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Report

Project number : 89208394
Report number : 89208394.01br

Date
22-07-2015

Received:

A dual underlay system marked as: “**RenoTop Plus**”;
TÜV-reference MT14-51888.01

Project number
89208394

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The samples have been received on 18-11-2014.

Reference report number
89207157.01br

Product specifications received from the applicant:

Commercial name	: RenoTop Plus
Total Thickness (mm)	: 10
Total weight (kg/m ²)	: 710
Tile size (mm)	: 600 x 1200
Material	: MDF and PE-foam

Date reference report
03-12-2014

Sampling procedure:

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

Phone number client
-

Fax number client
-

Order project 89208400:

Adjustment of product name, company name and address of client. No further modifications are made in the report.

Article
RenoTop Plus

Order project 89207157:

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

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

Test method:

Ignitability (direct impingement of flame)	: EN ISO 11925-2:2010
Reaction to fire (radiant panel)	: EN ISO 9239-1:2010

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.

Results:

See page two and three.

Appendix:

See page four up to and including eleven.

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TEST RESULTS

➤ Ignitability EN-ISO 11925-2 :2010

Date of testing : 02-12-2014
 Conditioning time, climate : ≥ 7 days, 23 ± 2 °C and 50 ± 5 % R.H.
 Description of substrate : Fibre cement board, 8 ± 2 mm, 1800 ± 200 kg/m³
 Flame application : Surface
 Application time : 15 seconds

Direction:	Length			Wide		
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)	53	62	55	60	58	63
Extent of damaged area, width (mm)	11	11	11	11	11	12
Material melts (yes/no)	No	No	No	No	No	No
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 Including a flame application time of 15 seconds with surface impingement.

2 Shrinks away from flame without being ignited.

3 The time at which it occurs and its duration.

➤ Radiant Panel test ISO 9239-1:2010

Date of testing : 02-12-2014
 Conditioning time, climate : ≥ 7 days, 23 ± 2 °C and 50 ± 5 % R.H.
 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 : None, loose laid

Test specimen, orientation	Flame spread (cm)	CRF (kW/m ²)	Peak light attenuation (%)	Smoke production (%.min)
1, ⊥	55.0	3.1	12.7	106
2, ↑	56.0	3.0	14.0	113
3, ↑	53.0	3.3	11.7	121
4, ↑	53.0	3.3	8.9	61
Mean₂₋₄	54.0	3.2	11.5	98

Remarks: Flashing, transitory- or sustained flaming observed.
 All four tested specimen were extinguished manually after the end of the test.

CONCLUSION

According to EN 13501-1:2007+ A1:2009 the tested sample of the aforementioned quality **RenoTop Plus**, in relation to its reaction to fire behaviour is classified: **D_n**.
The additional classification in relation to smoke production is: **s1**.

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The aforementioned quality meets the requirement of reaction to fire classification:
D_n – s1

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The classification is valid for the following end use applications:

- End use substrates of classes A1 and A2-s1,d0 , for example fibre cement board.
- Any way of fixation.

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.

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

Author:

Mr. J. de Wolff



Review:

Mr. L. Jones



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APPENDIX I: Flooring Radiant Panel Single Specimen Report

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Report produced with the Fire Testing Technology EXFSOFT software

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Flooring Radiant Panel Single Specimen Report

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Standard : EN ISO 9239-1:2002
Laboratory : TÜV Rheinland Nederland B.V.
Sponsor : 89207157
Date of test : Dec, 02 2014

Specimen description : MT14-51888.01
Test name : Prod #1
File name : D:\FRPFILES\14120017.CSV
Test number in series : 4

Flux calibration file name : CAFRPSOFT\CALIB\FLEX14018.CSV

Thickness (mm) :
Density (kg/m³) :

Test duration : 30 minutes (1800 s)
Substrate used? : Yes
Substrate : Calcium silicate
Fixing method : none
Conditioned? : Yes
Conditioning temp. (°C) : 23
Conditioning RH (%) : 50

Test Results

Time to ignition : 2 minutes 01 seconds (121 s)
Time to flameout : 30 minutes (1800 s)
Extent of burning (mm) : 560
Critical flux at extinguishment (kW/m²) : 2.99
HF-10 (kW/m²) : 8.49
HF-20 (kW/m²) : 4.49
HF-30 (kW/m²) : 2.99
Flame spread at 10 minutes (mm) : 240
Flame spread at 20 minutes (mm) : 450
Flame spread at 30 minutes (mm) : 560
Peak light attenuation (%) : 14.04
Time to peak light attenuation : 24 minutes 13 seconds (1453 s)
Total integrated smoke (%.min) : 112.52
Potential classification : E(f)
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 criteria for assessing the potential fire hazard of the product in use.

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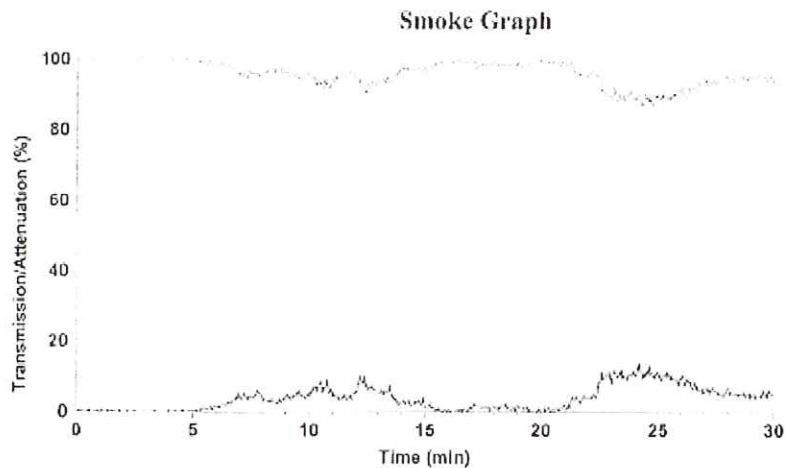
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Test name : Prod #1
File name : D:\FRPFILES\14120017.CSV

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	269	11.3	2.734	510	1506	3.6	4.501
110	353	10.5	3.483	560	1799	3.0	4.551
160	433	9.9	3.939	610	-	2.5	-
210	514	9.1	4.156	660	-	2.1	-
260	626	8.1	4.466	710	-	1.8	-
310	728	7.1	4.460	760	-	1.5	-
360	856	6.1	4.449	810	-	1.3	-
410	1021	5.2	4.404	860	-	1.2	-
460	1243	4.3	4.436	910	-	1.1	-

Comments

Specimen was extinguished manually after end of test.

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 criteria 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 : 89207157
Date of test : Dec. 02 2014

Specimen description : MT14-51888.01
Test name : Prod #2
File name : D:\FRPFILES\1-1120019.CSV
Test number in series : 4

Flux calibration file name : C:\FRPSOFT\CALIB\FLX14018.CSV

Thickness (mm) :
Density (kg/m³) :

Test duration : 30 minutes (1800 s)
Substrate used? : Yes
Substrate : Calcium silicate
Fixing method : none
Conditioned? : Yes
Conditioning temp. (°C) : 23
Conditioning RH (%) : 50

Test Results

Time to ignition : 2 minutes 01 seconds (121 s)
Time to flameout : 30 minutes (1800 s)
Extent of burning (mm) : 530
Critical flux at extinguishment (kW/m²) : 3.34
HF-10 (kW/m²) : 8.69
HF-20 (kW/m²) : 4.84
HF-30 (kW/m²) : 3.34
Flame spread at 10 minutes (mm) : 230
Flame spread at 20 minutes (mm) : 430
Flame spread at 30 minutes (mm) : 530
Peak light attenuation (%) : 11.68
Time to peak light attenuation : 27 minutes 46 seconds (1666 s)
Total integrated smoke (%.min) : 121.38

Potential classification : D(f)
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.

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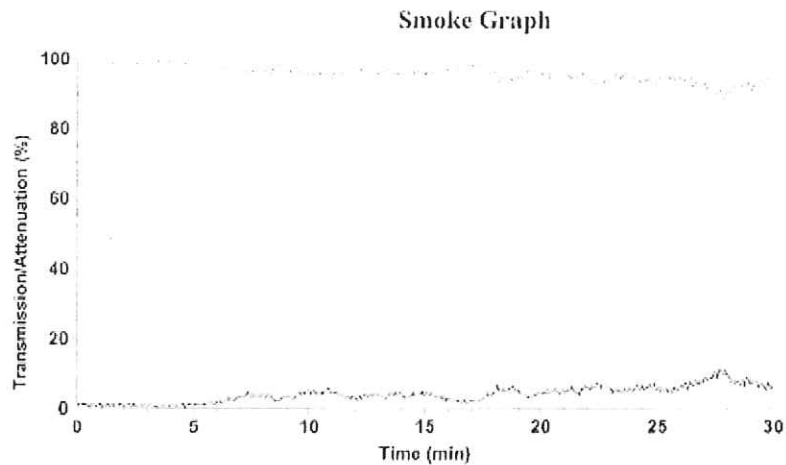
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Test name : Prod #2
 File name : D:\FRPFILES\14120019.CSV

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	271	11.3	2.849	510	1637	3.6	4.893
110	375	10.5	3.709	560	-	3.0	-
160	471	9.9	4.285	610	-	2.5	-
210	541	9.1	4.375	660	-	2.1	-
260	671	8.1	4.787	710	-	1.8	-
310	792	7.1	4.852	760	-	1.5	-
360	931	6.1	4.838	810	-	1.3	-
410	1117	5.2	4.818	860	-	1.2	-
460	1342	4.3	4.790	910	-	1.1	-

Comments

Specimen was extinguished manually after end of test.

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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Standard : EN ISO 9239-1:2002
Laboratory : TÜV Rheinland Nederland B.V.
Sponsor : 89207157
Date of test : Dec. 02 2014

Specimen description : MT14-51888.01
Test name : Prod #3
File name : D:\FRPFILES\14120020.CSV
Test number in series : 4

Flux calibration file name : C:\FRPSOFT\CALIB\FLX14018.CSV

Thickness (mm) :
Density (kg/m³) :

Test duration : 30 minutes (1800 s)
Substrate used? : Yes
Substrate : Calcium silicate
Fixing method : none
Conditioned? : Yes
Conditioning temp. (°C) : 23
Conditioning RH (%) : 50

Test Results

Time to ignition : 2 minutes 01 seconds (121 s)
Time to flameout : 30 minutes (1800 s)
Extent of burning (mm) : 530
Critical flux at extinguishment (kW/m²) : 3.34
HF-10 (kW/m²) : 8.69
HF-20 (kW/m²) : 4.84
HF-30 (kW/m²) : 3.34
Flame spread at 10 minutes (mm) : 230
Flame spread at 20 minutes (mm) : 430
Flame spread at 30 minutes (mm) : 530
Peak light attenuation (%) : 8.85
Time to peak light attenuation : 29 minutes 16 seconds (1756 s)
Total integrated smoke (%.min) : 60.69

Potential classification : D(0)
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.

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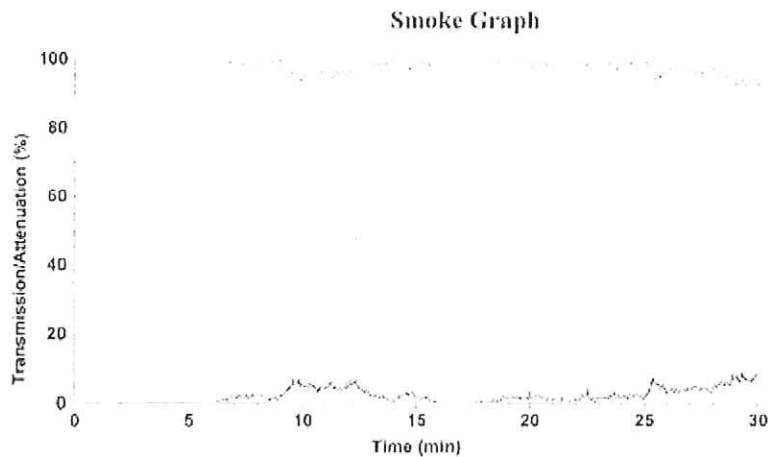
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Test name : Prod 03
File name : D:\FRPFILES\4120020.CSV

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	277	11.3	2.912	510	1612	3.6	4.818
110	398	10.5	3.927	560	-	3.0	-
160	472	9.9	4.294	610	-	2.5	-
210	563	9.1	4.552	660	-	2.1	-
260	647	8.1	4.616	710	-	1.8	-
310	773	7.1	4.735	760	-	1.5	-
360	902	6.1	4.688	810	-	1.3	-
410	1091	5.2	4.705	860	-	1.2	-
460	1325	4.3	4.729	910	-	1.1	-

Comments

Specimen was extinguished manually after end of test.

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 to use

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Standard : EN ISO 9239-1:2002
Laboratory : TÜV Rheinland Nederland B.V.
Sponsor : 89207157
Date of test : Dec. 02 2014

Specimen description : MT14-51888.01
Test name : Cross #1
File name : D:\FRPFILES\14120018.CSV
Test number in series : 4

Flux calibration file name : C:\FRPSOFT\CALIB\FLX14018.CSV

Thickness (mm) :
Density (kg/m³) :

Test duration : 30 minutes (1800 s)
Substrate used? : Yes
Substrate : Calcium silicate
Fixing method : none
Conditioned? : Yes
Conditioning temp. (°C) : 23
Conditioning RH (%) : 50

Test Results

Time to ignition : 2 minutes 03 seconds (123 s)
Time to flameout : 30 minutes (1800 s)
Extent of burning (mm) : 550
Critical flux at extinguishment (kW/m²) : 3.11
HF-10 (kW/m²) : 8.29
HF-20 (kW/m²) : 4.49
HF-30 (kW/m²) : 3.11
Flame spread at 10 minutes (mm) : 250
Flame spread at 20 minutes (mm) : 450
Flame spread at 30 minutes (mm) : 550
Peak light attenuation (%) : 12.7
Time to peak light attenuation : 23 minutes 51 seconds (1431 s)
Total integrated smoke (%.min) : 106.1

Potential classification : **D(0)**
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.

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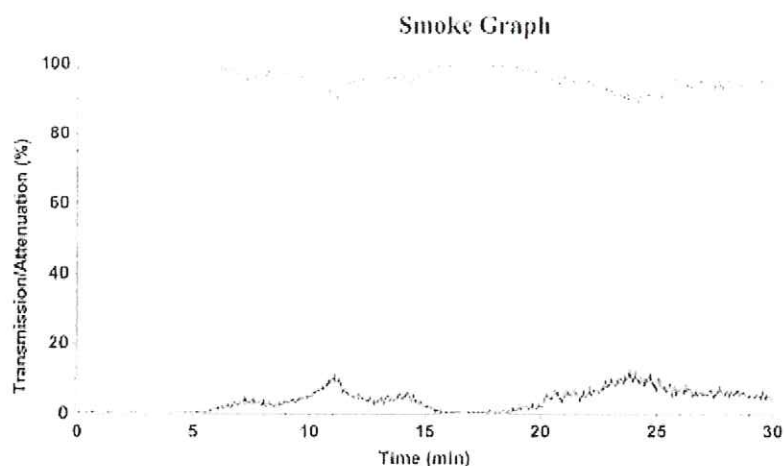
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Test name : Cross #1
File name : D:\FRPFILES\14120018.CSV

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	262	11.3	2.755	510	1514	3.6	4.525
110	363	10.5	3.581	560	-	3.0	-
160	450	9.9	4.094	610	-	2.5	-
210	537	9.1	4.342	660	-	2.3	-
260	650	8.1	4.637	710	-	1.8	-
310	724	7.1	4.435	760	-	1.5	-
360	856	6.1	4.449	810	-	1.3	-
410	1032	5.2	4.451	860	-	1.2	-
460	1243	4.3	4.436	910	-	1.1	-

Comments

Specimen was extinguished manually after end of test.

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.