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Forbo-Novilon BV
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COEVORDEN
The Netherlands

Report

Project number: 89201725
Report number: 89201725.02br

Received:

Vinyl floor covering marked as: **Eternal decibel**;
TÜV-reference MT12-35472.02.

Request:

Screening of the reaction to fire with additional indicative classification of burning behaviour according to EN 13501-1:2007. Verification of the product's fire behaviour.

Classification criteria Family of Products, group 3: Fire Class B_{fl}-s1;

Contractor, manufacturer : Forbo Novilon BV
Family of products : Group 3
Fire Class : B_{fl}-s1; Critical flux (CRF) $\geq 8.00 \text{ kW.m}^2$.
Smoke production, Smoke $\leq 750 \text{ %}$. Min,

Limits of the group 3

Type of floorcovering : PVC floor coverings with foam layer
Product standard : EN 651
Type of backing : white coloured foam layer
Total mass : $2000 - 3500 \text{ g/m}^2$
Total thickness : $2.5 - 4.0 \text{ mm}$
Fire class EN 13501-1 : B_{fl}-s1

Test methods:

EN ISO 11925-2 Reaction to fire tests for building products, Part 2: Ignitability when subjected to direct impingement of flame (ISO 11925-2:2002).

EN ISO 9239-1 Reaction to fire tests for floor coverings, Part 1: Determination of the burning behaviour using a radiant heat source (ISO 9239-1:2002).

Results:

On pages two up to and including three.

Appendix:

On page four up to and including seven.

TÜV Rheinland Nederland B.V.
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Date
3rd of May, 2012

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Appendix
I - Single specimen report

TRN applies General Terms & Conditions which are filed at the office of the Clerk for civil affairs at the Court in Zutphen (the Netherlands) under number 35/2010, dated November 17th 2010.

Precisely Right.

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Ignitability EN-ISO 11925-2:2010

According EN 14041 table 3, these floor coverings are classified as E_n (classified without further testing).

Conditioning time, climate	: 4 days, 23 ± 2°C and 50 ± 5% R.H.
Date of testing	: 1 st of May 2012
Description of substrate	: Fibre cement board, 6±1 mm, 1800±200 kg/m ³ conforming to EN 13238.
Sampling procedure	: By contractor.
Description of cleaning used	: None.
Fixing method	: Fixed, glued with adhesive Eurocol Eurostar 540, on 27-04-2012.

Test specimen,	Flame spread (cm)	CRF (kW/m ²)	peak light attenuation (%)	Smoke production (%.min)	Indicative classification ¹
1, ↑*	19	9.19	70.4	137	B _{fl} -s1
2, ⊥*	16	9.75	70.1	138	B _{fl} -s1

* specimen extinguished naturally

¹ the recorded CRF-value would imply this classification could be achieved, according to EN 13501-1. It is only based on one sample, while four samples are required for a final classification.

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CONCLUSION

According to EN 13501-1:2007 the tested samples of the aforementioned quality **Eternal decibel** meets the requirements of **Class B_{n-s1}**; and therefore **meets** the requirements of Product Family group 3.

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 five years after its issue or 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.

Author:
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Visa:
Mr. J. Brinks



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APPENDIX I - Flooring Radiant Panel Single Specimen Report

Report produced with the Fire Testing Technology FRPSoft software

Flooring Radiant Panel Single Specimen Report

Standard : EN ISO 9239-1:2002
Laboratory : TÜV Rheinland Nederland B.V.
Sponsor : Forbo Novilon 89201725
Date of test : May 01 2012

Specimen description : MT12-35472.02 Laminaat motief
Test name : Prod #1
File name : D:\FRPFILES\12050003.CSV
Test number in series : 2

Flux calibration file name : C:\FRPSOFT\CALIB\FLX12005.CSV

Thickness (mm) :
Density (kg/m³) :

Test duration : 12 minutes 06 seconds (726 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 01 seconds (121 s)
Time to flameout : 12 minutes 01 seconds (721 s)
Extent of burning (mm) : 190
Critical flux at extinguishment (kW/m²) : 9.19
HF-10 (kW/m²) : 9.19
HF-20 (kW/m²) : >= 10.9
HF-30 (kW/m²) : >= 10.9
Flame spread at 10 minutes (mm) : 190
Flame spread at 20 minutes (mm) : -1
Flame spread at 30 minutes (mm) : -1
Peak light attenuation (%) : 70.42
Time to peak light attenuation : 4 minutes 03 seconds (243 s)
Total integrated smoke (%.min) : 136.53

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

Report produced with the Fire Testing Technology FRPSoft software

Date
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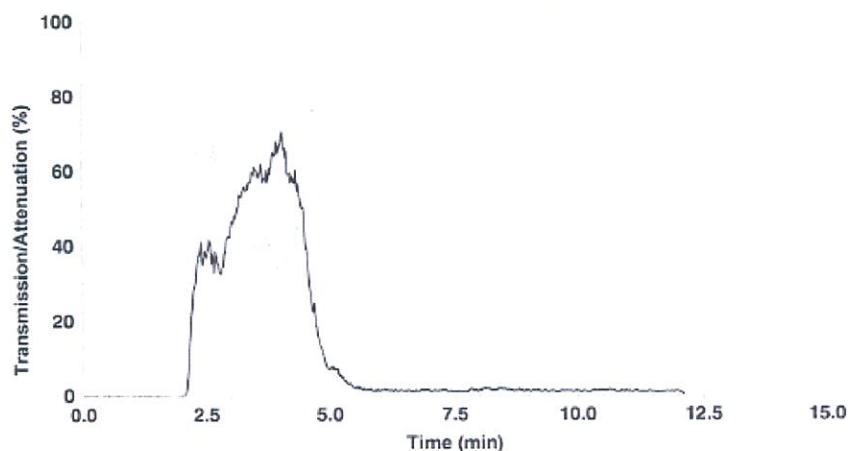
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Smoke Graph



Test name : Prod #1
File name : D:\FRPFILES\12050003.CSV

Rake Results

Position (mm)	Time (s)	Flux (kW/m ²)	Qsb (MJ/m ²)	Position (mm)	Time (s)	Flux (kW/m ²)	Qsb (MJ/m ²)
60	149	11.5	1.571	510	-	3.5	-
110	191	10.5	1.861	560	-	2.9	-
160	238	9.7	2.101	610	-	2.4	-
210	-	8.8	-	660	-	2.1	-
260	-	7.8	-	710	-	1.8	-
310	-	6.9	-	760	-	1.5	-
360	-	6.0	-	810	-	1.3	-
410	-	5.1	-	860	-	1.2	-
460	-	4.2	-	910	-	1.0	-

Comments

Specimen extinguished naturally.

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.

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Flooring Radiant Panel Single Specimen Report

Standard : EN ISO 9239-1:2002
Laboratory : TÜV Rheinland Nederland B.V.
Sponsor : Forbo Novilon 89201725
Date of test : May 01 2012

Specimen description : MT12-35472.02 /Laminaat/houtmotief
Test name : Cross #1
File name : D:\FRPFILES\12050004.CSV
Test number in series : 2

Flux calibration file name : C:\FRPSOFT\CALIB\FLX12005.CSV

Thickness (mm) :
Density (kg/m³) :

Test duration : 13 minutes 13 seconds (793 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 01 seconds (121 s)
Time to flameout : 12 minutes 01 seconds (721 s)
Extent of burning (mm) : 160
Critical flux at extinguishment (kW/m²) : 9.75
HF-10 (kW/m²) : 9.75
HF-20 (kW/m²) : >= 10.9
HF-30 (kW/m²) : >= 10.9
Flame spread at 10 minutes (mm) : 160
Flame spread at 20 minutes (mm) : -1
Flame spread at 30 minutes (mm) : -1
Peak light attenuation (%) : 70.1
Time to peak light attenuation : 3 minutes 39 seconds (219 s)
Total integrated smoke (%.min) : 137.97

Potential classification : **A2(f1)/B(f1)**
Smoke production classification : **s1**

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APPENDIX I - Flooring Radiant Panel Single Specimen Report

Report produced with the Fire Testing Technology FRPSoft software

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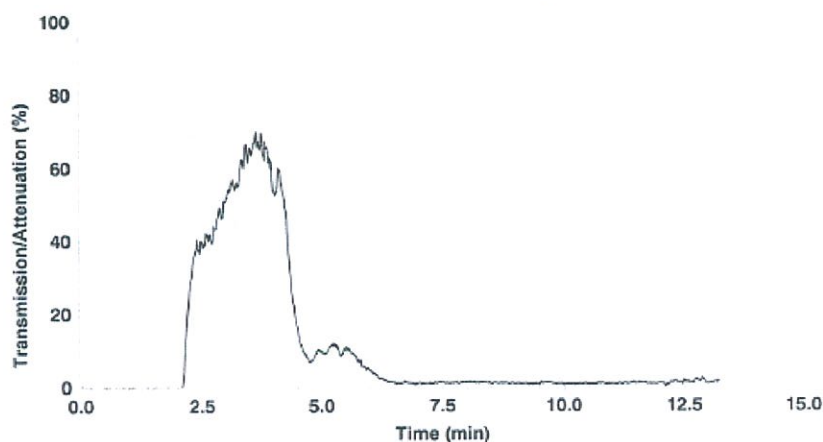
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Smoke Graph



Test name : Cross #1
File name : D:\FRPFILES\12050004.CSV

Rake Results

Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)	Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)
60	147	11.5	1.550	510	-	3.5	-
110	186	10.5	1.813	560	-	2.9	-
160	257	9.7	2.269	610	-	2.4	-
210	-	8.8	-	660	-	2.1	-
260	-	7.8	-	710	-	1.8	-
310	-	6.9	-	760	-	1.5	-
360	-	6.0	-	810	-	1.3	-
410	-	5.1	-	860	-	1.2	-
460	-	4.2	-	910	-	1.0	-

Comments

Specimen extinguished naturally.

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.