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Superior Manufacturing Group-Europe B.V.
Att. Mrs. G. Dirckx
Achterzeedijk 57
NL-2992 SB
BARENDRACHT
The Netherlands

Date
21-04-2015

Project number
89207723

Report number
89207723.01br

Article
380 Swisslon Classic XT

Report

Project number : 89207723
Report number : 89207723.01br

Received:
A dust control mat marked as: **"380 Swisslon Classic XT"**
TÜV sample reference: MT15-61762.01.

Sampling procedure:
The samples have been received on 19-3-2015. The samples are selected by the applicant. The test house has had no influence on the sampling procedure.

Identification parameters according to the applicant:

Type of product	: Tufted dust control mat with vinyl backing
Manufacturer	: Superior Manufacturing Group-Europe B.V.
Pile material	: Polyamide 6
Total thickness	: 9 mm *
Number of tufts	: 81.000 per m^2
Total pile yarn	: 850 g/m^2
Total weight per unit area	: 3.6 kg/m^2 *

** Verified by test institute.*

Request:
To determine the construction parameters and classification of burning behaviour according to EN 13501-1:2007+ A1:2009.

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

Results and conclusion:
See page two up to and including four.

Appendix:
See page five up to and including twelve.

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

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TEST RESULTS

➢ *Construction data*

Method ISO 1765, ISO 8543, ISO 1766, ISO 8543 and ISO 1763.

Total thickness (mm) : 8.6
Total mass per unit area (g/m^2) : 3772
Effective pile thickness (mm) : 5.4
Effective pile mass (g/m^2) : 589
Surface pile density (g/cm^3) : 0.108
Number of tufts or loops (per m^2) : 79.000

➢ *Ignitability EN-ISO 11925-2:2010*

Conditioning time, climate : >7 days, 23 ± 2 °C and 50 ± 5 % R.H.
Date of testing : 21-4-2015
Description of substrate : Fibre cement board, 8±2 mm, 1800±200 kg/m^3
Flame application : Surface
Application time : 15 seconds

Direction:	In production			Across production		
Total burning time[1](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)	75	85	80	80	84	85
Extent of damaged area, width (mm)	17	18	18	17	18	17
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.

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TEST RESULTS – *FOLLOW UP*

➢ *Radiant Panel test ISO 9239-1:2010*

Conditioning time, climate : >7 days, 23 ± 2 °C and 50 ± 5 % R.H.
Date of testing : 7-4-2015 & 21-4-2015
Description of substrate : Fibre cement board, 8±2 mm, 1800±200 kg/m^3 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, ⊥	40.0	5.4	39.1	282
1, ↑	41.0	5.2	54.3	352
2, ↑	41.0	5.2	31.9	272
3, ↑	41.0	5.2	39.7	304
Mean ↑	**41.0**	**5.2**	**42.0**	**310**

Remarks: No flashing, transitory- or sustained flaming observed.
All specimens were extinguished manually after the end of the test duration.

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CONCLUSION

According to EN 13501-1:2007+ A1:2009 the tested sample of the aforementioned quality **"380 Swisslon Classic XT"**, in relation to its reaction to fire behaviour is classified: **C_{fl}**
The additional classification in relation to smoke production is: **s1.**

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

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 means 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.

The validity of this report will 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. J. de Wolff

Review:
Mr. R. Boerboom

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APPENDIX I: Flooring Radiant Panel Single Specimen Report

Flooring Radiant Panel Single Specimen Report

Standard	: EN ISO 9239-1:2002
Laboratory	: TÜV Rheinland Nederland B.V.
Sponsor	: SMG Notrax 89207723 TLC
Date of test	: Apr. 21 2015
Specimen description	: 380 Swisslon ST MT15-61762.01
Test name	: Cross #1
File name	: D:\FRPFILES\15040002.CSV
Test number in series	: 4
Flux calibration file name	: C:\FRPSOFT\CALIB\FLX15005.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

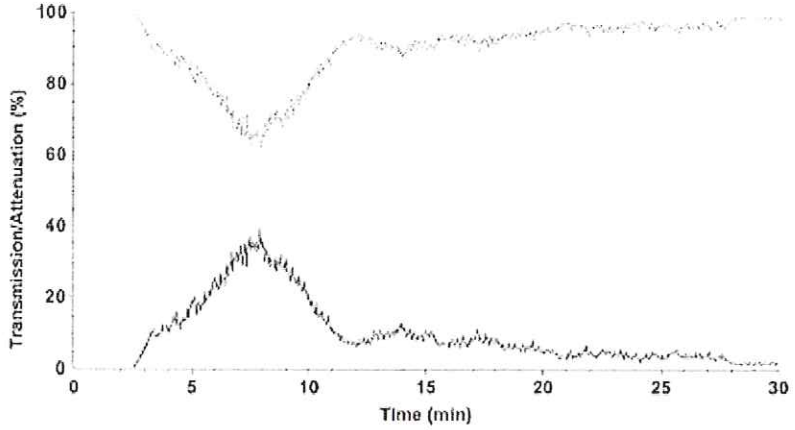
Test Results

Time to ignition	: 2 minutes 02 seconds (122 s)
Time to flameout	: 30 minutes (1800 s)
Extent of burning (mm)	: 400
Critical flux at extinguishment (kW/m²)	: 5.37
HF-10 (kW/m²)	: 8.77
HF-20 (kW/m²)	: 6.76
HF-30 (kW/m²)	: 5.37
Flame spread at 10 minutes (mm)	: 230
Flame spread at 20 minutes (mm)	: 330
Flame spread at 30 minutes (mm)	: 400
Peak light attenuation (%)	: 39.19
Time to peak light attenuation	: 7 minutes 51 seconds (471 s)
Total integrated smoke (%.min)	: 281.56
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

Smoke Graph



Test name : Cross #1
File name : D:\FRPFILES\15040002.CSV

Rake Results

Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)	Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)
60	261	11.3	2.749	510	-	3.7	-
110	354	10.5	3.511	560	-	3.1	-
160	437	9.9	4.012	610	-	2.7	-
210	544	9.2	4.431	660	-	2.3	-
260	770	8.1	5.521	710	-	1.9	-
310	1052	7.2	6.453	760	-	1.7	-
360	1455	6.1	7.534	810	-	1.5	-
410	-	5.2	-	860	-	1.3	-
460	-	4.3	-	910	-	1.2	-

Comments

Specimen was extinguished manually after end of test.

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Flooring Radiant Panel Single Specimen Report

Standard	: EN ISO 9239-1:2002
Laboratory	: TÜV Rheinland Nederland B.V.
Sponsor	: SMG 89207723 - JWF
Date of test	: Apr. 07 2015
Specimen description	: MT15-61762.01 - 380 Swisslon ST
Test name	: Prod #1
File name	: D:\FRPFILES\15040001.CSV
Test number in series	: 4
Flux calibration file name	: C:\FRPSOFT\CALIB\FLX15005.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

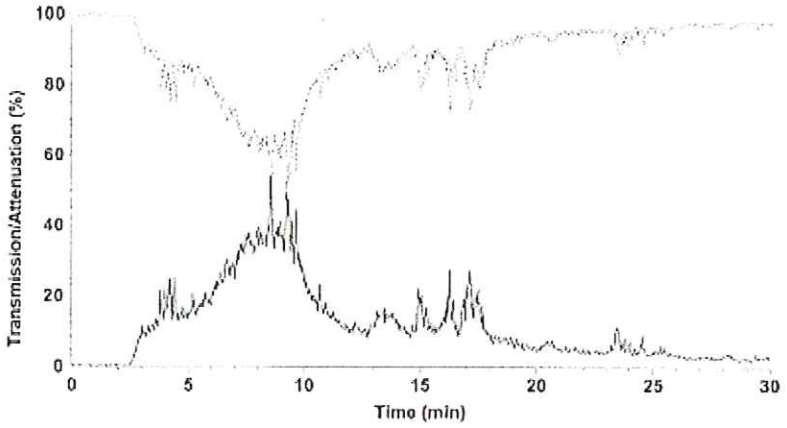
Test Results

Time to ignition	: 2 minutes 01 seconds (121 s)
Time to flameout	: 30 minutes (1800 s)
Extent of burning (mm)	: 410
Critical flux at extinguishment (kW/m²)	: 5.18
HF-10 (kW/m²)	: 8.56
HF-20 (kW/m²)	: 6.55
HF-30 (kW/m²)	: 5.18
Flame spread at 10 minutes (mm)	: 240
Flame spread at 20 minutes (mm)	: 340
Flame spread at 30 minutes (mm)	: 410
Peak light attenuation (%)	: 54.29
Time to peak light attenuation	: 8 minutes 30 seconds (510 s)
Total integrated smoke (%.min)	: 351.55
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

Smoke Graph



Test name : Prod #1
File name : D:\FRPFILES\15040001.CSV

Rake Results

Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)	Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)
60	242	11.3	2.549	510	-	3.7	-
110	355	10.5	3.521	560	-	3.1	-
160	452	9.9	4.150	610	-	2.7	-
210	496	9.2	4.040	660	-	2.3	-
260	688	8.1	4.933	710	-	1.9	-
310	982	7.2	6.024	760	-	1.7	-
360	1325	6.1	6.861	810	-	1.5	-
410	1728	5.2	7.513	860	-	1.3	-
460	-	4.3	-	910	-	1.2	-

Comments

Specimen was extinguished manually after end of test.

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Flooring Radiant Panel Single Specimen Report

Standard	: EN ISO 9239-1:2002
Laboratory	: TÜV Rheinland Nederland B.V.
Sponsor	: SMG Notrax 89207723 TLC
Date of test	: Apr. 21 2015
Specimen description	: 380 Swisslon ST MT15-61762.01
Test name	: Prod #2
File name	: D:\FRPFILES\15040003.CSV
Test number in series	: 4
Flux calibration file name	: C:\FRPSOFT\CALIB\FLX15005.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)	: 410
Critical flux at extinguishment (kW/m²)	: 5.18
HF-10 (kW/m²)	: 8.56
HF-20 (kW/m²)	: 6.55
HF-30 (kW/m²)	: 5.18
Flame spread at 10 minutes (mm)	: 240
Flame spread at 20 minutes (mm)	: 340
Flame spread at 30 minutes (mm)	: 410
Peak light attenuation (%)	: 31.94
Time to peak light attenuation	: 8 minutes 48 seconds (528 s)
Total integrated smoke (%.min)	: 271.89
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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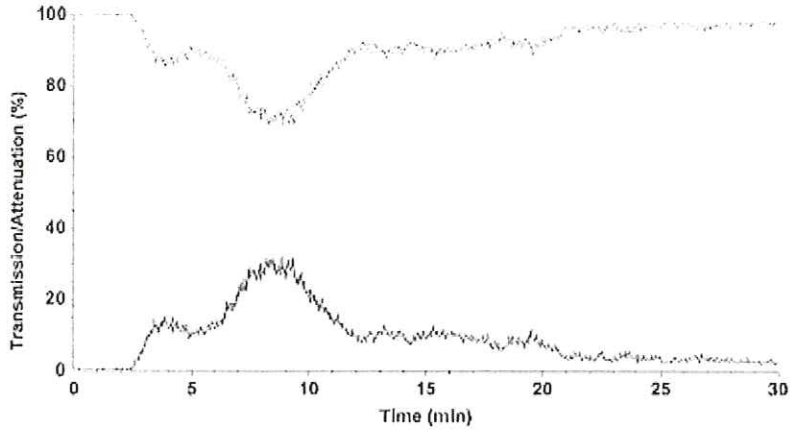
Smoke Graph



Test name : Prod #2
File name : D:\FRPFILES\15040003.CSV

Rake Results

Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)	Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)
60	259	11.3	2.728	510	-	3.7	-
110	384	10.5	3.808	560	-	3.1	-
160	453	9.9	4.159	610	-	2.7	-
210	543	9.2	4.423	660	-	2.3	-
260	699	8.1	5.012	710	-	1.9	-
310	998	7.2	6.122	760	-	1.7	-
360	1364	6.1	7.063	810	-	1.5	-
410	1790	5.2	7.783	860	-	1.3	-
460	-	4.3	-	910	-	1.2	-

Comments

Specimen was extinguished manually after end of test.

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Flooring Radiant Panel Single Specimen Report

Standard	: EN ISO 9239-1:2002
Laboratory	: TÜV Rheinland Nederland B.V.
Sponsor	: SMG Notrax 89207723 TLC
Date of test	: Apr. 21 2015
Specimen description	: 380 Swisslon ST MT15-61762.01
Test name	: Prod #3
File name	: D:\FRPFILES\15040004.CSV
Test number in series	: 4
Flux calibration file name	: C:\FRPSOFT\CALIB\FLX15005.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)	: 410
Critical flux at extinguishment (kW/m²)	: 5.18
HF-10 (kW/m²)	: 8.35
HF-20 (kW/m²)	: 6.55
HF-30 (kW/m²)	: 5.18
Flame spread at 10 minutes (mm)	: 250
Flame spread at 20 minutes (mm)	: 340
Flame spread at 30 minutes (mm)	: 410
Peak light attenuation (%)	: 39.74
Time to peak light attenuation	: 8 minutes 11 seconds (491 s)
Total integrated smoke (%.min)	: 303.91
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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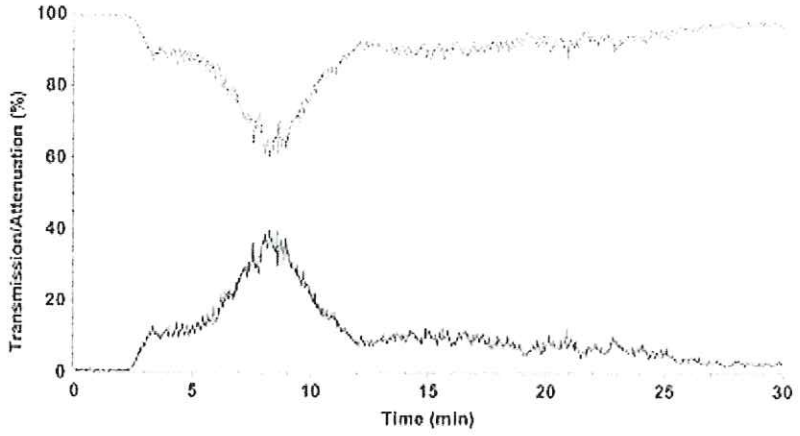
Smoke Graph



Test name : Prod #3
File name : D:\FRPFILES\15040004.CSV

Rake Results

Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)	Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)
60	241	11.3	2.538	510	-	3.7	-
110	364	10.5	3.610	560	-	3.1	-
160	429	9.9	3.939	610	-	2.7	-
210	510	9.2	4.154	660	-	2.3	-
260	652	8.1	4.675	710	-	1.9	-
310	962	7.2	5.901	760	-	1.7	-
360	1318	6.1	6.825	810	-	1.5	-
410	1689	5.2	7.344	860	-	1.3	-
460	-	4.3	-	910	-	1.2	-

Comments

Specimen was extinguished manually after end of test.