PAVUS, a.s.
AUTHORIZED BODY AO 216
NOTIFIED BODY 1391
EGOLF MEMBER

L 1026

Order no.: Z210210290

FIRE TESTING LABORATORY VESELÍ NAD LUŽNICÍ
Testing Laboratory No. 1026 accredited by ČIA
Notified Testing Laboratory
Workplace Veselí nad Lužnicí

REACTION TO FIRE TEST REPORT

No. Pr-21-1.134-En

Issued on 2021-09-20

for product

Waterproofing membrane
WATERPROOF BLUE LIQUID DPM

Sponsor of the report: **Intelligent Membranes Ltd.**
Clopton Farm
Lower Road
Croydon
SG 80EF
Cambridgeshire
United Kingdom

Test method:

EN ISO 11925-2
» Reaction to fire tests - Ignitability of building products subjected to direct impingement of flame - Part 2: Single-flame source test «

The Report contains: 5 pages
(4 text pages + 1 annex)

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1 INTRODUCTION

Reaction to fire tests of the product WATERPROOF BLUE LIQUID DPM were performed based on the order of the company Intelligent Membranes Ltd. in Fire Testing Laboratory PAVUS, a.s. Veselí nad Lužnicí.

In case of dispute, the Czech version of the text shall prevail.

The tests have been prepared, performed and evaluated on the following background papers:

[1] EN ISO 11925-2:2020 Reaction to fire tests – Ignitability of building products subjected to direct impingement of flame – Part 2: Single-flame source test

[2] EN 13238:2010 Reaction to fire tests for building products – Conditioning procedures and general rules for selection of substrates

[3] Cover form delivered by the sponsor

For the purposes of this report the definitions stated in [1] and [2] are valid together with following abbreviations:

ČIA Český institut pro akreditaci, o.p.s. (Czech Accreditation Institute)
ATL accredited testing laboratory
FTL fire technical laboratory

2 TEST SUBJECT

Acc. to [3]:	Product name:	WATERPROOF BLUE LIQUID DPM
	Product description:	waterproofing membrane
	Producer:	is known to the Testing Laboratory No. 1026
	Colour:	blue
	Thickness of coating:	0.8 mm (wet)
	Density:	1,120 kg/m^3
	Mass per unit area:	0.9 kg/m^2
	Organic content:	37 % wt., in dry film
	Composition:	acrylic polymer, aluminiumtrihydrate and zinc borate
	Product use:	waterproofing membrane
Sampling procedure:		by sponsor without ATL participation
Date of specimen delivery:		2021-09-03
Measured thickness:		approx. 13 mm (including substrate)
Conditioning:		according [2]

The subjects of the test were 12 test specimens with dimension of 250 x 90 mm x approx. 13 mm including calcium silicate substrate PROMATECT H, thickness of 12 mm, density of 870 kg/m^3, reaction to fire A1, producer PROMAT International.

3 TEST PERFORMANCE

3.1 General

Tests were performed according to [1] clause 7.3.3.1 - Surface exposure
clause 7.3.3.2 - Edge exposure

Deviations from stated test method: no
Used testing and gauging equipment is listed in Annex A.

The tests were performed in the room V218 of FTL on the 6th September 2021. The ambient air temperature was 21 °C at 48 % of relative air humidity.

3.2 Test methods

Surface exposure.

The surface of individual vertically oriented samples in order 1 to 6 is exposed to the flame in the vertical axis of the test specimen, 40 mm above its bottom edge. A small burner moves at 45° angle horizontally to the test specimen until the flame reaches a pre-determined contact point. From the first contact moment of the specimen with the flame, the small burner is allowed to operate for 30 seconds and it is removed.

Edge exposure:

Individual vertically oriented samples in order 1 to 6 are exposed to the flame in the centre of test specimen. The small burner is moved in parallel towards the specimen at the angle of 45°, till the flame will reach the pre-set contact point. From the first contact moment of the specimen with the flame the small burner is left to act for the period of 30 seconds and it is removed.

The following items are evaluated: the flame spread above 150 mm from the contact point of the test flame; the time, in which it is occurred; the ignition of the filter paper located under the specimen. The possible flame spread, within 60 seconds after applying the small burner flame, is monitored.

4 TEST RESULTS

Expression of the results according to [1] cl. 8:

4.1 Surface exposure according to [1] cl. 7.3.3.1

Specimen number	Direc.	Specimen ignition (yes - no)	Height of flame tip approx. (mm)	Time for the flame to reach a distance of 150 mm above the small burner impingement (s)	Filter paper ignition (yes - no)
1_057/20.3	n*	yes	10	-	no
2_057/20.3	n*	yes	20	-	no
3_057/20.3	n*	yes	20	-	no
4_057/20.3	n*	yes	20	-	no
5_057/20.3	n*	yes	20	-	no
6_057/20.3	n*	yes	20	-	no

*cannot be distinguished

After the contact of the small flame with the specimen, it was burning in the high of approximately 10÷20 mm. The filter paper did not burn.

4.2 Edge exposure according to [1] cl. 7.3.3.2

Specimen number	Direc.	Specimen ignition (yes - no)	Height of flame tip approx. (mm)	Time for the flame to reach a distance of 150 mm above the small burner impingement (s)	Filter paper ignition (yes - no)
7_057/20.3	n*	yes	30	-	no
8_057/20.3	n*	yes	30	-	no
9_057/20.3	n*	yes	40	-	no
10_057/20.3	n*	yes	50	-	no
11_057/20.3	n*	yes	40	-	no
12_057/20.3	n*	yes	40	-	no

*cannot be distinguished

After the contact of the small flame with the specimen, it was burning in the high of approximately 30÷50 mm. The filter paper did not burn.

4.3 Application of Test Results

The test results apply to the behaviour of the product's test bodies to be tested under specific test conditions and they are not meant the only criterion to assess the possibility of fire hazard of the product when used.

The Report and Annex sheets are valid with the embossed stamp only

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ANNEX A: TESTING AND MEASURING EQUIPMENT, MEASUREMENT UNCERTAINTY

Testing equipment:	**Registration number:**
Test chamber	0061
Test hood with ventilation system	0061
Test piece fastening device	0061
Small gas burner with a fine valve	0061
45° angle gauge	0061
Pattern of specimen dimension	0061
Flame meter	0061
Burner spacers	0061
Desiccator	0070
Conditioning air chamber PO 2	0125

Measuring equipment:	**Metrological registration number:**
Stop-watch	3 05 13
Thermo-hygro-baro-graf D 4130	3 13 08
Calliper 150 mm	3 01 07
Winding 5m tape measure	3 01 05
Digital balance KERN EW 6000	3 04 09
Thermoanemometer FV	3 08 23
Datalogger ALMEMO 2590-9	3 10 32

Metrological relationships of the device are specified in the metrological registration card of the device, which is expressly identified by the metrological registration number of the device.

Measured quantity	**Extended measurement uncertainty**
Time	1 s
Ambient air temperature	< 2 °C
Ambient air relative humidity	3 %
Linear measures	0.1 mm
Air flow rate	0.1 m/s

The given extended measurement uncertainties are the multiplication of standard measurement uncertainty and extension factor k = 2 that, in case of normal distribution, equals a coverage probability of 95 %.

The standard measurement uncertainty has been determined in accordance with the document of EA-4/16 and GUM.