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## **Report**

Project number : 89202283  
Report number : 89202283.03br

**Date**  
14<sup>th</sup> of September, 2012

## **Received:**

A red coloured floor covering sample with cut-pile, an entrance matting, marked as:  
"123 Polyplush Lite"; TÜV sample reference: MT12-36251.03.

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## **Request:**

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

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## **Test method:**

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

**Phone number client**  
+31 (0) 18 064 3115

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## **Results:**

See page two up to, and including three.

**Article**  
Polyplush Lite

## **Appendix:**

See page four up to, and including eleven.

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

## **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.

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**  
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➤ *Identification parameters received from the applicant.*

Type of manufacture	: Tufted*
Type of pile	: Cut pile
Type of use surface	: Uni
Type of secondary backing	: Vinyl backing (synthetic, black)*
Pile Fibre	: 100% PP*
Total mass per unit area g/m <sup>2</sup>	: 2400*
Yarn mass, g/m <sup>2</sup>	: 30*
Total thickness, mm	: 4.5*

\* Applicants declaration

➤ *Ignitability EN-ISO 11925-2:2010*

Conditioning time, climate	: 3 days, 23 ± 2 °C and 50 ± 5 %
Date of testing	: 10 <sup>th</sup> of September, 2012
Description of substrate	: 6 mm. Fibre cement board, 1800 kg/m <sup>3</sup> .
Flame application	: Surface.
Application time	: 15 seconds.

Direction:	In production			Across production		
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)	139	122	126	140	130	124
Extent of damaged area, width (mm)	20	20	21	21	19	20
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

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## APPENDIX I: Flooring Radiant Panel Single Specimen Report

**Date**  
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### Flooring Radiant Panel Single Specimen Report

**Article**  
Polyplush Lite

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Standard : EN ISO 9239-1:2002  
Laboratory : TÜV Rheinland Nederland B.V.  
Sponsor : SMG 89202283  
Date of test : Sep. 11 2012

Specimen description : Polyplush Lite  
Test name : Prod #1  
File name : D:\FRPFILES\12090015.CSV  
Test number in series : 4

Flux calibration file name : C:\FRPSOFT\CALIB\FLX12010.CSV

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

Test duration : 16 minutes 30 seconds (990 s)  
Substrate used? : Yes  
Substrate : none  
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 : 16 minutes 27 seconds (987 s)  
Extent of burning (mm) : 320  
Critical flux at extinguishment (kW/m<sup>2</sup>) : 6.76  
HF-10 (kW/m<sup>2</sup>) : 7.15  
HF-20 (kW/m<sup>2</sup>) : >= 10.9  
HF-30 (kW/m<sup>2</sup>) : >= 10.9  
Flame spread at 10 minutes (mm) : 300  
Flame spread at 20 minutes (mm) : -1  
Flame spread at 30 minutes (mm) : -1  
Peak light attenuation (%) : 56.07  
Time to peak light attenuation : 5 minutes 19 seconds (319 s)  
Total integrated smoke (%.min) : 289.45

**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**  
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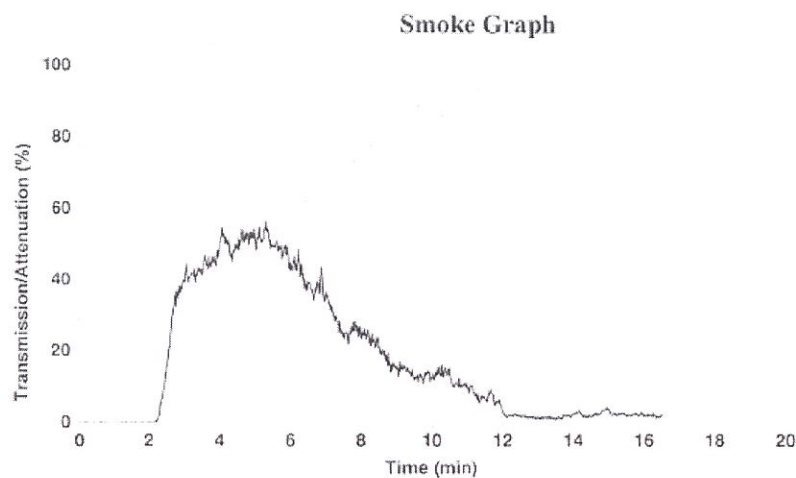
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Test name : Prod #1  
File name : D:\FRPFILES\12090015.CSV

### Rake Results

Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)	Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)
60	187	11.5	1.981	510	-	3.5	-
110	236	10.6	2.317	560	-	2.9	-
160	290	9.8	2.588	610	-	2.4	-
210	364	8.9	2.879	660	-	2.1	-
260	464	7.9	3.227	710	-	1.8	-
310	619	7.0	3.703	760	-	1.5	-
360	-	6.0	-	810	-	1.3	-
410	-	5.1	-	860	-	1.2	-
460	-	4.2	-	910	-	1.1	-

### 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	: SMG 89202283
Date of test	: Sep. 11 2012
Specimen description	: Polyplush Lite MT12-36251.03
Test name	: Cross #1
File name	: D:\FRPFILES\12090016.CSV
Test number in series	: 4
Flux calibration file name	: C:\FRPSOFT\CALIB\FLX12010.CSV
Thickness (mm)	:
Density (kg/m <sup>3</sup> )	:
Test duration	: 17 minutes 33 seconds (1053 s)
Substrate used?	: Yes
Substrate	: none
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	: 17 minutes 27 seconds (1047 s)
Extent of burning (mm)	: 370
Critical flux at extinguishment (kW/m <sup>2</sup> )	: 5.8
HF-10 (kW/m <sup>2</sup> )	: 7.34
HF-20 (kW/m <sup>2</sup> )	: >= 10.9
HF-30 (kW/m <sup>2</sup> )	: >= 10.9
Flame spread at 10 minutes (mm)	: 290
Flame spread at 20 minutes (mm)	: -1
Flame spread at 30 minutes (mm)	: -1
Peak light attenuation (%)	: 49.9
Time to peak light attenuation	: 5 minutes 46 seconds (346 s)
Total integrated smoke (%.min)	: 302.47
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**  
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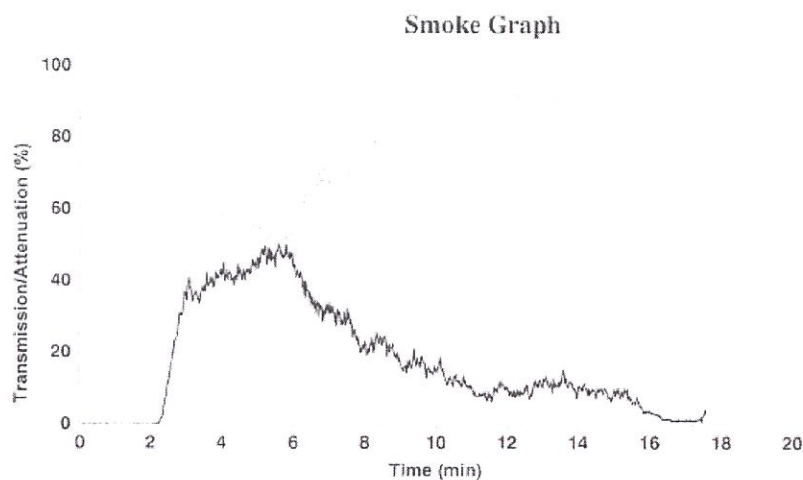
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Test name : Cross #1  
File name : D:\FRPFILES\12090016.CSV

### Rake Results

Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)	Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)
60	198	11.5	2.097	510	-	3.5	-
110	255	10.6	2.504	560	-	2.9	-
160	311	9.8	2.775	610	-	2.4	-
210	383	8.9	3.030	660	-	2.1	-
260	505	7.9	3.512	710	-	1.8	-
310	684	7.0	4.092	760	-	1.5	-
360	885	6.0	4.506	810	-	1.3	-
410	-	5.1	-	860	-	1.2	-
460	-	4.2	-	910	-	1.1	-

### 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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Standard : EN ISO 9239-1:2002  
Laboratory : TÜV Rheinland Nederland B.V.  
Sponsor : SMG 89202283  
Date of test : Sep. 11 2012

Specimen description : Polyplush Lite  
Test name : Cross #2  
File name : D:\FRPFILES\12090017.CSV  
Test number in series : 4

Flux calibration file name : C:\FRPSOFT\CALIB\FLX12010.CSV

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

Test duration : 19 minutes 43 seconds (1183 s)  
Substrate used? : Yes  
Substrate : none  
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 : 19 minutes 38 seconds (1178 s)  
Extent of burning (mm) : 370  
Critical flux at extinguishment (kW/m<sup>2</sup>) : 5.8  
HF-10 (kW/m<sup>2</sup>) : 7.53  
HF-20 (kW/m<sup>2</sup>) : >= 10.9  
HF-30 (kW/m<sup>2</sup>) : >= 10.9  
Flame spread at 10 minutes (mm) : 280  
Flame spread at 20 minutes (mm) : -1  
Flame spread at 30 minutes (mm) : -1  
Peak light attenuation (%) : 54.81  
Time to peak light attenuation : 4 minutes 46 seconds (286 s)  
Total integrated smoke (%.min) : 285.96

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.



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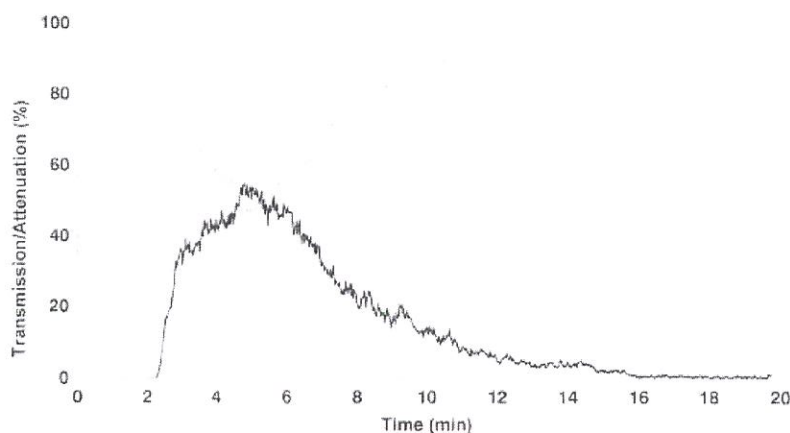
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### Smoke Graph



Test name : Cross #2  
File name : D:\FRPFILES\12090017.CSV

### Rake Results

Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)	Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)
60	187	11.5	1.981	510	-	3.5	-
110	253	10.6	2.484	560	-	2.9	-
160	304	9.8	2.713	610	-	2.4	-
210	370	8.9	2.927	660	-	2.1	-
260	494	7.9	3.436	710	-	1.8	-
310	728	7.0	4.356	760	-	1.5	-
360	815	6.0	4.150	810	-	1.3	-
410	-	5.1	-	860	-	1.2	-
460	-	4.2	-	910	-	1.1	-

### 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	: SMG 89202283
Date of test	: Sep. 11 2012
Specimen description	: Polyplush Lite MT12-36251.03
Test name	: Cross #3
File name	: D:\FRPFILES\12090018.CSV
Test number in series	: 4
Flux calibration file name	: C:\FRPSOFT\CALIB\FLX12010.CSV
Thickness (mm)	:
Density (kg/m <sup>3</sup> )	:
Test duration	: 16 minutes 04 seconds (964 s)
Substrate used?	: Yes
Substrate	: none
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	: 16 minutes 01 seconds (961 s)
Extent of burning (mm)	: 360
Critical flux at extinguishment (kW/m <sup>2</sup> )	: 5.98
HF-10 (kW/m <sup>2</sup> )	: 7.15
HF-20 (kW/m <sup>2</sup> )	: >= 10.9
HF-30 (kW/m <sup>2</sup> )	: >= 10.9
Flame spread at 10 minutes (mm)	: 300
Flame spread at 20 minutes (mm)	: -1
Flame spread at 30 minutes (mm)	: -1
Peak light attenuation (%)	: 46.62
Time to peak light attenuation	: 4 minutes 19 seconds (259 s)
Total integrated smoke (%.min)	: 264.86
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.

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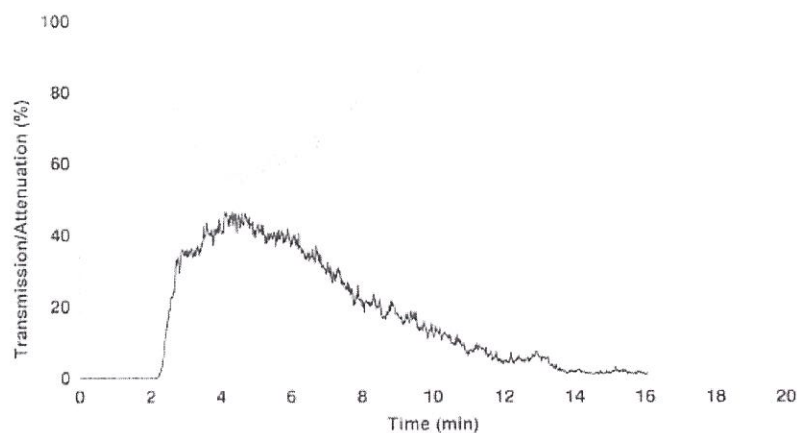
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### Smoke Graph



Test name : Cross #3  
File name : D:\FRPFILES\12090018.CSV

### Rake Results

Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)	Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)
60	186	11.5	1.970	510	-	3.5	-
110	232	10.6	2.278	560	-	2.9	-
160	300	9.8	2.677	610	-	2.4	-
210	373	8.9	2.950	660	-	2.1	-
260	493	7.9	3.429	710	-	1.8	-
310	642	7.0	3.841	760	-	1.5	-
360	839	6.0	4.272	810	-	1.3	-
410	-	5.1	-	860	-	1.2	-
460	-	4.2	-	910	-	1.1	-

### 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.