blanket, and these measurements are removed from the figure. The peaks represent the maximum measured temperature inside the vehicle before applying the blanket. The exact start and end times of each test are difficult to specify and may not be accurately represented in the figure.

## Appendix B. Photos



Photo 1 Blanket being pulled over the vehicle.



Photo 2 Blanket placed over the vehicle.



Photo 3 Blanket being removed from the vehicle.

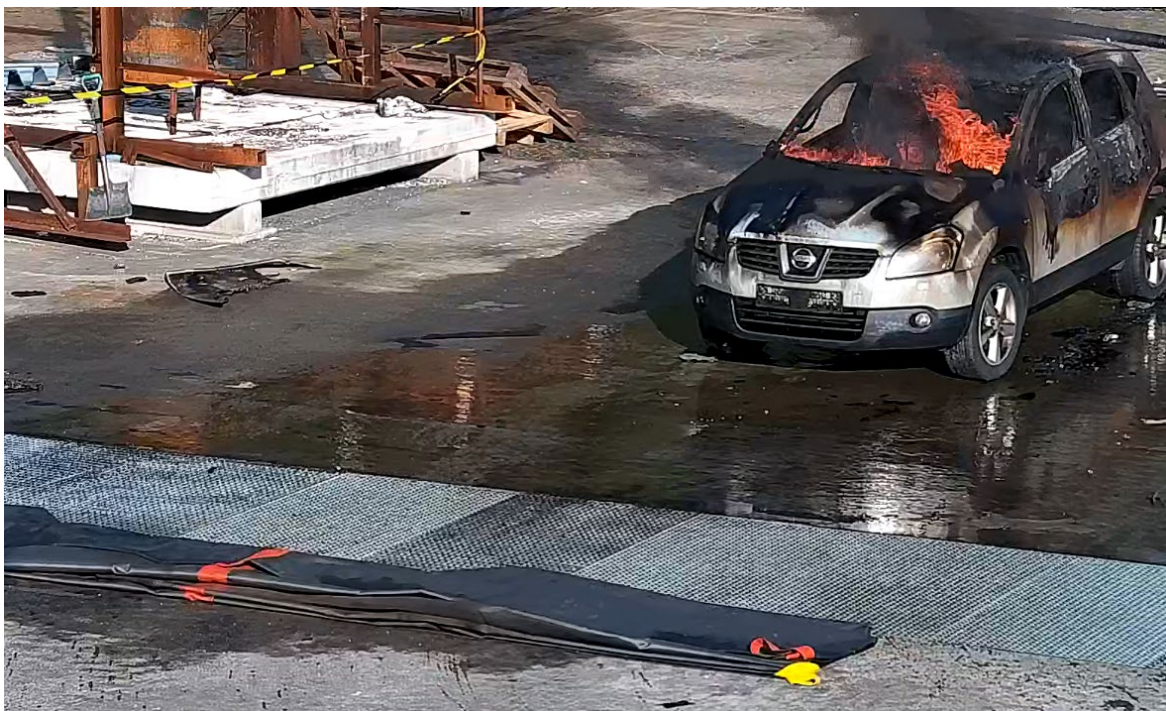


Photo 4 Blanket has been folded in layers in front of the vehicle and is ready for a new test.



*Photo 5 Photos of the Bridgehill Standard 2 blanket after the end of the test series.*

## Appendix C. Product data sheets



### CAR STANDARD 2

Trusted Performance. Enhanced Value.

The Car Standard 2 Fire Blanket combines Bridgehill's proven fire-blocking technology with the same trusted performance as the original Car Standard - now at a lower price point, making it ideal for public tenders and large-scale procurement.

#### Key Benefits

- Controls vehicle fires within seconds
- Isolates electric vehicle fires effectively
- Immediately contains toxic gases and smoke, reducing carcinogen exposure
- Compatible with standard cars and SUVs
- Effective on small fires as well as full vehicle fires, offering versatile response
- Cost-effective solution optimized for high-volume orders and tenders

#### Product Features

- Surface and volume resistivity in accordance with ASTM D257
- Red center stripe for easier deployment
- Red and yellow handles for improved usability
- Red center markings on both sides for quick orientation
- Reinforced with eyelets every meter for use as a fire sail
- Delivered in a compact, portable smartbag



#### Size/Weight Car Standard 2:

± 6 × 8 m Weight ± 27 kg  
± 19.8 × 26 ft Weight 59,5 lb



Scan QR Code for instruction videos

#### Smartbag:

- Included with every blanket for safe storage, easy transport, and long-term usability.
- Airtight
  - Equipped with shoulder straps and handles for easy transport
  - Includes instruction manual in four languages
  - Comes with a repair kit for patching holes caused by sharp objects
  - Conformity with IP65



VL10.09.2025



## CAR STANDARD 2

### TECHNICAL SHEET

<b>SKU</b>	101255
<b>Size</b>	≤5% 6 × 8 m (48 m <sup>2</sup> ) / 27 kg. ≤5% 19.8 × 26 ft. 59,5 lb.
<b>Fabric combination</b>	<ul style="list-style-type: none"> <li>• Heat exposure zones: Pyroxene fabric</li> <li>• Fabric blend, long sides: Silica, Alumina, Calcium oxide and Boron oxide</li> </ul>
<b>Coating</b>	Each side of the fabric is coated with BridgeTech™ polymer coating
<b>Vehicle Compatibility</b>	Handles vehicles up to standard SUV sizes.
<b>Main Usage</b>	<ul style="list-style-type: none"> <li>• Fossil fuel vehicles</li> <li>• Electric/ hybrid vehicles</li> </ul>
<b>Smartbag Maintenance</b>	<ul style="list-style-type: none"> <li>• Apply the included silicone grease to the zipper to maintain airtightness.</li> <li>• Tested according to EN 60529: 1991 (Conformity with IP65)</li> </ul>
<b>Shelf life</b>	10 years shelf life. Annual visual inspection is recommended.
<b>Disposal Guidelines</b>	Check Local Regulations.
<b>Service temperatures on core fabrics</b>	<p>Silica, Alumina, Calcium oxide and Boron oxide</p> <ul style="list-style-type: none"> <li>• Peak temperature ± 1100 °C</li> <li>• Working temperature ± 550 °C</li> </ul> <p>Pyroxene fabric</p> <ul style="list-style-type: none"> <li>• Peak temperature ± 1600 °C</li> <li>• Working temperature ± 800 °C</li> </ul>
<b>Certifications</b>	<ul style="list-style-type: none"> <li>• Surface and volume resistivity in accordance with ASTM D257</li> </ul>

#### SAFETY NOTICE

May generate static electricity from friction during use.  
Not designed to protect against electric shock.  
Permeable to radio frequencies.  
Avoid use near flammable gases or sensitive electronic equipment.



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