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EXTERNAL FIRE EXPOSURE TO ROOF TEST REPORT No EUI-26-RT4-000179

Test report date: **07th May 2026**

Test Standard: **CEN/TS 1187:2012** – Test methods for external fire exposure to roofs Test 4 – Method with two stages incorporating burning brands, wind and supplementary radiant heat

Other reference document: **BS EN 13238:2010** – Reaction to fire tests for building products – Conditioning procedures and general rules for selection of substrates

Product: Fire Membrane for PV Panels on any roof type.
Referenced: FireBlock PV Membrane

Applicant: **BRIDGEHILL AS**
3262 Larvik
NORWAY

Testing laboratory: **EFECTIS UK/Ireland Limited**
Unit 15F, Kilroot Business Park, Larne Road
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UNITED KINGDOM

UKAS TESTING
10169

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1. DOCUMENT TRACKING

Revision Index.	Modification	Comments	Date		
0	Original document	/	07th May 2026	*Writer*	SACHIP
				Reviewer	SVE
				Approver	MKE

2. OBJECT

The results reported in this document are intended to determine the capacity to resist penetration by fire of the sample described in Section 3 using the external fire exposure to roofs test specified in **CEN/TS 1187:2012 –** Test methods for external fire exposure to roofs Test 4 – Method with two stages incorporating burning brands, wind and supplementary radiant heat

3. INFORMATION ABOUT THE TESTED PRODUCT

3.1. SAMPLING

The tested sample has not been subject of a sampling, thus the results apply to the sample as received.

3.2. DELIVERY

The specimens were supply by the sponsor of the test and were received on the 9th March 2026.

3.3. GENERAL INFORMATION ABOUT THE TESTED PRODUCT

The information below were provided by the applicant who attests their accuracy.

Manufacturer / Supplier	**BRIDGEHILL AS** 3262 Larvik NORWAY	
Identification / Reference of the product / sample	FireBlock PV Membrane	
General description	Description	Fire Membrane for PV Panels on any roof type.
	Thickness	0.6 mm
	Density	1667 kg/m^3
	Mass per unit area	1 kg/m^2

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3.4. DETAILED DESCRIPTION OF THE LAYERS

3.4.1. Roof covering details

Layer	Characteristics	Value / Description	Unit
Membrane	Material	Silica, Alumina, Calcium oxide and Boron oxide on core fabric.	-
	Trade name / Reference	FireBlock PV Membrane	-
	Manufacturer/supplier	BRIDGEHILL AS	-
	Thickness	0.6	mm
	Colour	One side white, one side black.	-
	Coating reference and manufacturer/supplier (if applicable)	BridgeTech™ polymer coating	-
	Mass per unit area	1	kg/m²
	Density	1667	kg/m^3
	Thermal conductivity	Not provided by the sponsor of the test	W/m.K
	PCS value	Not provided by the sponsor of the test	MJ/m²
	Reaction to fire classification, according to EN 13501-1	Not provided by the sponsor of the test	-
	Fire retardant treatment (if applicable)	Within the BridgeTech™ polymer coating.	-
	Fixing/application method	Adeshive applied	-
	Fixing reference and manufacturer/supplier (if applicable)	FireBlock adhesive	-

N/A: Not applicable

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4. TESTS

4.1. SPECIMENS PREPARATION

Specimens have been made by the applicant, according to the specifications of the standard.

The dimensions have been checked as follows:

Sample Nr	Length (mm)	Width (mm)	Conformity C / NC
A	840	840	840
B	840	840	840
C	840	840	840
D	840	840	840

4.2. CONDITIONING

Prior to tests, specimens have been conditioned at a temperature of (23 ± 2) °C and relative humidity of (50 ± 5) %, at least 48 h and until stabilisation of mass according to BS EN 13238 standard.

4.3. TESTING

Stage 1 test have been performed on 24th March 2026.
Stage 2 test have been performed on 24th March 2026.

Tests have been performed in accordance with the procedure described in the test standard.

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5. RESULTS

5.1. PRELIMINARY TEST (STAGE 1):

5.1.1. Results

Parameters	Test 1
Specimen reference	Fireblock Solar PV membrane
Test date	24/03/2026
Sample number	A
Including of joint	No
Burning brand location	Centre
Tested pitch (°)	0°
Room temperature (°C)	19°C
Room relative humidity (%RH)	48%
Duration of flaming (min:s)	No flaming observed
Duration of flaming exceeded 5 mins	No
Flame spread in any direction (mm)	65 mm
Maximum flame spread > 381 mm	No
Time to penetration (min:s)	No penetration observed
Nature of fire penetration	N/A

N/A: Not applicable

5.1.2. Observation

No specific observation.

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5.2. PENETRATION TEST (STAGE 2):

5.2.1. Results

Parameters	Test 1	Test 2	Test 3
Specimen reference	Fireblock Solar PV membrane	Fireblock Solar PV membrane	Fireblock Solar PV membrane
Test date	24/03/2026	24/03/2026	24/03/2026
Sample number	B	C	D
Including of joint	No	No	No
Burning brand location	Centre	Centre	Centre
Tested pitch (°)	0°	0°	0°
Room temperature (°C)	19°C	19°C	18°C
Room relative humidity (%RH)	48%	46%	42%
Time to penetration by fire (min:sec)	≥ 60 min	≥ 60 min	≥ 60 min
Nature of fire penetration	N/A	N/A	N/A
Occurrence of melting	No	No	No
Production of flaming molten droplets or debris	No	No	No
Production of non-flaming molten droplets or debris	No	No	No
Time of mechanical failure or development of holes without penetration by fire	≥ 60 min	≥ 60 min	≥ 60 min

N/A: Not applicable

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5.2.2. Observations

Test 1	
Time (min)	**Observation**
00 min 00 s	Sample exposed to radiant heat.
00 min 17 s	Smoke observed on the surface of the specimen.
00 min 38 s	Deformation/air gaps observed.
01 min 58 s	Brown Discolouration formed on the surface of the specimen
03 min 34 s	Smoke observed on the underside of the specimen.
05 min 00 s	Application of the burning brand.
06 min 00 s	End of application of burning brand
08 min 44 s	Black Spots formed on the surface of the specimen
14 min 57 s	Discolouration across the entire area of the test specimen.
29 min 30 s	N.N.T.R.
59 min 30 s	N.N.T.R.
60 min 00 s	End of the test.

N.N.T.R.: Nothing New To Report

Test 2	
Time (min)	**Observation**
00 min 00 s	Sample exposed to radiant heat.
00 min 15 s	Smoke observed on the surface of the specimen.
00 min 39 s	Deformation/air gaps observed.
01 min 27 s	Brown Discolouration formed on the surface of the specimen
02 min 22 s	Smoke observed on the underside of the specimen.
05 min 00 s	Application of the burning brand.
06 min 00 s	End of application of burning brand
25 min 12 s	Discolouration across the entire area of the test specimen.
29 min 30 s	N.N.T.R.
59 min 30 s	N.N.T.R.
60 min 00 s	End of the test.

N.N.T.R.: Nothing New To Report

Test 3	
Time (min)	**Observation**
00 min 00 s	Sample exposed to radiant heat.
00 min 19 s	Smoke observed on the surface of the specimen.
00 min 35 s	Deformation/air gaps observed.
01 min 20 s	Brown Discolouration formed on the surface of the specimen
02 min 56 s	Smoke observed on the underside of the specimen.
05 min 00 s	Application of the burning brand.
06 min 00 s	End of application of burning brand
23 min 14 s	Discolouration across the entire area of the test specimen.
29 min 30 s	N.N.T.R.
59 min 30 s	N.N.T.R.
60 min 00 s	End of the test.

N.N.T.R.: Nothing New To Report

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6. CONCLUSIONS

The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.
The attention is drawn on the fact that the results obtained with the sample being the subject of the present test report cannot be generalised without justification of the representativeness of the samples and tests.

Belfast, on 07th May 2026

SIGNED	APPROVED
X Shaneer VELLUKKANDY Project Leader Signed by: Shaneer VELLUKKANDY	X Maurice McKEE Testing Technical Supervisor Signed by: Maurice McKee

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APPENDIX A. PICTURES

A.1. STAGE 1 TESTS

SAMPLE A:

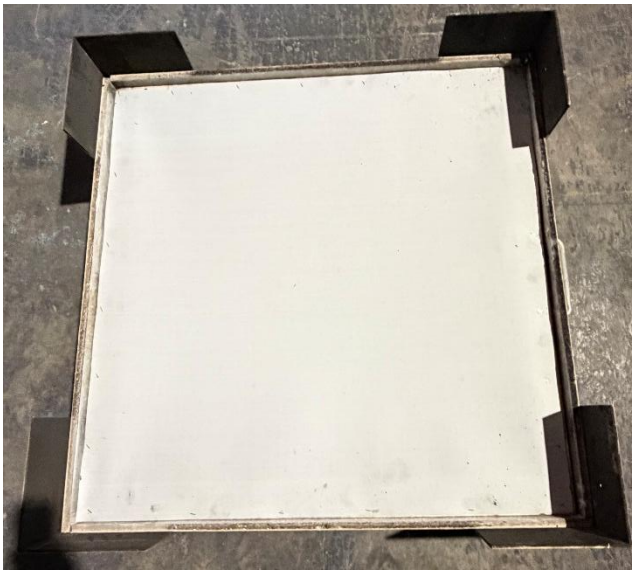


Figure 1: Sample before testing



Figure 2: Sample during the application of the burning brand.



Figure 3: Sample after the application of the burning brand

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A.2. STAGE 2 TESTS

SAMPLE B:

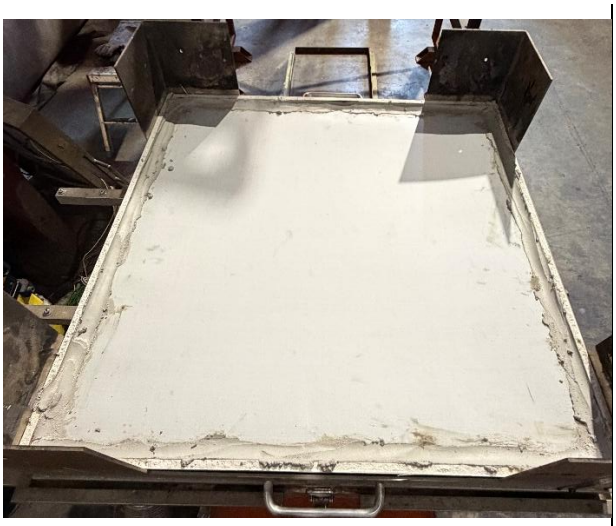


Figure 4: Sample before test

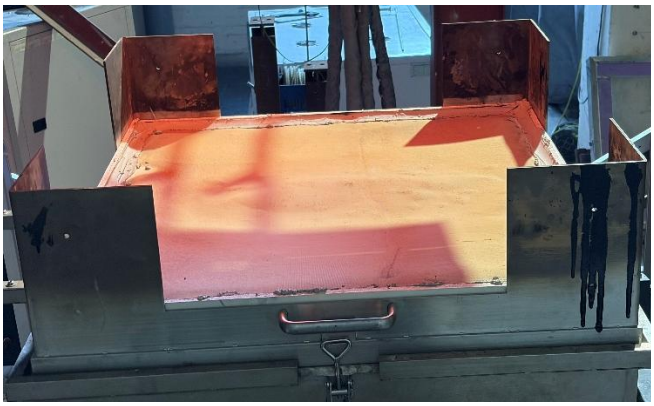


Figure 5: Sample during the test.



Figure 6: Damage investigation on the surface of the specimen



Figure 7: Damage investigation on the non-exposed side of the specimen

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SAMPLE C:



Figure 8: Sample before test

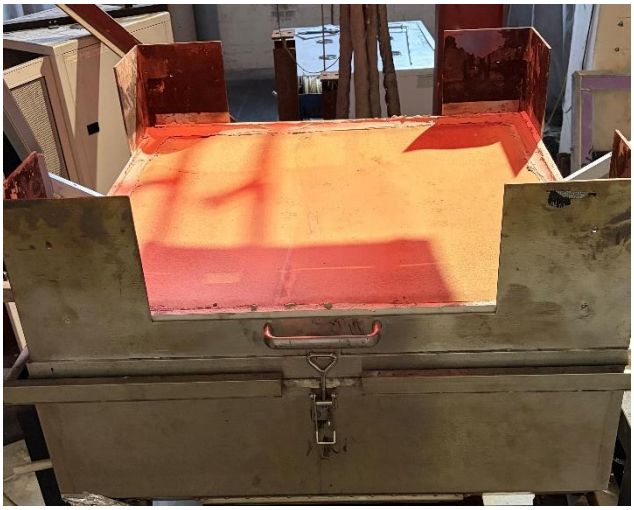


Figure 9: Sample during the test.

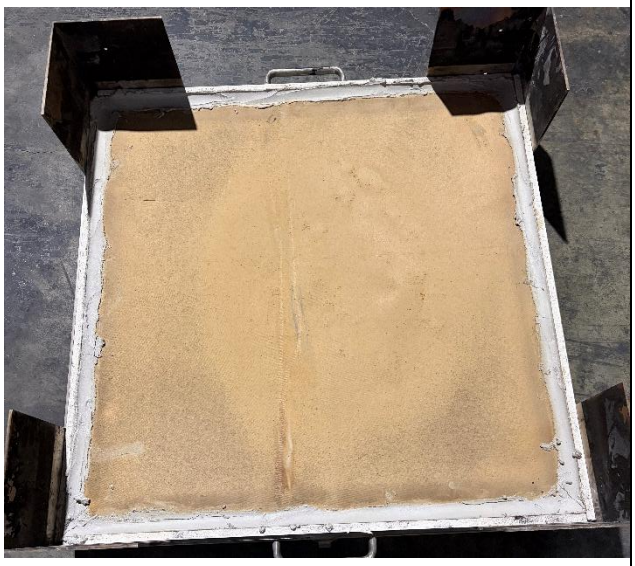


Figure 10: Damage investigation on the surface of the specimen

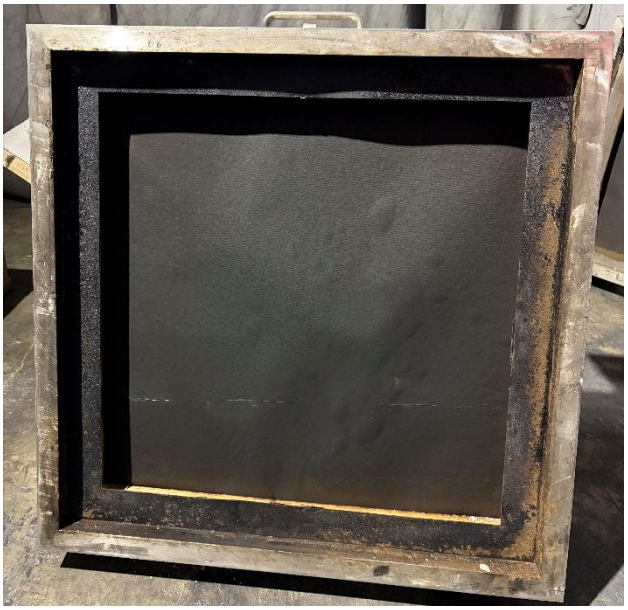


Figure 11: Damage investigation on the non-exposed side of the specimen

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SAMPLE D:



Figure 12: Sample before test

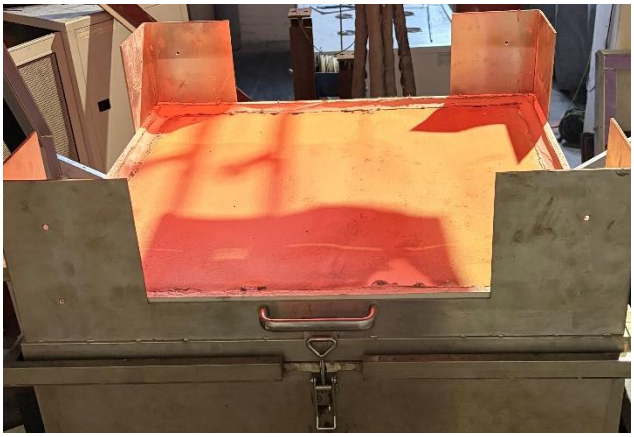


Figure 13: Sample during the test.



Figure 14: Damage investigation on the surface of the specimen

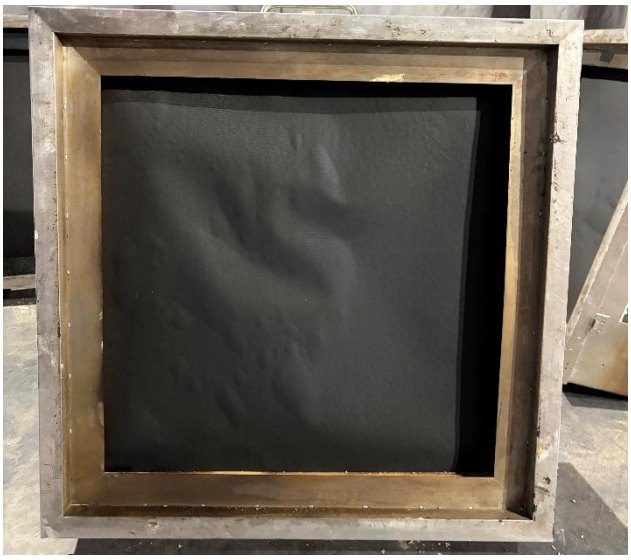


Figure 15: Damage investigation on the non-exposed side of the specimen

END OF TEST REPORT

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