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Precisely Right.

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Testreport

Project number: 89211109
Report number: 89211109.01br

Date
08/03/2017

Project number
89211109

Report number
89211109.01br

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Received:
A textile floor covering, marked as: **"Kalina LVT"**;
TÜV-reference: MT17-139616.05
The sample have been received on 07/02/2017.

An underlay system, marked as: **"Floorfixx Smart"**;
TÜV-reference: MT17-139616.04
The samples have been received on 07/02/2017.

Sampling procedure:
The samples are selected by the applicant. The test house has had no influence on the sampling procedure.

Article
Floorfixx Smart & Kalina LVT (glued)

Order:
Classification of burning behaviour according to EN 13501-1:2007+ A1:2009.

Test methods: Ignitability of products subjected to direct impingement of flame (ISO 11925-2:2010/C1:2011) and determination of the burning behaviour using a radiant heat source (ISO 9239-1:2010)

Appendix
I : Flooring Radiant Panel Single Specimen Report – 8 pages

Results:
See page three and four.

Appendix:
See page five up to and including twelve.

PRODUCT IDENTIFICATION

Name	: **Floorfixx Smart***
Total thickness (mm)	: 8.1**
Total mass (gr/m^2)	: 4615**
Density (kg/m^3)	: 569**

** Applicant's declaration*
*** Determination by the test house after conditioning to constant mass is achieved.*

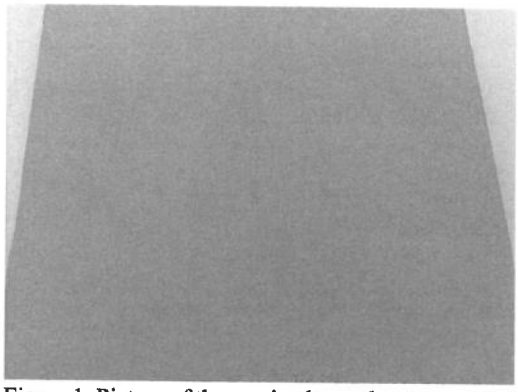


Figure 1, Picture of the received sample

Name	: **Kalina LVT***
Total thickness (mm)	: 2.5**
Total mass (gr/m^2)	: 4252**
Density (kg/m^3)	: 1709**

** Applicant's declaration*
*** Determination by the test house after conditioning to constant mass is achieved.*

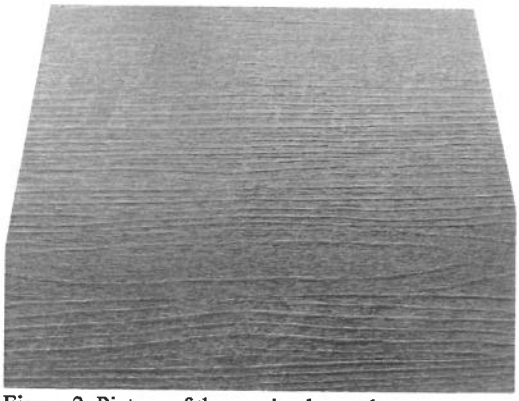


Figure 2, Picture of the received sample

TEST RESULTS

Ignitability of products subjected to direct impingement of flame
Method EN ISO 11925-2 :2010/C1:2011

Date of testing : 28/02/2017
Conditioning time, climate : ≥ 7 days, 23±2 °C and 50±5 %
Description of substrate : Fibre cement board, 8±2 mm, 1800±200 kg/m³ conforming to EN 13238.
Flame application : Surface.
Flame application time : 15 seconds.

Orientation:	Length			Width		
Total burning time[1]	15	15	15	15	15	15
Flame tip reaches 150 mm (s)	No	No	No	No	No	No
Extent of damaged area, length (mm)	65	62	62	68	70	70
Extent of damaged area, width (mm)	15	15	15	14	15	15
Material melts (yes/no)	Yes	Yes	Yes	Yes	Yes	Yes
Shrinks away[2] (yes/no)	No	No	No	No	No	No
Glowing[3](sec)	No	No	No	No	No	No
Flaming debris (yes/no)	No	No	No	No	No	No
Ignition of filter paper (yes/no)	No	No	No	No	No	No

1 Inclusive a flame application time of 15 or 30 seconds with surface or edge impingement
2 Shrinks away from flame without being ignited
3 The time at which it occurs and its duration

Determination of the burning behaviour using a radiant heat source
Method EN ISO 9239-1:2010

Date of testing : 03/03/2017 and 06/03/2017
Conditioning time, climate : ≥ 5 days, 23±2 °C and 50±5 %
Description of substrate : Fibre cement board, 8±2 mm, 1800±200 kg/m³ conforming to EN 13238.
Sampling procedure : By contractor.
Description of cleaning used : None.
Fixing method : The tested product combination (underlayment and floor covering) is glued with Uzin KE 66 on 28/02/2017.

Test specimen, orientation	Flame spread (cm)	CRF (kW/m²)	Peak light attenuation (%)	Smoke production (%.min)
1, Length	12.0	10.3	34.0	163
2, Width	13.0	10.2	33.3	145
3, Width	13.0	10.2	30.4	131
4, Width	12.0	10.3	34.8	125
Mean, Width	**12.7**	**10.2**	**32.8**	**134**

Specimen 1, 2, 3 and 4: Flashing, transitory- or sustained flaming are observed.
Specimen 1, 2, 3 and 4: Extinguished naturally before the end of the test duration

CONCLUSION

According to EN 13501-1:2007+ A1:2009 the tested sample of the aforementioned quality **"Floorfixx Smart & Kalina LVT (glued)"**, in relation to its reaction to fire behaviour is classified: **B_{fl}**.
The additional classification in relation to smoke production is: **s1.**

The aforementioned quality meets the requirement of reaction to fire classification: **B_{fl} – s1**

The classification is valid for the following end use applications:
- End use substrates of classes A1 and A2-s1,d0.
- Glued down with Uzin KE 66.

Statements:
The test results only relate to the behaviour of the test specimens of the examined product under the particular conditions of the test in laboratory conditions; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use. The method might not be suitable if the product is exposed to much larger flames or heat radiant sources.

The validity of this report will expire directly after alterations or modifications of the examined product (combination)(s) and/or the criteria. This report shall not be reproduced, except in full, without the written approval of the testing laboratory.

This document does not represent type approval or certification of the product.

Author:
Mr. M.A. van de Vlekkert

Review:
Mr. J. de Wolff

(End of report)

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Flooring Radiant Panel Single Specimen Report

Standard	: EN ISO 9239-1:2010
Laboratory	: TÜV Rheinland Nederland B.V.
Sponsor	: 89211109 Estillon
Date of test	: Mar. 03 2017
Specimen description	: MT17-139616.04 met MT17-139616.05 Floorfixx Smart met LVT bovenvloer
Test name	: # Prod 1
File name	: D:\FRPFILES\17030001.CSV
Test number in series	: 4
Flux calibration file name	: C:\FRPSOFT2.9A\CALIB\FLX17003.CSV
Thickness (mm)	: 10.6
Density (kg/m³)	: 2278
Test duration	: 12 minutes 16 seconds (736 s)
Substrate used?	: Yes
Substrate	: Calcium silicate
Fixing method	: adhesive
Conditioned?	: Yes
Conditioning temp. (°C)	: 23
Conditioning RH (%)	: 50

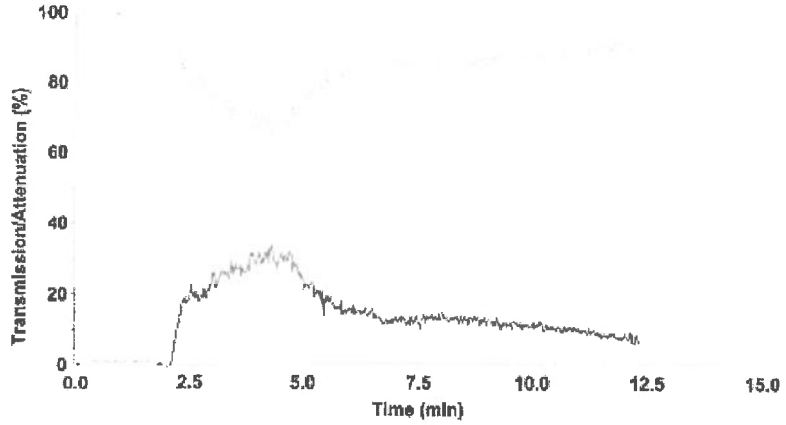
Test Results

Time to ignition	: 2 minutes 03 seconds (123 s)
Time to flameout	: 12 minutes 12 seconds (732 s)
Extent of burning (mm)	: 120
Critical flux at extinguishment (kW/m²)	: 10.34
HF-10 (kW/m²)	: 10.49
HF-20 (kW/m²)	: Not calculated (test duration < 20 minutes)
HF-30 (kW/m²)	: Not calculated (test duration < 30 minutes)
Flame spread at 10 minutes (mm)	: 110
Flame spread at 20 minutes (mm)	: Not measured
Flame spread at 30 minutes (mm)	: Not measured
Peak light attenuation (%)	: 33.99
Time to peak light attenuation	: 4 minutes 15 seconds (255 s)
Total integrated smoke (%.min)	: 163.46
Potential classification	**: A2(fl)/B(fl)**
Smoke production classification	**: s1**

These results relate only to the behaviour of the specimens of the 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

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Smoke Graph



Test name : # Prod 1
File name : D:\FRPFILES\17030001.CSV

Rake Results

Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)	Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)
60	222	11.4	2.523	510	-	3.5	-
110	335	10.5	3.514	560	-	2.9	-
160	-	9.7	-	610	-	2.5	-
210	-	8.8	-	660	-	2.1	-
260	-	8.0	-	710	-	1.7	-
310	-	7.1	-	760	-	1.5	-
360	-	6.1	-	810	-	1.4	-
410	-	5.1	-	860	-	1.2	-
460	-	4.2	-	910	-	1.0	-

Comments

Specimen extinguished naturally.

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Flooring Radiant Panel Single Specimen Report

Standard	: EN ISO 9239-1:2010
Laboratory	: TÜV Rheinland Nederland B.V.
Sponsor	: 89211109 Estillon
Date of test	: Mar. 03 2017
Specimen description	: MT17-139616.04 met MT17-139616.05 Floorfixx Smart met LVT bovenvloer
Test name	: # Cross 2
File name	: D:\FRPFILES\17030002.CSV
Test number in series	: 4
Flux calibration file name	: C:\FRPSOFT2.9A\CALIB\FLX17003.CSV
Thickness (mm)	: 10.6
Density (kg/m³)	: 2278
Test duration	: 12 minutes 27 seconds (747 s)
Substrate used?	: Yes
Substrate	: Calcium silicate
Fixing method	: adhesive
Conditioned?	: Yes
Conditioning temp. (°C)	: 23
Conditioning RH (%)	: 50

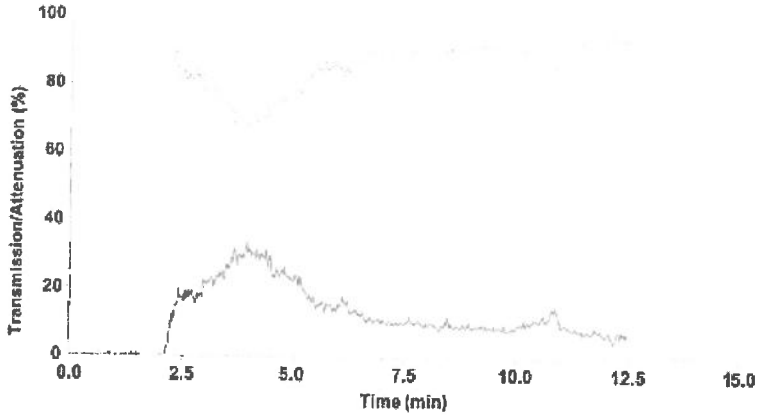
Test Results

Time to ignition	: 2 minutes 03 seconds (123 s)
Time to flameout	: 12 minutes 25 seconds (745 s)
Extent of burning (mm)	: 130
Critical flux at extinguishment (kW/m²)	: 10.19
HF-10 (kW/m²)	: 10.19
HF-20 (kW/m²)	: Not calculated (test duration < 20 minutes)
HF-30 (kW/m²)	: Not calculated (test duration < 30 minutes)
Flame spread at 10 minutes (mm)	: 130
Flame spread at 20 minutes (mm)	: Not measured
Flame spread at 30 minutes (mm)	: Not measured
Peak light attenuation (%)	: 33.3
Time to peak light attenuation	: 3 minutes 56 seconds (236 s)
Total integrated smoke (%.min)	: 144.62
Potential classification	**: A2(fl)/B(fl)**
Smoke production classification	**: s1**

These results relate only to the behaviour of the specimens of the 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.

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Smoke Graph



Test name : # Cross 2
File name : D:\FRPFILES\17030002.CSV

Rake Results

Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)	Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)
60	277	11.4	3.148	510	-	3.5	-
110	301	10.5	3.158	560	-	2.9	-
160	-	9.7	-	610	-	2.5	-
210	-	8.8	-	660	-	2.1	-
260	-	8.0	-	710	-	1.7	-
310	-	7.1	-	760	-	1.5	-
360	-	6.1	-	810	-	1.4	-
410	-	5.1	-	860	-	1.2	-
460	-	4.2	-	910	-	1.0	-

Comments

Specimen extinguished naturally.

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Flooring Radiant Panel Single Specimen Report

Standard	: EN ISO 9239-1:2010
Laboratory	: TÜV Rheinland Nederland B.V.
Sponsor	: 89211109 Estillon TLC
Date of test	: Mar. 06 2017
Specimen description	: MT17-139616.04 met MT17-139616.05 Floorfixx Smart met LVT bovenvloer
Test name	: # Cross 3
File name	: D:\FRPFILES\17030007.CSV
Test number in series	: 4
Flux calibration file name	: C:\FRPSOFT2.9A\CALIB\FLX17003.CSV
Thickness (mm)	: 10.6
Density (kg/m³)	: 2278
Test duration	: 12 minutes 15 seconds (735 s)
Substrate used?	: Yes
Substrate	: Calcium silicate
Fixing method	: adhesive
Conditioned?	: Yes
Conditioning temp. (°C)	: 23
Conditioning RH (%)	: 50

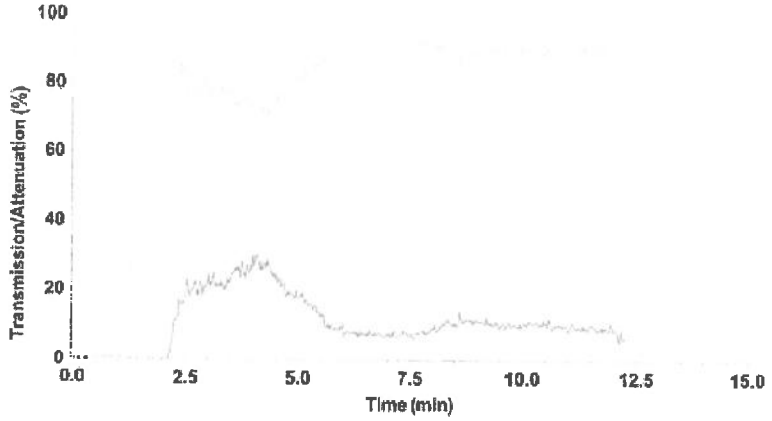
Test Results

Time to ignition	: 2 minutes 04 seconds (124 s)
Time to flameout	: 12 minutes 13 seconds (733 s)
Extent of burning (mm)	: 130
Critical flux at extinguishment (kW/m²)	: 10.19
HF-10 (kW/m²)	: 10.19
HF-20 (kW/m²)	: Not calculated (test duration < 20 minutes)
HF-30 (kW/m²)	: Not calculated (test duration < 30 minutes)
Flame spread at 10 minutes (mm)	: 130
Flame spread at 20 minutes (mm)	: Not measured
Flame spread at 30 minutes (mm)	: Not measured
Peak light attenuation (%)	: 30.42
Time to peak light attenuation	: 4 minutes (240 s)
Total integrated smoke (%.min)	: 130.71
Potential classification	**: A2(fl)/B(fl)**
Smoke production classification	**: s1**

These results relate only to the behaviour of the specimens of the 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.

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Smoke Graph



Test name : # Cross 3
File name : D:\FRPFILES\17030007.CSV

Rake Results

Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)	Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)
60	217	11.4	2.466	510	-	3.5	-
110	292	10.5	3.063	560	-	2.9	-
160	-	9.7	-	610	-	2.5	-
210	-	8.8	-	660	-	2.1	-
260	-	8.0	-	710	-	1.7	-
310	-	7.1	-	760	-	1.5	-
360	-	6.1	-	810	-	1.4	-
410	-	5.1	-	860	-	1.2	-
460	-	4.2	-	910	-	1.0	-

Comments

Specimen extinguished naturally.

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Flooring Radiant Panel Single Specimen Report

Standard	: EN ISO 9239-1:2010
Laboratory	: TÜV Rheinland Nederland B.V.
Sponsor	: 89211109 Estillon TLC
Date of test	: Mar. 06 2017
Specimen description	: MT17-139616.04 met MT17-139616.05 Floorfixx Smart met LVT bovenvloer
Test name	: # Cross 4
File name	: D:\FRPFILES\17030008.CSV
Test number in series	: 4
Flux calibration file name	: C:\FRPSOFT2.9A\CALIB\FLX17003.CSV
Thickness (mm)	: 10.6
Density (kg/m³)	: 2278
Test duration	: 12 minutes 24 seconds (744 s)
Substrate used?	: Yes
Substrate	: Calcium silicate
Fixing method	: adhesive
Conditioned?	: Yes
Conditioning temp. (°C)	: 23
Conditioning RH (%)	: 50

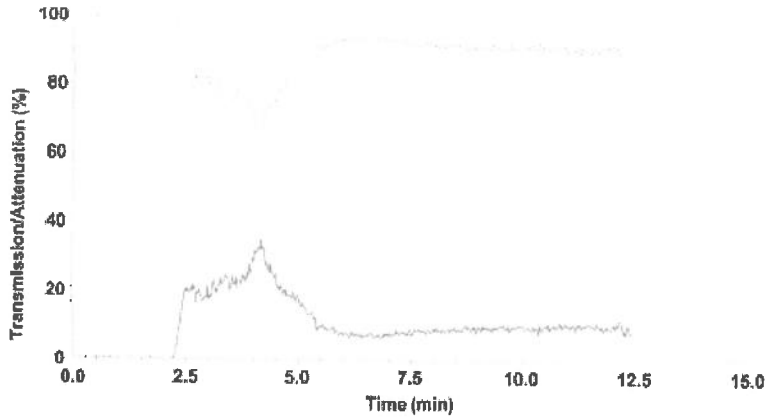
Test Results

Time to ignition	: 2 minutes 07 seconds (127 s)
Time to flameout	: 12 minutes 21 seconds (741 s)
Extent of burning (mm)	: 120
Critical flux at extinguishment (kW/m²)	: 10.34
HF-10 (kW/m²)	: 10.34
HF-20 (kW/m²)	: Not calculated (test duration < 20 minutes)
HF-30 (kW/m²)	: Not calculated (test duration < 30 minutes)
Flame spread at 10 minutes (mm)	: 120
Flame spread at 20 minutes (mm)	: Not measured
Flame spread at 30 minutes (mm)	: Not measured
Peak light attenuation (%)	: 34.79
Time to peak light attenuation	: 4 minutes 09 seconds (249 s)
Total integrated smoke (%.min)	: 125.28
Potential classification	**: A2(fl)/B(fl)**
Smoke production classification	**: s1**

These results relate only to the behaviour of the specimens of the 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.

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Smoke Graph



Test name : # Cross 4
File name : D:\FRPFILES\17030008.CSV

Rake Results

Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)	Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)
60	225	11.4	2.557	510	-	3.5	-
110	280	10.5	2.937	560	-	2.9	-
160	-	9.7	-	610	-	2.5	-
210	-	8.8	-	660	-	2.1	-
260	-	8.0	-	710	-	1.7	-
310	-	7.1	-	760	-	1.5	-
360	-	6.1	-	810	-	1.4	-
410	-	5.1	-	860	-	1.2	-
460	-	4.2	-	910	-	1.0	-

Comments

Specimen extinguished naturally.