


Prüfbericht-Nr.: <i>Test Report No.:</i>	89215461.04br	Auftrags-Nr.: <i>Order No.:</i>	239535	Seite 1 von 12 <i>Page 1 of 12</i>	
Kunden-Referenz-Nr.: <i>Client Reference No.:</i>	N/A	Auftragsdatum: <i>Order date:</i>	05.03.2020		
Auftraggeber: <i>Client:</i>	Unifloor Underlay Systems, Arnsbergstraat 4, 7418 EZ Deventer, The Netherlands				
Prüfgegenstand: <i>Test item:</i>	LVT glued on underlayment				
Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i>	Marathon Premium with LVT				
Auftrags-Inhalt: <i>Order content:</i>	Classification of burning behaviour				
Prüfgrundlage: <i>Test specification:</i>	EN 13501-1:2007+ A1:2009 Classification of burning behaviour <i>Test methods: Ignitability of products subjected to direct impingement of flame (EN ISO 11925-2:2010/C1:2011) and determination of the burning behaviour using a radiant heat source (EN ISO 9239-1:2010)</i>				
Wareneingangsdatum: <i>Date of receipt:</i>	14.05.2020				
Prüfmuster-Nr.: <i>Test sample No.:</i>	MT20-239535.03				
Prüfzeitraum: <i>Testing period:</i>	14.05.2020 - 19.05.2020				
Ort der Prüfung: <i>Place of testing:</i>	Westervoortsedijk 73, 6827 AV Arnhem, Netherlands				
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland Nederland B.V.				
Prüfergebnis*: <i>Test result*:</i>	Siehe Sonstiges / See Other				
geprüft von / tested by:		kontrolliert von / reviewed by:			
25.05.2020	M.A. van de Vlekkert	25.05.2020	R. Boerboom		
Datum <i>Date</i>	Name / Stellung <i>Name / Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	Name / Stellung <i>Name / Position</i>	Unterschrift <i>Signature</i>
Sonstiges / Other:		Test result: See clause 4 on page 5.			
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>		Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>			
* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested					
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>					

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Liste der verwendeten Prüfmittel
List of used test equipment

Prüfmittel <i>Test equipment</i>	Prüfmittel-Nr. / ID-Nr. <i>Equipment No. / ID-No.</i>	Nächste Kalibrierung <i>Next calibration</i>
Flooring Radiant Panel	A00929	20.08.2020
Anemometer	A01989	26.09.2020
Scales	A00769	14.09.2020
Thickness gauge	A00904	17.01.2021
Metal ruler 1	A01759	12.12.2020
Vertical ignitability test cabinet	A01576	N/A
Stopwatch	A01699	11.12.2020
Metal reference plate	A00813	12.12.2020

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Produktbeschreibung
Product description

Product identity	Marathon Premium with LVT*	Upper floor	LVT 2.5 mm MFLOr*
Glue	Eurocol 640*		

* applicants declaration

Figure 1, Picture of the received sample (surface)



Figure 2, Picture of the received sample (back)



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1	Construction data (indicative) of the product obtained by the testlaboratory after pre-conditioning 01-4.3-P.02-322-WI01		
	Test condition	23 ± 2°C and 50 ± 4% relative humidity	
	Pre conditioning, duration	≥ 48 h & until constant mass is achieved	
	Total thickness (mm)	11.4	
	Total mass (g/m ²)	8010	
	Density (kg/m ³)	702	
	<i>Note: the determined construction data are used for determination of constant mass, the used testmethod is not in accordance with the determination of construction data according the specification standard. Therefore the testresults should be handled as indicative.</i>		

2	Ignitability of products subjected to direct impingement of flame EN ISO 11925-2:2010/C1:2011			
	Date of testing	19.05.2020		
	Pre-conditioning, climate	23 ± 2°C and 50 ± 4% relative humidity		
	Pre-conditioning, duration	≥ 48 h & until constant mass is achieved		
	Description of substrate	Fibre cement board, thickness 8 ± 2 mm, density 1800 ± 200 kg/m ³ conforming to EN 13238:2010		
	Flame application	Surface		
	Flame application time (s)	15		
	Requirements according EN 13501-1:2007+A1:2009	See clause 5		
	Test result(s)			
	Orientation*	N/A		
	Test sample	1	2	3
	Ignition of the sample	Yes	Yes	Yes
	Flame tip reached 150 mm above the application point	No	No	No
	Duration after application when the flame tip reached the 150 mm above the application point (s)	N/A	N/A	N/A
	Extent of damaged area, length (mm)	25	23	21
	Extent of damaged area, width (mm)	12	12	12
	Material melts	Yes	Yes	Yes
	Shrinks away from flame without being ignited	No	No	No
	After glowing	No	No	No
	Flaming droplets/particles which caused ignition of filter paper	No	No	No
<i>* No length or width direction applicable.</i>				

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3	Determination of the burning behaviour using a radiant heat source EN ISO 9239-1:2010				
	Date of testing	19.05.2020			
	Pre-conditioning, climate	23 ± 2°C and 50 ± 4% relative humidity			
	Pre-conditioning, duration	≥ 48 h & until constant mass is achieved			
	Description of substrate	Fibre cement board, thickness 8 ± 2 mm, density 1800 ± 200 kg/m ³ conforming to EN 13238:2010			
	Fixing method	The LVT is glued on the Marathon Premium with Eurocol 640.			
	Requirements according EN 13501-1:2007+ A1:2009	See clause 5			
	Test result(s)				
	Test sample	1	2	3	Mean
	Orientation*	N/A	N/A	N/A	N/A
	Flame spread (cm)	31	30	20	27
	CHF / HF-30 (kW/m ²)	7.3	7.5	9.4	8.1
	Maximum light attenuation (%)	70.2	76.9	72.6	73.2
	Smoke production (%.min)	382	366	295	348
* No length or width direction applicable. Observations: Specimen 1, 2, and 3: Flashing is observed. Specimen 1, 2, and 3: Extinguished naturally before the end of the test duration.					

4	Classification of burning behaviour EN 13501-1:2007+A1:2009	
	The product, Marathon Premium with LVT , in relation to its reaction to fire behaviour is classified:	B_{fl}
	The additional classification in relation to smoke production is:	s1
	Reaction to fire classification : B_{fl} – s1	
	Field of application <ul style="list-style-type: none"> - As a floor covering in accordance with the nominal product parameters given on page 3. - On end use substrates of classes A1 and A2-s1,d0 according to EN 13238:2010. - Marathon Premium with LVT, glued with Eurocol 640. 	
	Statements <ul style="list-style-type: none"> - This document does not represent type approval or certification of the product. - 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 validity of this report will expire directly after alterations or modifications of the examined product (combination)(s) and/or the criteria. 	

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5	Potential classes of reaction to fire performance for floorings			
	EN 13501-1:2007+A1:2009			
	Class	Test method(s)	Classification criteria	
	A1 _{fi}	EN ISO 1182 ^a and	$\Delta T \leq 30 \text{ °C}$; and $\Delta m \leq 50 \%$; and $t_f = 0$ (i.e. no sustained flaming)	-
		EN ISO 1716	$PCS \leq 2.0 \text{ MJ/kg}^a$ and $PCS \leq 2.0 \text{ MJ/m}^2^b$ and $PCS \leq 1.4 \text{ MJ/m}^2^c$ and $PCS \leq 2.0 \text{ MJ/kg}^d$	-
	A2 _{fi}	EN ISO 1182 ^a or	$\Delta T \leq 50 \text{ °C}$ and $\Delta m \leq 50 \%$ and $t_f \leq 20 \text{ s}$	-
		EN ISO 1716 and	$PCS \leq 3.0 \text{ MJ/kg}^a$ and $PCS \leq 4.0 \text{ MJ/m}^2^b$ and $PCS \leq 4.0 \text{ MJ/m}^2^c$ and $PCS \leq 3.0 \text{ MJ/kg}^d$	-
		EN ISO 9239-1 ^e	$CHF \geq 8.0 \text{ kW/m}^2$	Smoke production ^g
	B _{fi}	EN ISO 9239-1 ^e and	$CHF \geq 8.0 \text{ kW/m}^2$	Smoke production ^g
		EN ISO 11925-2 ^h : Exposure = 15 s	$F_s \leq 150 \text{ mm}$ within 20 s	-
	C _{fi}	EN ISO 9239-1 ^e and	$CHF \geq 4.5 \text{ kW/m}^2$	Smoke production ^g
		EN ISO 11925-2 ^h : Exposure = 15 s	$F_s \leq 150 \text{ mm}$ within 20 s	-
	D _{fi}	EN ISO 9239-1 ^e and	$CHF \geq 3.0 \text{ kW/m}^2$	Smoke production ^g
EN ISO 11925-2 ^h : Exposure = 15 s		$F_s \leq 150 \text{ mm}$ within 20 s	-	
E _{fi}	EN ISO 11925-2 ^h : Exposure = 15 s	$F_s \leq 150 \text{ mm}$ within 20 s	-	
F _{fi}	No performance determined			
^a	For homogeneous products and substantial components of non-homogeneous products.			
^b	For any external non-substantial component of non-homogeneous products.			
^c	For any internal non-substantial component of non-homogeneous products.			
^d	For the product as a whole.			
^e	Test duration = 30 min.			
^f	Critical flux is defined as the radiant flux at which the flame extinguishes or the radiant flux after a test period of 30 min, whichever is the lower (i.e. the flux corresponding with the furthest extent of spread of flame).			
^g	s1 = Smoke $\leq 750 \%$ minutes; s2 = not s1.			
^h	Under conditions of surface flame attack and, if appropriate to the end use application of the product, edge flame attack.			

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Flooring Radiant Panel Single Specimen Report

Standard : EN ISO 9239-1:2010
Laboratory : TÜV Rheinland Nederland B.V.
Sponsor : Unifloor 89215461
Date of test : May 19 2020

Specimen description : Marathon Premium MT20-23935.03
Test name : # 1
File name : D:\FRPFILES\20050001.CSV
Test number in series : 3

Flux calibration file name : C:\FRPSOFT2.9A\CALIB\FLEX19003.CSV

Thickness (mm) : 11.4
Density (kg/m³) : 702

Test duration : 25 minutes 17 seconds (1517 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 : 25 minutes 15 seconds (1515 s)
Extent of burning (mm) : 310
Critical flux at extinguishment (kW/m²) : 7.31
HF-10 (kW/m²) : 9.43
HF-20 (kW/m²) : 7.70
HF-30 (kW/m²) : Not calculated (test duration < 30 minutes)
Flame spread at 10 minutes (mm) : 200
Flame spread at 20 minutes (mm) : 290
Flame spread at 30 minutes (mm) : Not measured
Peak light attenuation (%) : 70.19
Time to peak light attenuation : 4 minutes 56 seconds (296 s)
Total integrated smoke (%.min) : 381.64

Potential classification : C(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.

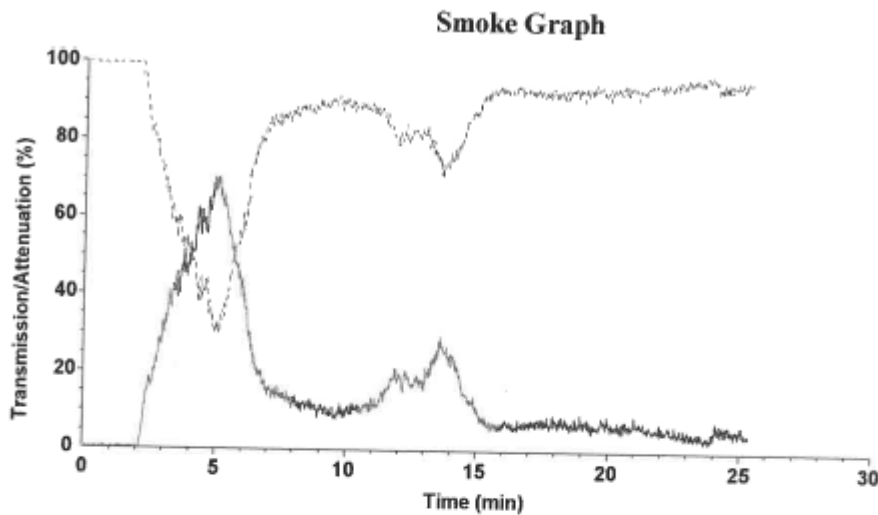
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Test name : # 1
File name : D:\FRPFILES\20050001.CSV

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	179	11.1	1.984	510	-	3.7	-
110	227	10.5	2.374	560	-	3.1	-
160	288	9.9	2.864	610	-	2.7	-
210	732	9.3	6.812	660	-	2.3	-
260	888	8.3	7.350	710	-	2.0	-
310	1387	7.3	10.135	760	-	1.7	-
360	-	6.2	-	810	-	1.5	-
410	-	5.2	-	860	-	1.3	-
460	-	4.4	-	910	-	1.2	-

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 9239-1:2010
Laboratory : TÜV Rheinland Nederland B.V.
Sponsor : Unifloor 89215461
Date of test : May 19 2020

Specimen description : Marathon Premium MT20-23935.03
Test name : # 2
File name : D:\FRPFILES\20050002.CSV
Test number in series : 3

Flux calibration file name : C:\FRPSOFT2.9A\CALIB\FLX19003.CSV

Thickness (mm) : 11.4
Density (kg/m³) : 702

Test duration : 22 minutes 31 seconds (1351 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 : 22 minutes 29 seconds (1349 s)
Extent of burning (mm) : 300
Critical flux at extinguishment (kW/m²) : 7.50
HF-10 (kW/m²) : 9.31
HF-20 (kW/m²) : 7.50
HF-30 (kW/m²) : Not calculated (test duration < 30 minutes)
Flame spread at 10 minutes (mm) : 210
Flame spread at 20 minutes (mm) : 300
Flame spread at 30 minutes (mm) : Not measured
Peak light attenuation (%) : 76.87
Time to peak light attenuation : 4 minutes 42 seconds (282 s)
Total integrated smoke (%.min) : 366.22

Potential classification : C(f)
Smoke production classification : s1

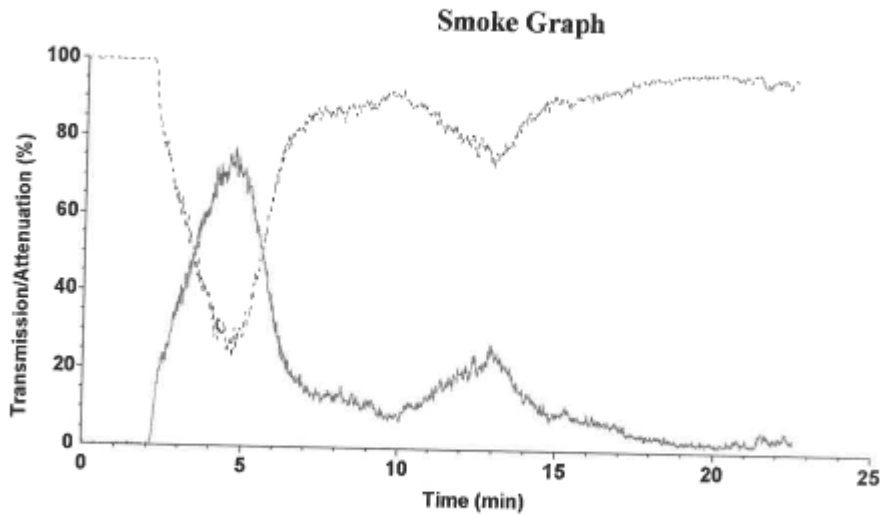
These results relate only to the behaviour of the specimens of the product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

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Test name : # 2

File name : D:\FRPFILES\20050002.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	187	11.1	2.073	510	-	3.7	-
110	227	10.5	2.374	560	-	3.1	-
160	265	9.9	2.635	610	-	2.7	-
210	487	9.3	4.532	660	-	2.3	-
260	859	8.3	7.110	710	-	2.0	-
310	-	7.3	-	760	-	1.7	-
360	-	6.2	-	810	-	1.5	-
410	-	5.2	-	860	-	1.3	-
460	-	4.4	-	910	-	1.2	-

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 9239-1:2010
Laboratory : TÜV Rheinland Nederland B.V.
Sponsor : Unifloor 89215461
Date of test : May 19 2020

Specimen description : Marathon Premium MT20-23935.03
Test name : # 3
File name : D:\FRPFILES\20050003.CSV
Test number in series : 3

Flux calibration file name : C:\FRPSOFT2.9A\CALIB\FLX19003.CSV

Thickness (mm) : 11.4
Density (kg/m³) : 702

Test duration : 25 minutes 24 seconds (1524 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 : 15 minutes 54 seconds (954 s)
Extent of burning (mm) : 200
Critical flux at extinguishment (kW/m²) : 9.43
HF-10 (kW/m²) : 9.43
HF-20 (kW/m²) : 9.43
HF-30 (kW/m²) : Not calculated (test duration < 30 minutes)
Flame spread at 10 minutes (mm) : 200
Flame spread at 20 minutes (mm) : 200
Flame spread at 30 minutes (mm) : Not measured
Peak light attenuation (%) : 72.55
Time to peak light attenuation : 4 minutes 47 seconds (287 s)
Total integrated smoke (%.min) : 294.83

Potential classification : A2(f)/B(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.

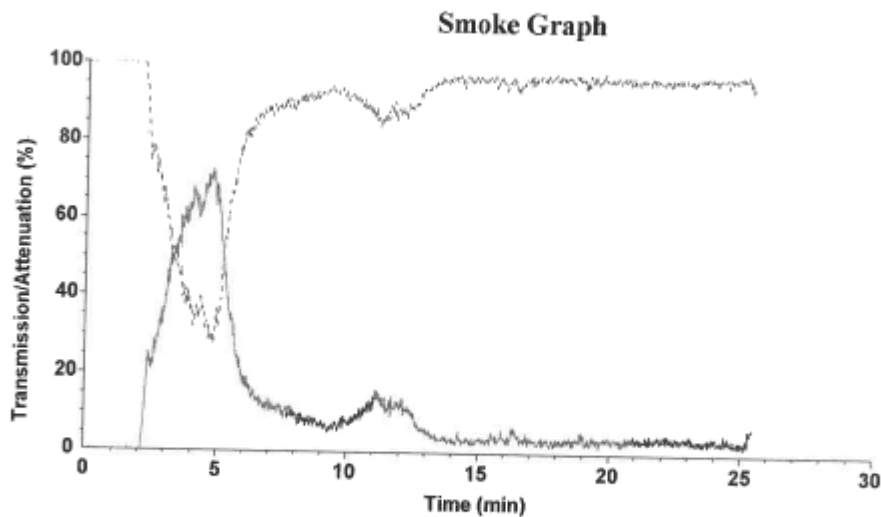
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Test name : # 3
File name : D:\FRPFILES\20050003.CSV

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	180	11.1	1.995	510	-	3.7	-
110	224	10.5	2.343	560	-	3.1	-
160	312	9.9	3.102	610	-	2.7	-
210	-	9.3	-	660	-	2.3	-
260	-	8.3	-	710	-	2.0	-
310	-	7.3	-	760	-	1.7	-
360	-	6.2	-	810	-	1.5	-
410	-	5.2	-	860	-	1.3	-
460	-	4.4	-	910	-	1.2	-

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.