

Return address: P.O. box 337, 7500 AH Enschede, The Netherlands

Zeno-Protect B.V.  
Att.: Mr. P. de Jong  
P.O. Box 101  
1520 AC  
WORMERVEER  
The Netherlands

TÜV Rheinland Nederland B.V.  
The Netherlands

Postal address:  
P.O. Box 337  
7500 AH Enschede

Parking and delivery:  
Josink Esweg 10  
7545 PN Enschede

[www.tuv.com/nl](http://www.tuv.com/nl)

T +31 88 888 7888  
F +31 88 888 7859

[Jan.brinks@nl.tuv.com](mailto:Jan.brinks@nl.tuv.com)  
[Ilse.pierik@nl.tuv.com](mailto:Ilse.pierik@nl.tuv.com)

## Report

Project number : T11-33456

Report number : T11.33456.01br

**Date**  
07-10-2011

**Project number**  
T11-33456

**Report number**  
T11.33456.01br

### **Received:**

A sample floor covering, entrance mat, marked as: “Protect Excellence”, col no. 604;  
TÜV sample reference: MT11-33456.01.

**Phone number client**  
+31 75 640 2116

### **Request:**

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

**Fax number client**  
+31 75 621 3786

### **Test method:**

Identification parameters : EN 1307:2008.  
Ignitability (direct impingement of flame) : ISO 11925-2:2010.  
Reaction to fire (radiant panel) : ISO 9239-1:2010.

**Article**  
Protect Excellence

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

### **Results:**

See page two up to and including three.

### **Appendix:**

See page four up to and including eleven.

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.

**TEST RESULTS**
**Date**  
 07-10-2011

**Project number**  
 T11-33456

**Report number**  
 T11.33456.01br

**Article**  
 Protect Excellence

**Page**  
 2/11

 ➤ *Identification parameters EN 1307:2008*

Type of manufacture	: Tufted
Type of pile	: Cut pile
Type of use surface	: Total effect
Type of secondary backing	: Vinyl backing (synthetic)
Pile Fibre	: 100% PA *
Total mass per unit area g/m <sup>2</sup>	: 4260
Effective pile mass, g/m <sup>2</sup>	: 820
Total thickness, mm	: 9.7
Thickness of the pile, mm	: 6.5
Pile density, g/cm <sup>3</sup>	: 0,127
Gauge (G), inch	: 5/32
Stitches/10 cm	: 37.0
Number of tufts/m <sup>2</sup>	: 92990

\* = manufacturer's declaration

 ➤ *Ignitability ISO 11925-2:2010*

Date of testing	: 06-09-2011
Conditioning time, climate	: 4 days, 23 ± 2 °C and 50 ± 5 %
Description of substrate	: 6 mm. Fibre cement board, 1800 kg/m <sup>3</sup> .
Flame application	: Surface.
Application time	: 15 seconds.

Direction:	Lengthwise			Across		
Total burning time <sup>1</sup> (15 s)	15	15	15	15	15	15
Flame tip reaches 150 mm (s)	no	no	no	no	no	no
Extent of damaged area, length (mm)	76	85	72	78	75	80
Extent of damaged area, width (mm)	12	12	12	13	13	14
Material melts (yes/no)	yes	yes	yes	yes	yes	yes
Shrinks away <sup>2</sup> (yes/no)	no	no	no	no	no	no
Glowing <sup>3</sup> (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

**TEST RESULTS – follow-up****Date**  
07-10-2011➤ *Radiant Panel test ISO 9239-1:2010***Project number**  
T11-33456

Date of testing : 06-09-2011  
Conditioning time, climate : 4 days, 23 ± 2 °C and 50 ± 5 %  
Description of substrate : Fibre cement board, 6±1 mm , 1800±200 kg/m<sup>3</sup>  
conforming to EN 13238  
Sampling procedure : by contractor.  
Description of cleaning used : none.  
Fixing method : loose laid.

**Report number**  
T11.33456.01br**Article**  
Protect Excellence**Page**  
3/11

Test specimen, orientation	Flame spread (cm)	HF-30 (kW/m <sup>2</sup> )	Peak light attenuation (%)	Smoke production (%.min)
1, ⊥	43.0	4.9	62.6	520
2, ↑	43.0	4.9	49.2	531
3, ↑	43.0	4.9	55.1	528
4, ↑	43.0	4.9	50.9	507
<b>Mean</b>	<b>43.0</b>	<b>4.9</b>	<b>51.7</b>	<b>522</b>

Remarks: no flashing, transitory- or sustained flaming,  
\* specimen extinguished naturally

**CONCLUSION**

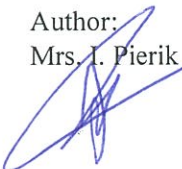
According to EN 13501-1:2007 the tested sample of the aforementioned quality **Protect Excellence** meets the requirements of **Class C<sub>fl</sub> - s1**.

**Statement**

The test results relate to the behaviour of the test specimens of the examined 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 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:  
Mrs. I. Pierik



Visa:  
Mr. H. Fokkenrood



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## APPENDIX I: Flooring Radiant Panel Single Specimen Report

Date  
07-10-2011

Project number  
T11-33456

Report produced with the Fire Testing Technology FRPSoft software

page 1 Report number  
T11.33456.01br

## Flooring Radiant Panel Single Specimen Report

Article  
Protect Excellence

Page  
4/11

Standard : EN ISO 9239-1:2002  
Laboratory : TÜV Rheinland Nederland B.V.  
Sponsor : Zeno Protect - T11-33456 - vuilinloopmat Cocos Excellence  
Date of test : Sep. 06 2011

Specimen description : MT11-33456.01  
Test name : Cross Prod #1  
File name : D:\FRPFILES\11090003.CSV  
Test number in series : 4

Flux calibration file name : C:\FRPSOFT\CALIB\FLX11003.CSV

Thickness (mm) :  
Density (kg/m<sup>3</sup>) :

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 : Not recorded  
Extent of burning (mm) : 430  
Critical flux at extinguishment (kW/m<sup>2</sup>) : N/A (no flameout)  
HF-10 (kW/m<sup>2</sup>) : 8.43  
HF-20 (kW/m<sup>2</sup>) : 6.31  
HF-30 (kW/m<sup>2</sup>) : 4.85  
Flame spread at 10 minutes (mm) : 240  
Flame spread at 20 minutes (mm) : 350  
Flame spread at 30 minutes (mm) : 430  
Peak light attenuation (%) : 62.58  
Time to peak light attenuation : 8 minutes 38 seconds (518 s)  
Total integrated smoke (%.min) : 520.42

**Potential classification** : C(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

Date  
07-10-2011

Project number  
T11-33456

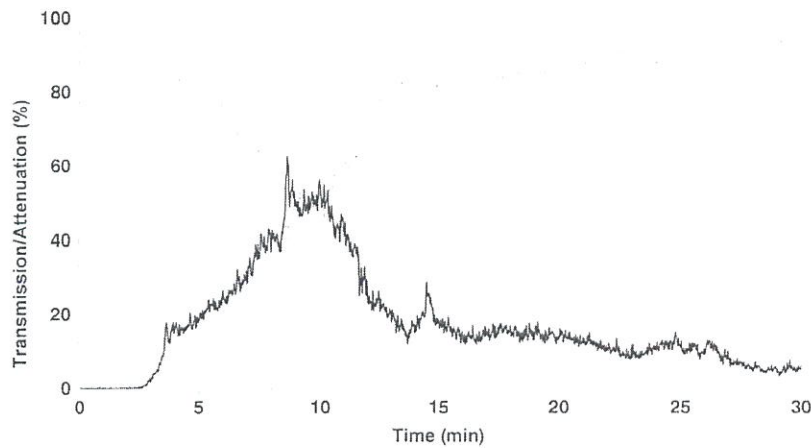
Report produced with the Fire Testing Technology FRPSoft software

page 2 Report number  
T11.33456.01br

Article  
Protect Excellence

Page  
5/11

### Smoke Graph



Test name : Cross Prod #1  
File name : D:\FRPFILES\11090003.CSV

### Rake Results

Position (mm)	Time (s)	Flux (kW/m <sup>2</sup> )	Qsb (MJ/m <sup>2</sup> )	Position (mm)	Time (s)	Flux (kW/m <sup>2</sup> )	Qsb (MJ/m <sup>2</sup> )
60	305	11.4	3.227	510	-	3.7	-
110	393	10.6	3.875	560	-	3.0	-
160	461	9.9	4.159	610	-	2.5	-
210	557	9.0	4.479	660	-	2.1	-
260	685	8.0	4.878	710	-	1.8	-
310	1001	7.1	6.115	760	-	1.6	-
360	1284	6.1	6.649	810	-	1.4	-
410	1653	5.2	7.187	860	-	1.2	-
460	-	4.3	-	910	-	1.0	-

### 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.

## APPENDIX I: Flooring Radiant Panel Single Specimen Report

Date  
07-10-2011

Project number  
T11-33456

Report number  
T11.33456.01br

Article  
Protect Excellence

Page  
6/11

Report produced with the Fire Testing Technology FRPSuIt software

page 1

### Flooring Radiant Panel Single Specimen Report

Standard : EN ISO 9239-1:2002  
Laboratory : TÜV Rheinland Nederland B.V.  
Sponsor : Zeno Protect - T11-33456 - vuilinloopmat Cocos Exellance  
Date of test : Sep. 06 2011

Specimen description : MT11-33456.01  
Test name : Prod #1  
File name : D:\FRPFILES\11090002.CSV  
Test number in series : 4

Flux calibration file name : C:\FRPSOFT\CALIB\FLX11003.CSV

Thickness (mm) :  
Density (kg/m<sup>3</sup>) :

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 05 seconds (125 s)  
Time to flameout : Not recorded  
Extent of burning (mm) : 430  
Critical flux at extinguishment (kW/m<sup>2</sup>) : N/A (no flameout)  
HF-10 (kW/m<sup>2</sup>) : 8.43  
HF-20 (kW/m<sup>2</sup>) : 6.31  
HF-30 (kW/m<sup>2</sup>) : 4.85  
Flame spread at 10 minutes (mm) : 240  
Flame spread at 20 minutes (mm) : 350  
Flame spread at 30 minutes (mm) : 430  
Peak light attenuation (%) : 49.17  
Time to peak light attenuation : 8 minutes 31 seconds (511 s)  
Total integrated smoke (%.min) : 531.25  
**Potential classification** : C(fl)  
**Smoke production classification** : s1

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**APPENDIX I: Flooring Radiant Panel Single Specimen Report**

**Date**  
07-10-2011

**Project number**  
T11-33456

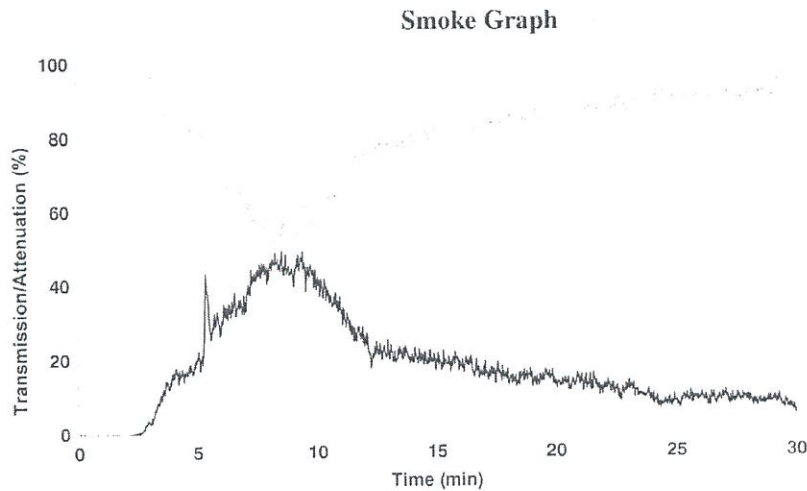
Report produced with the Fire Testing Technology FRPSoft software

page 2

**Report number**  
T11.33456.01br

**Article**  
Protect Excellence

**Page**  
7/11



Test name : Prod #1  
File name : D:\FRPFILES\11090002.CSV

**Rake Results**

Position (mm)	Time (s)	Flux (kW/m <sup>2</sup> )	Qsb (MJ/m <sup>2</sup> )	Position (mm)	Time (s)	Flux (kW/m <sup>2</sup> )	Qsb (MJ/m <sup>2</sup> )
60	292	11.4	3.090	510	-	3.7	-
110	367	10.6	3.619	560	-	3.0	-
160	448	9.9	4.041	610	-	2.5	-
210	551	9.0	4.431	660	-	2.1	-
260	687	8.0	4.892	710	-	1.8	-
310	910	7.1	5.559	760	-	1.6	-
360	1267	6.1	6.561	810	-	1.4	-
410	1611	5.2	7.005	860	-	1.2	-
460	-	4.3	-	910	-	1.0	-

**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.

## APPENDIX I: Flooring Radiant Panel Single Specimen Report

Report produced with the Fire Testing Technology FRPSoft software

**Date**  
07-10-2011

**Project number**  
T11-33456

page 1 **Report number**  
T11.33456.01br

**Article**  
Protect Excellence

**Page**  
8/11

### Flooring Radiant Panel Single Specimen Report

Standard : EN ISO 9239-1:2002  
Laboratory : TÜV Rheinland Nederland B.V.  
Sponsor : Zeno Protect - T11-33456 - vuilinloopmat Cocos Exellance  
Date of test : Sep. 06 2011

Specimen description : MT11-33456.01  
Test name : Prod #2  
File name : D:\FRPFILES\11090004.CSV  
Test number in series : 4

Flux calibration file name : C:\FRPSOFT\CALIB\FLX11003.CSV

Thickness (mm) :  
Density (kg/m<sup>3</sup>) :

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 04 seconds (124 s)  
Time to flameout : Not recorded  
Extent of burning (mm) : 430  
Critical flux at extinguishment (kW/m<sup>2</sup>) : N/A (no flameout)  
HF-10 (kW/m<sup>2</sup>) : 8.43  
HF-20 (kW/m<sup>2</sup>) : 6.31  
HF-30 (kW/m<sup>2</sup>) : 4.85  
Flame spread at 10 minutes (mm) : 240  
Flame spread at 20 minutes (mm) : 350  
Flame spread at 30 minutes (mm) : 430  
Peak light attenuation (%) : 55.05  
Time to peak light attenuation : 8 minutes 09 seconds (489 s)  
Total integrated smoke (%.min) : 528.39  
**Potential classification** : C(II)  
**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

Date  
07-10-2011

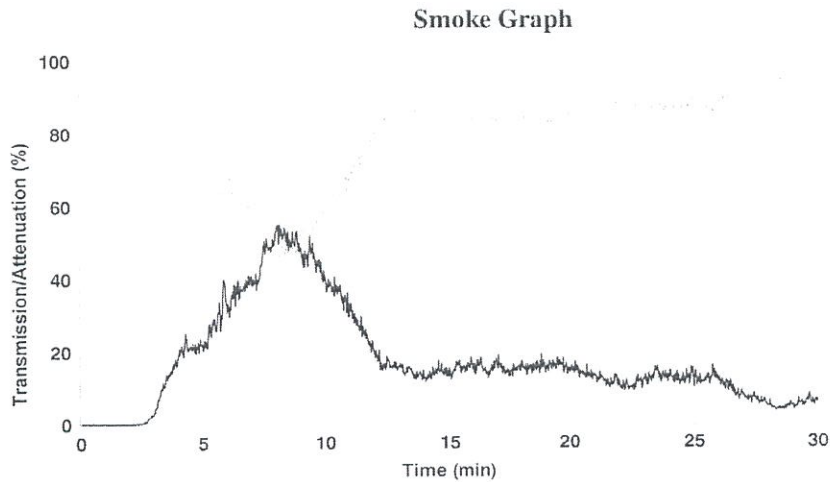
Project number  
T11-33456

Report produced with the Fire Testing Technology FRPSoft software

page 2 Report number  
T11.33456.01br

Article  
Protect Excellence

Page  
9/11



Test name : Prod #2  
File name : D:\FRPFILES\11090004.CSV

### Rake Results

Position (mm)	Time (s)	Flux (kW/m <sup>2</sup> )	Qsb (MJ/m <sup>2</sup> )	Position (mm)	Time (s)	Flux (kW/m <sup>2</sup> )	Qsb (MJ/m <sup>2</sup> )
60	282	11.4	2.984	510	-	3.7	-
110	371	10.6	3.658	560	-	3.0	-
160	430	9.9	3.879	610	-	2.5	-
210	547	9.0	4.398	660	-	2.1	-
260	695	8.0	4.949	710	-	1.8	-
310	1017	7.1	6.213	760	-	1.6	-
360	1306	6.1	6.762	810	-	1.4	-
410	1606	5.2	6.983	860	-	1.2	-
460	-	4.3	-	910	-	1.0	-

### 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.

## APPENDIX I: Flooring Radiant Panel Single Specimen Report

Date  
07-10-2011

Project number  
T11-33456

Report number  
T11.33456.01br

Report produced with the Fire Testing Technology FRPSoft software

page 1

### Flooring Radiant Panel Single Specimen Report

Article  
Protect Excellence

Page  
10/11

Standard : EN ISO 9239-1:2002  
Laboratory : TÜV Rheinland Nederland B.V.  
Sponsor : Zeno Protect - T11-33456 - vuilinloopmat Cocos Excellence  
Date of test : Sep. 06 2011

Specimen description : MT11-33456.01  
Test name : Prod #3  
File name : D:\FRPFILES\11090005.CSV  
Test number in series : 4

Flux calibration file name : C:\FRPSOFT\CALIB\FLX11003.CSV

Thickness (mm) :  
Density (kg/m<sup>3</sup>) :

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 06 seconds (126 s)  
Time to flameout : Not recorded  
Extent of burning (mm) : 430  
Critical flux at extinguishment (kW/m<sup>2</sup>) : N/A (no flameout)  
HF-10 (kW/m<sup>2</sup>) : 8.63  
HF-20 (kW/m<sup>2</sup>) : 6.11  
HF-30 (kW/m<sup>2</sup>) : 4.85  
Flame spread at 10 minutes (mm) : 230  
Flame spread at 20 minutes (mm) : 360  
Flame spread at 30 minutes (mm) : 430  
Peak light attenuation (%) : 50.89  
Time to peak light attenuation : 9 minutes 48 seconds (588 s)  
Total integrated smoke (%.min) : 506.53  
**Potential classification** : C(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**

Date  
07-10-2011

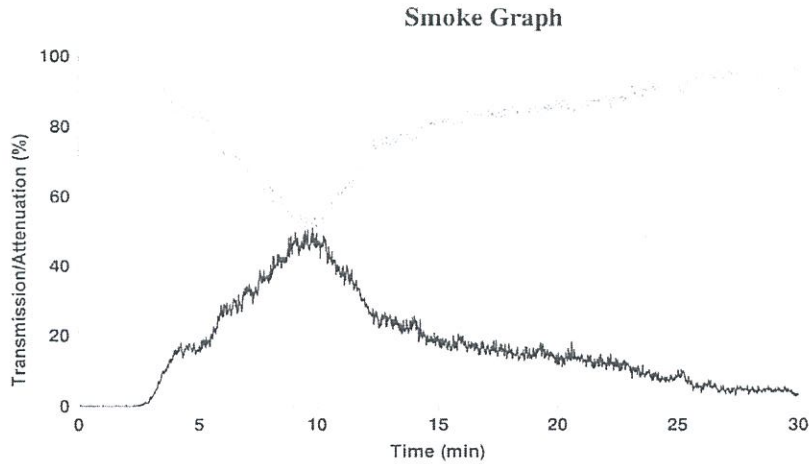
Project number  
T11-33456

Report produced with the Fire Testing Technology FRPSoft software

page 2 Report number  
T11.33456.01br

Article  
Protect Excellence

Page  
11/11



Test name : Prod #3  
File name : D:\FRPFILES\11090005.CSV

**Rake Results**

Position (mm)	Time (s)	Flux (kW/m <sup>2</sup> )	Qsb (MJ/m <sup>2</sup> )	Position (mm)	Time (s)	Flux (kW/m <sup>2</sup> )	Qsb (MJ/m <sup>2</sup> )
60	298	11.4	3.153	510	-	3.7	-
110	395	10.6	3.895	560	-	3.0	-
160	488	9.9	4.402	610	-	2.5	-
210	556	9.0	4.471	660	-	2.1	-
260	670	8.0	4.771	710	-	1.8	-
310	941	7.1	5.749	760	-	1.6	-
360	1200	6.1	6.214	810	-	1.4	-
410	1529	5.2	6.648	860	-	1.2	-
460	-	4.3	-	910	-	1.0	-

**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.