Test Report No. 17195A

Sponsor

Muylle Facon nv
Ambachtenstraat 58
8870 Izegem
Belgium

Construction product and trade name

Multi-layered engineered parquet floor, treated with RMC FR System

Nature of the test

EN ISO 11925-2:2010/AC:2011 – Reaction to fire tests – Ignitability of building products subjected to direct impingement of flame – Part 2: Single-flame source test (EN ISO 11925-2:2010/AC:2011) – flame application time: 30 s.

Summary of the results

Flame spread F_s (mm)	≤ 150
Ignition of the filter paper	No

PREPARED BY

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2015.09.28 08:13:55
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APPROVED BY

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General Manager
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This report consists of 6 pages

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1. DESCRIPTION OF THE TEST METHOD

EN ISO 11925-2:2010/AC:2011 – Reaction to fire tests – Ignitability of building products subjected to direct impingement of flame – Part 2: Single-flame source test.
The flame application time is 30 s.

According to EN 13501-1:2007+A1:2009 only surface exposure has to be performed for flooring applications. Therefore no edge exposure was performed.

2. IDENTIFICATION OF THE PRODUCT

Date of test samples arrival	:	12/05/2015
Identification of the samples	:	Not communicated by the sponsor
Sampling done by	:	The sponsor (Mr. I. Schaek)
Sampling date	:	Not communicated by the sponsor
Name of the sponsor	:	Muylle Facon nv Ambachtenstraat 58 8870 Izegem Belgium
Name of the manufacturer/supplier	:	Muylle Facon nv Ambachtenstraat 58 8870 Izegem Belgium
Trade name	:	**Multi-layered engineered parquet floor, treated with RMC FR System**

Description of the tested product:
This description is based on information given by the sponsor.

	Nominal values (*)	Measured values (**)
Multi-layered engineered parquet floor, treated with RMC FR System		
Type of product	The tested product is multi-layered parquet, consisting of a bottom layer out of birch multiplex and a top layer of oak. The top layer is applied onto the bottom layer using a polyvinyl acetate (PVA_c) glue. The top layer is treated with a fire retardant system provided by Muylle Facon which is called RMC FR system.	
Manufacturer	Muylle Facon nv	
Total thickness (mm)	10	10
Width (mm)	190	190
Total surface mass (g/m²)	Not communicated	6683
Bottom layer: Birch multiplex		
Type of product	Birch multiplex	
Manufacturer	Vanlandschoot Hout bvba	
Thickness (mm)	7,5	7,5
Density (kg/m³)	700 ± 15	(***)
Use of fire retardants	No	
Polyvinyl acetate (PVA_c) glue between bottom layer and top layer		
Type of glue	Polyvinyl acetate (PVA_c) glue with an aliphatic isocyanate hardener.	
Used amount (g/m²) (viscous application)	175 ± 25	(***)
Top layer: Fire retardant treated oak		
Type of product	Oak treated with a fire retardant primer (finishing coat 1; RMC FR Base) and a fire retardant oil (finisching coat 2; RMC FR Oil).	
Manufacturer (of the untreated oak)	Vanlandschoot Hout bvba	
Thickness (mm)	2,5	2,5
Density (of the untreated oak) (kg/m³)	750 ± 25	(***)
Use of fire retardants	Yes	

(*) Based on the information given by the sponsor.
(**) Values verified by the laboratory.
(***) Unverifiable by the laboratory.

	Nominal values (*)	Measured values (**)
Finishing coat 1: RMC FR Base		
Type of product	Fire retardant primer (proprietary formula)	
Commercial name	RMC FR Base	
Manufacturer	Muylle Facon nv	
Method of application	Roll	
Used amount (g/m²) (wet application)	35 ± 5	(***)
Active amount (g/m²) (retention)	35 ± 5	(***)
Finishing coat 2: RMC FR Oil		
Type of product	Fire retardant oil (proprietary formula)	
Commercial name	RMC FR Oil	
Manufacturer	Muylle Facon nv	
Method of application	Roll + cleaning/polishing	
Used amount (g/m²) (wet application)	16 ± 2	(***)
Active amount (g/m²) (retention)	14 ± 2	(***)

(*) Based on the information given by the sponsor.
(**) Values verified by the laboratory.
(***) Unverifiable by the laboratory.

Mounting and Fixing:

The product was tested freehanging with the top layer (fire retardant treated oak) as the fire exposed side. The first 3 samples were tested lengthwise and the next 3 samples were tested crosswise.

Conditioning, according to EN 13238, § 4.2 to constant mass.

Start of conditioning : 12/05/2015

End of conditioning : 27/05/2015

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3. RESULTS AND OBSERVATIONS

Date of test : 27/05/2015

a) Test results

a.1) Surface exposure

Position of flame application:

- Centre line of the specimen, 40 mm above the bottom edge (see figure 9 of the standard)

Test results

Specimen No.	1 (L)	2 (L)	3 (L)	4 (C)	5 (C)	6 (C)
Ignition (yes/no)	yes	yes	yes	yes	yes	yes
Flame tip reaching the measuring mark, 150 mm above the flame application point within 60 s, after flame application (yes/no) Moment of appearance (s)	no -	no -	no -	no -	no -	no -
Maximal flame spread (mm)	40	40	50	45	50	40
Ignition of the filter paper (yes/no)	no	no	no	no	no	no

(L) Samples that have been tested lengthwise.
(C) Samples that have been tested crosswise.

Observations

Carbonisation at flame height and discoloration

b) Summary of test results

The test results relate only to the behaviour of the test specimens of a material under the particular conditions of the test. They are not intended to be the sole criterion for assessing the potential fire hazard of the material in use.

The test results are only valid for the specimens of the product as they have been tested.

The following test results were obtained in accordance with the standard EN ISO 11925-2:2010/AC:2011:

Flame spread F_s (mm)	≤ 150
Ignition of the filter paper	No

c) Uncertainty of measurement

Regarding the precision of the test method, at the present time we have insufficient information to make a considerate statement regarding the uncertainty of measurement. The uncertainty of test results for this test report is described in Annex A of the test standard.
As this annex only covers generic products and as we know at this moment that the uncertainty can be influenced by the nature of the product in the test, the values in Annex A can only give an indication of the actual uncertainty of the tests described in this report.

Test Report No. 17195B

Sponsor

Muylle Facon nv
Ambachtenstraat 58
8870 Izegem
België

Construction product and trade name

Multi-layered engineered parquet floor, treated with RMC FR System

Nature of the tests

EN ISO 9239-1:2010 - Reaction to fire tests for floorings - Part 1: Determination of the burning behaviour using a radiant heat source.

Summary of the results

Average critical flux (kW/m²)	4,5
Average smoke attenuation (%.min)	4

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This report consists of 12 pages, including 5 annexes

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1. DESCRIPTION OF THE TEST METHOD

EN ISO 9239-1:2010 - Reaction to fire tests for floorings - Part 1: Determination of the burning behaviour using a radiant heat source.

There was no deviation from the specifications contained in the test standard.

2. IDENTIFICATION OF THE PRODUCT

Date of test samples arrival	:	12/05/2015
Identification of the samples	:	Not communicated by the sponsor
Sampling done by	:	The sponsor (Mr. I. Schaek)
Sampling date	:	Not communicated by the sponsor
Name of the sponsor	:	Muylle Facon nv Ambachtenstraat 58 8870 Izegem Belgium
Name of the manufacturer/supplier	:	Muylle Facon nv Ambachtenstraat 58 8870 Izegem Belgium
Trade name	:	**Multi-layered engineered parquet floor, treated with RMC FR System**

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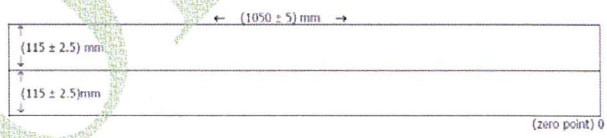
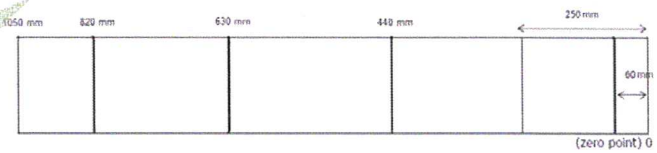
Description of the tested product:

This description is based on information given by the sponsor.

	Nominal values (*)	Measured values (**)
Multi-layered engineered parquet floor, treated with RMC FR System		
Type of product	The tested product is multi-layered parquet, consisting of a bottom layer out of birch multiplex and a top layer of oak. The top layer is applied onto the bottom layer using a polyvinyl acetate (PVAc) glue. The top layer is treated with a fire retardant system provided by Muylle Facon which is called RMC FR system.	
Manufacturer	Muylle Facon nv	
Total thickness (mm)	10	10
Width (mm)	190	190
Total surface mass (	Not communicated	6683
Bottom layer: Birch multiplex		
Type of product	Birch multiplex	
Manufacturer	Vanlandschoot Hout bvba	
Thickness (mm)	7,5	7,5
Density (kg/m³)	700 ± 15	(***)
Use of fire retardants	No	
Polyvinyl acetate (PVA_c) glue between bottom layer and top layer		
Type of glue	Polyvinyl acetate (PVA_c) glue with an aliphatic isocyanate hardener.	
Used amount (g/m²) (viscous application)	175 ± 25	(***)
Top layer: Fire retardant treated oak		
Type of product	Oak treated with a fire retardant primer (finishing coat 1; RMC FR Base) and a fire retardant oil (finisching coat 2; RMC FR Oil).	
Manufacturer (of the untreated oak)	Vanlandschoot Hout bvba	
Thickness (mm)	2,5	2,5
Density (of the untreated oak) (kg/m³)	750 ± 25	(***)
Use of fire retardants	Yes	
Finishing coat 1: RMC FR Base		
Type of product	Fire retardant primer (proprietary formula)	
Commercial name	RMC FR Base	
Manufacturer	Muylle Facon nv	
Method of application	Roll	
Used amount (g/m²) (wet application)	35 ± 5	(***)
Active amount (g/m²) (retention)	35 ± 5	(***)

(*) Based on the information given by the sponsor.
(**) Values verified by the laboratory.
(***) Unverifiable by the laboratory.

	Nominal values (*)	Measured values (**)
Finishing coat 2: RMC FR Oil		
Type of product	Fire retardant oil (proprietary formula)	
Commercial name	RMC FR Oil	
Manufacturer	Muylle Facon nv	
Method of application	Roll + cleaning/polishing	
Used amount (g/m²) (wet application)	16 ± 2	(***)
Active amount (g/m²) (retention)	14 ± 2	(***)
Mounting and fixing		
Mounting	The total product was loosely placed onto a fibre cement substrate (7,9 mm; 1916 kg/m³) according to EN 13238. The flame was exposed to the top layer (fire retardant treated oak).	
Direction	The test was executed both lengthwise and crosswise. In the sample lengthwise a closed joint along the length was used at (115 ± 2,5) mm (see figure 1 below) and in the samples crosswise a closed joint at 250 mm from the edge (see figure 2 below) (according to Egolf Recommendation ER 12:2008). For the samples tested crosswise, also closed joints at every 190 mm (width of the sample) from each other were used. Figure 1  Figure 2  	

(*) Based on the information given by the sponsor.
(**) Values verified by the laboratory.
(***) Unverifiable by the laboratory.

Conditioning, according to EN 13238, § 4.2 to constant mass.

Start of conditioning : 12/05/2015
End of conditioning : 27/05/2015

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3. CALIBRATION RESULTS

Latest calibration date : 27/05/2015
Calibration results : Annex 5

4. RESULTS AND OBSERVATIONS

Date of test : 27/05/2015

a) Test results

Flame spread as in function of time

Specimen number	1	2	3	4
Flame spread	Time when reached (s)			
50 mm	195	300	192	201
100 mm	294	423	279	288
150 mm	378	576	363	360
200 mm	474	720	426	432
250 mm	582	861	534	531
300 mm	711	1017	720	669
350 mm	834	1275	873	954
400 mm	1050	1509	1089	1227
450 mm	(1)	(1)	(1)	(1)
500 mm				
550 mm				
600 mm				
650 mm				
700 mm				
750 mm				

(1) Not reached

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Other data

Specimen number	1	2	3	4	Averages specimen 1, 3 and 4
Time (min)	Flame spread (mm)				
Flame spread after 10 min	260	170	260	280	267
Flame spread after 20 min	420	340	420	395	412
Flame spread after 30 min	430	430	430	440	433
Most distant point reached (mm)	430	430	430	440	433
Self extinguishing time (s)	N.a.	N.a.	N.a.	N.a.	N.a.
Extinguished by operator at 30 min (yes/no)	Yes	Yes	Yes	Yes	Yes
HF-30 (kW/m²)	4,58	4,58	4,58	4,41	4,52
Total smoke attenuation at 30 min. (%.min)	0,87	3,96	1,18	8,52	3,52

N.a.: Not applicable

Specimen number 2: Lengthwise
Specimen numbers 1, 3 and 4: Crosswise

Graphs of smoke attenuation: Annexes 1 to 4

b) Observations

Specimen number	1	2	3	4
Transitory flaming (yes/no)	No	No	No	No
Melting (yes/no)	No	No	No	No
Blistering (yes/no)	No	No	No	No
Glowing combustion after extinction	No	No	No	No
Duration (s)	-	-	-	-
Location (distance from reference line) (mm)	-	-	-	-
Penetration of the flame through the substrate (yes/no)	No	No	No	No
Other observations	None	None	None	None

c) Summary of the results

The test results relate to the behaviour of the test specimens of a 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 test results are only valid for the specimen of the product which has been tested.

The following test results were obtained in accordance with the standard EN ISO 9239-1:2010:

Average critical flux (kW/m²)	4,5
Average smoke attenuation (%.min)	4

d) Uncertainty of measurement

Regarding the precision of the test method, at the present time we have insufficient information to make a considerate statement regarding the uncertainty of measurement. The uncertainty of test results for this test report is described in Annex B of the test standard.
As this annex only covers generic products and as we know at this moment that the uncertainty can be influenced by the nature of the product in the test, the values in Annex B can only give an indication of the actual uncertainty of the tests described in this report.

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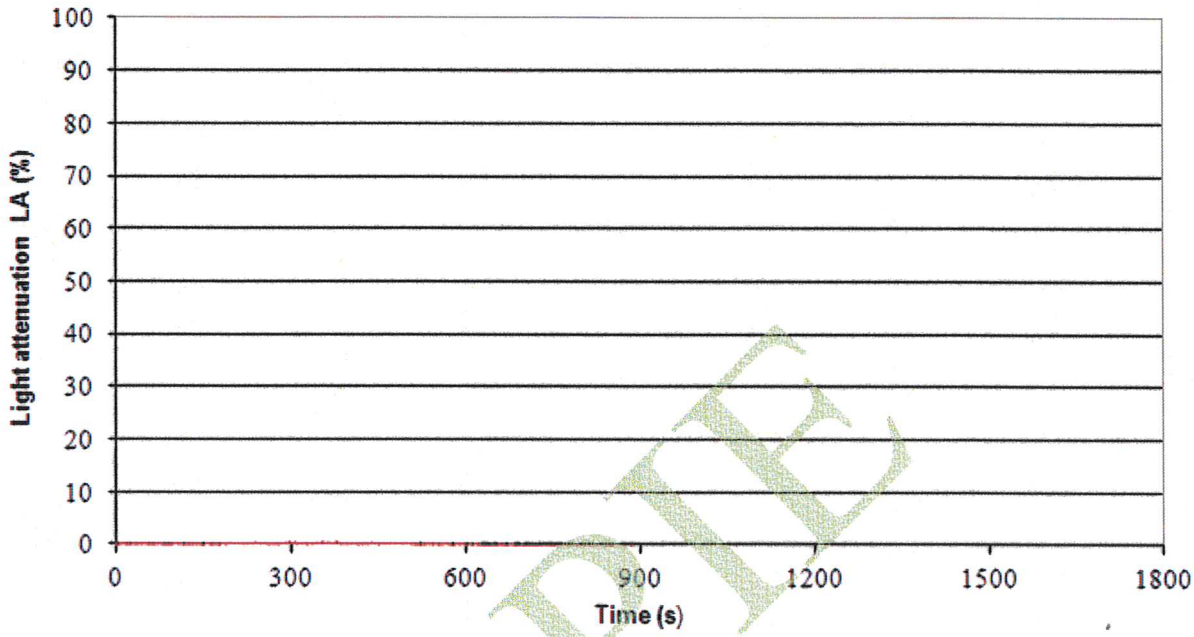
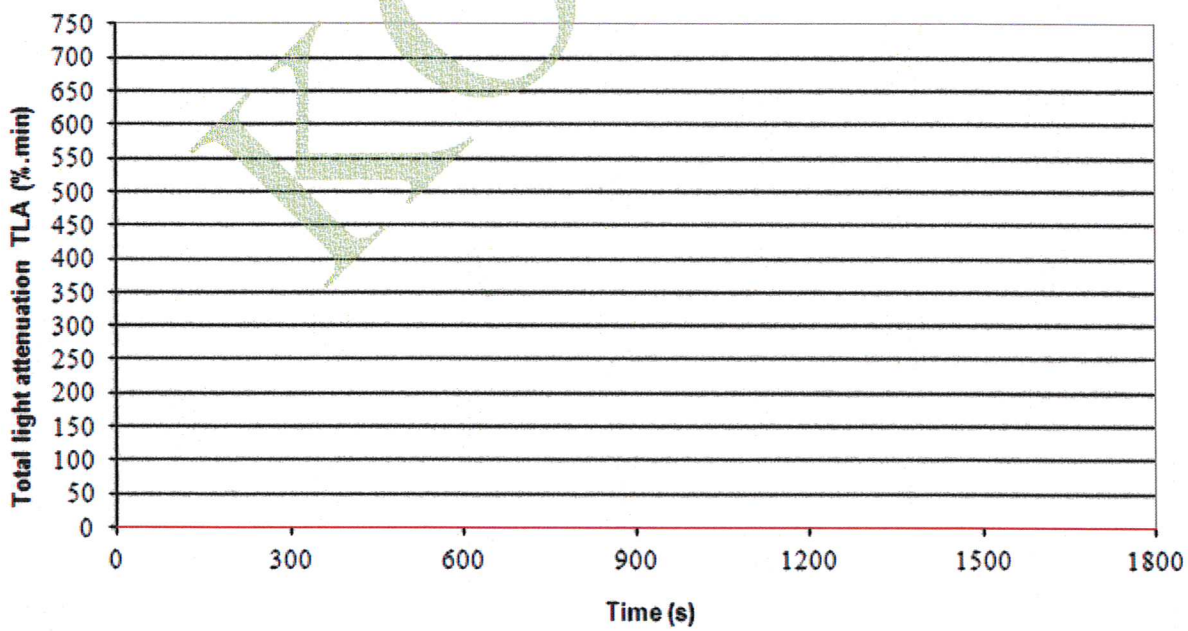
Graphs of smoke production for specimen No. 1

Light attenuation (%)



Total light attenuation (%.min)



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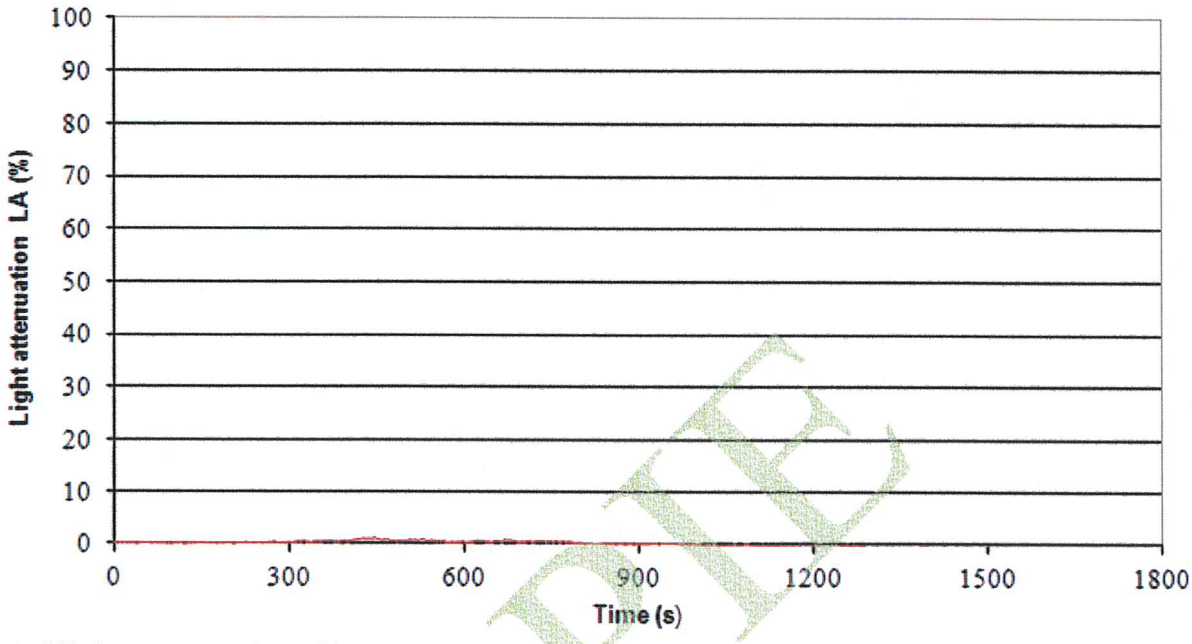
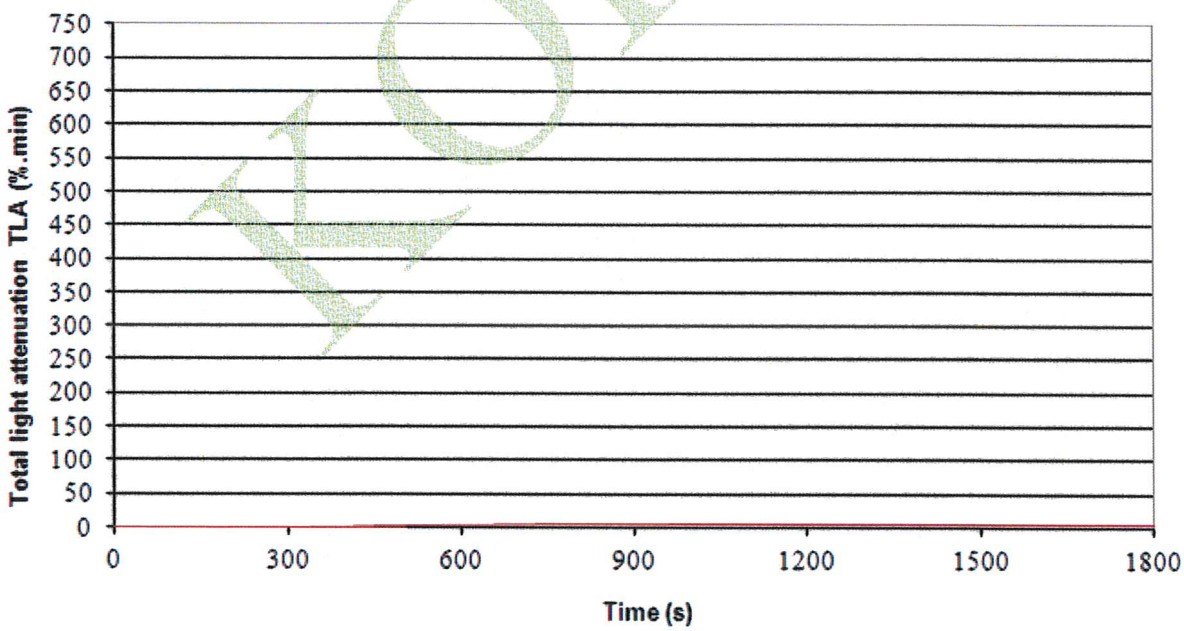
Graph of smoke attenuation for specimen No. 2

Light attenuation (%)



Total light attenuation (%.min)



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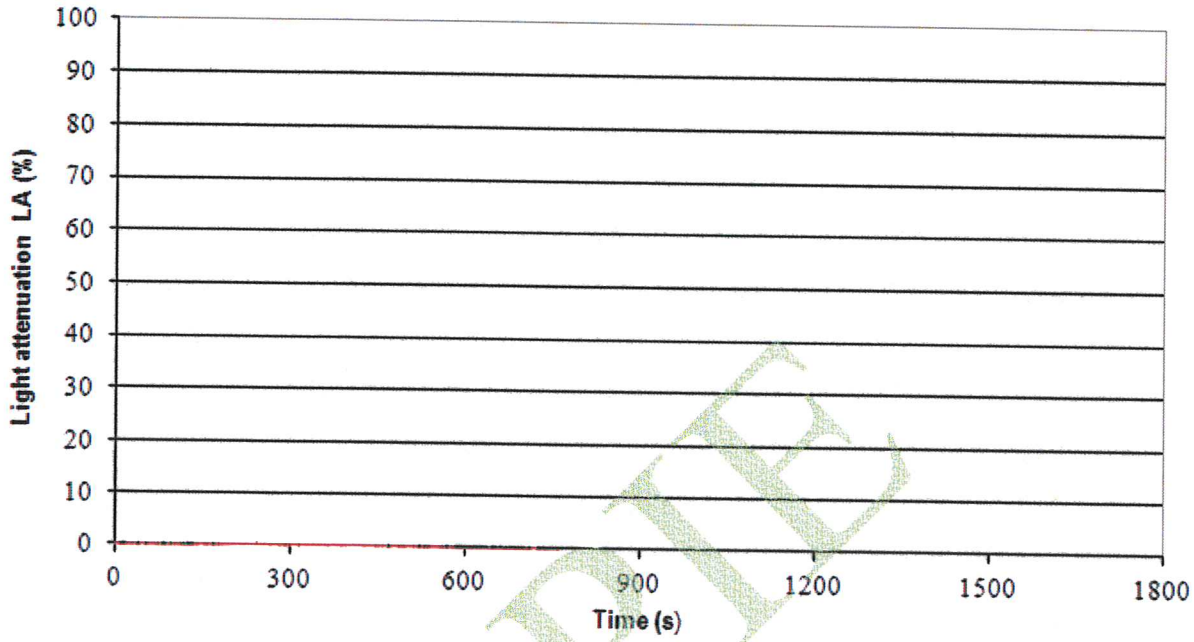
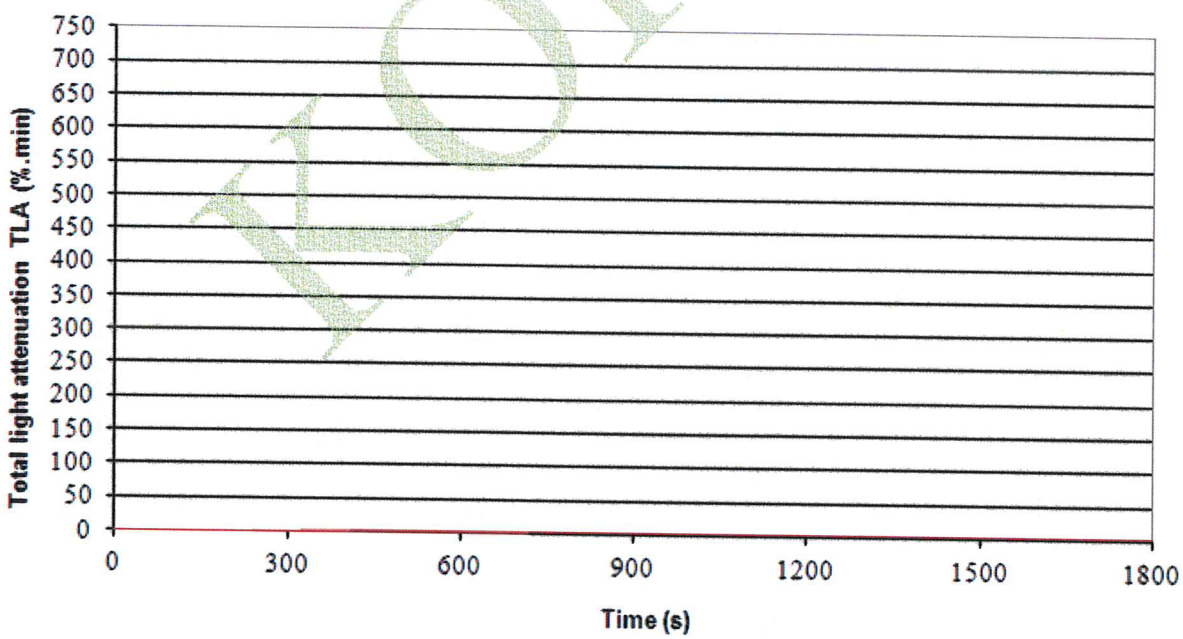
Graph of smoke attenuation for specimen No. 3

Light attenuation (%)



Total light attenuation (%.min)



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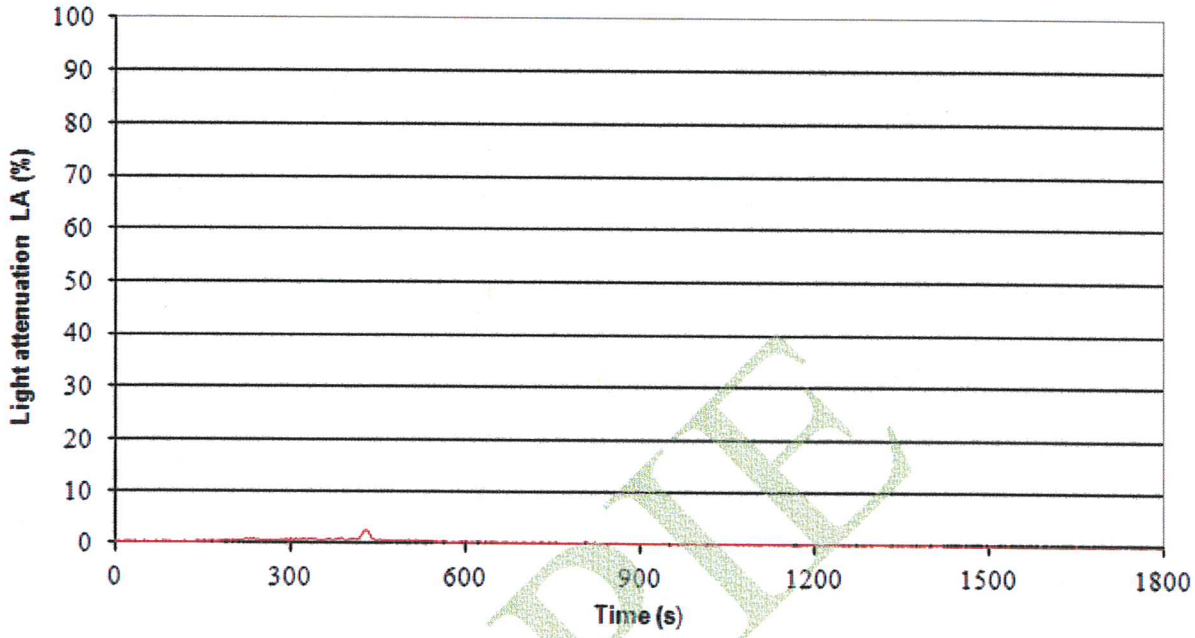
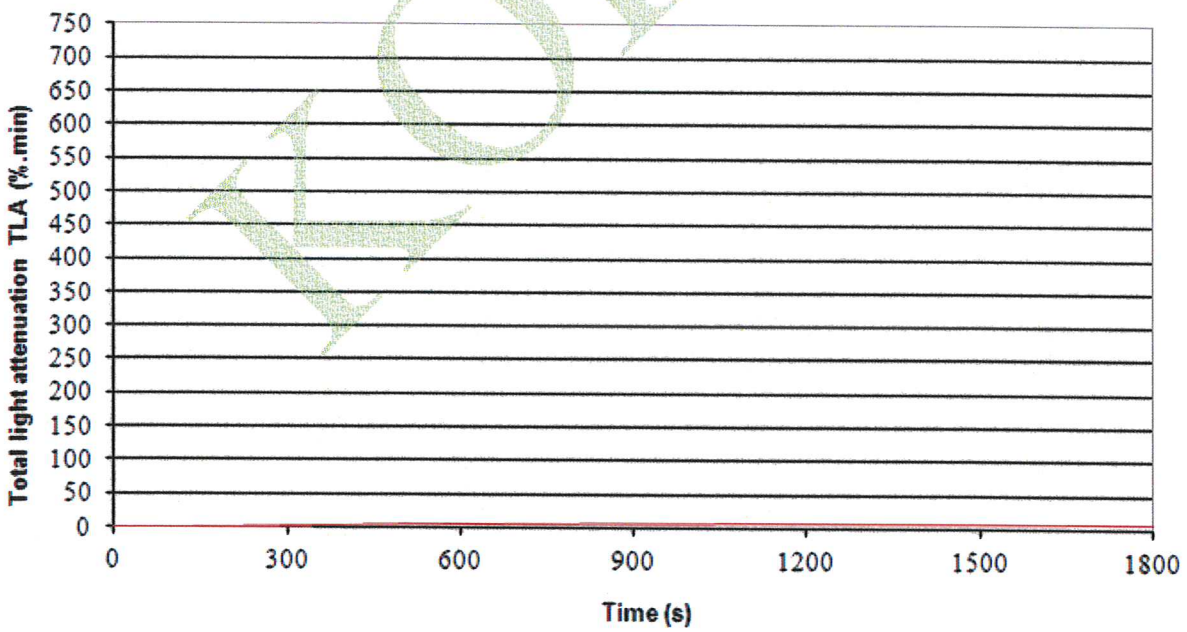
Graph of smoke attenuation for specimen No. 4

Light attenuation (%)



Total light attenuation (%.min)



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Calibration results

Calibration date: 27/05/2015

Heat flux distribution onto the calibration board:

Distance to zero point of specimen (mm)	Measured heat flux (kW/m²)	Required heat flux (kW/m²)
110	10,6	10,9 ± 0,4
210	9,0	9,2 ± 0,4
310	7,2	7,1 ± 0,4
410	4,9	5,1 ± 0,2
510	3,5	3,5 ± 0,2
610	2,4	2,5 ± 0,2
710	1,7	1,8 ± 0,2
810	1,3	1,4 ± 0,2
910	1,0	1,1 ± 0,2

Black body temperature of the radiant panel : 522,6 °C
Temperature of the chamber : 163,9 °C

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Reaction to fire classification report No. 17195C

Owner of the classification report

Muylle Facon nv
Ambachtenstraat 58
8870 Izegem
Belgium

Introduction

This classification report defines the classification assigned to the product **'Multi-layered engineered parquet floor, treated with RMC FR System'** in accordance with the procedures given in the standard EN 13501-1:2007+A1:2009: Fire classification of construction products and building elements - Part 1: classification using data from reaction to fire tests.

This classification report consists of 6 pages

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1. DETAILS OF CLASSIFIED PRODUCT

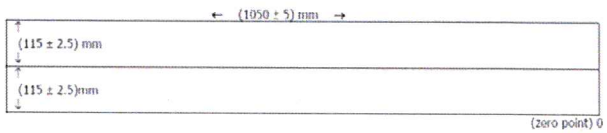
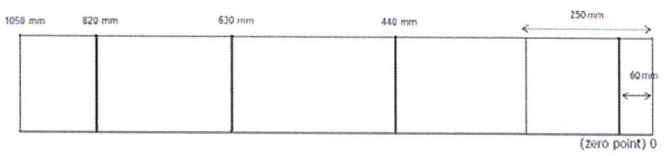
a) Nature and end use application

The product **Multi-layered engineered parquet floor, treated with RMC FR System** is defined as an 'engineered oak parquet on birch multiplex'.
Its classification is valid for the following end use application(s):
Used as parquet floor.

b) Description of the tested product

This description is based on information given by the sponsor.

	Nominal values
Multi-layered engineered parquet floor, treated with RMC FR System	
Type of product	The tested product is multi-layered parquet, consisting of a bottom layer out of birch multiplex and a top layer of oak. The top layer is applied onto the bottom layer using a polyvinyl acetate (PVAc) glue. The top layer is treated with a fire retardant system provided by Muylle Facon which is called RMC FR system.
Manufacturer	Muylle Facon nv
Total thickness (mm)	10
Width (mm)	190
Total surface mass (	6683 (measured in the laboratory)
Bottom layer: Birch multiplex	
Type of product	Birch multiplex
Manufacturer	Vanlandschoot Hout bvba
Thickness (mm)	7,5
Density (kg/m³)	700 ± 15
Use of fire retardants	No
Polyvinyl acetate (PVA_c) glue between bottom layer and top layer	
Type of glue	Polyvinyl acetate (PVA_c) glue with an aliphatic isocyanate hardener.
Used amount (g/m²) (viscous application)	175 ± 25
Top layer: Fire retardant treated oak	
Type of product	Oak treated with a fire retardant primer (finishing coat 1; RMC FR Base) and a fire retardant oil (finishing coat 2; RMC FR Oil).
Manufacturer (of the untreated oak)	Vanlandschoot Hout bvba
Thickness (mm)	2,5
Density (of the untreated oak) (kg/m³)	750 ± 25
Use of fire retardants	Yes

	Nominal values
Finishing coat 1: RMC FR Base	
Type of product	Fire retardant primer (proprietary formula)
Commercial name	RMC FR Base
Manufacturer	Muylle Facon nv
Method of application	Roll
Used amount (g/m²) (wet application)	35 ± 5
Active amount (g/m²) (retention)	35 ± 5
Finishing coat 2: RMC FR Oil	
Type of product	Fire retardant oil (proprietary formula)
Commercial name	RMC FR Oil
Manufacturer	Muylle Facon nv
Method of application	Roll + cleaning/finishing
Used amount (g/m²) (wet application)	16 ± 2
Active amount (g/m²) (retention)	14 ± 2
Mounting and fixing: EN ISO 11925-2	
The product was tested freehanging with the top layer (fire retardant treated oak) as the fire exposed side. The first 3 samples were tested lengthwise and the next 3 samples were tested crosswise.	
Mounting and fixing: EN ISO 9239-1	
Mounting	The total product was loosely placed onto a fibre cement substrate (7,9 mm; 1916 kg/m³) according to EN 13238. The flame was exposed to the top layer (fire retardant treated oak).
Direction	The test was executed both lengthwise and crosswise. In the sample lengthwise a closed joint along the length was used at (115 ± 2,5) mm (see figure 1 below) and in the samples crosswise a closed joint at 250 mm from the edge (see figure 2 below) (according to Egolf Recommendation ER 12:2008). For the samples tested crosswise, also closed joints at every 190 mm (width of the sample) from each other were used. Figure 1  Figure 2 

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2. TEST REPORTS AND TEST RESULTS IN SUPPORT OF THIS CLASSIFICATION

a) Test reports

Name of the laboratory	Name of the sponsor	Test report ref. No. and test date	Test method
WFRGENT nv Ghent, Belgium	Muylle Facon nv Izegem, Belgium	17195A: 27/05/2015	EN ISO 11925-2 (November 2010/AC:2011)
WFRGENT nv Ghent, Belgium	Muylle Facon nv Izegem, Belgium	17195B: 27/05/2015	EN ISO 9239-1 (June 2010)

b) Test samples

Test report ref. No.	Sampling procedure: Assessment and Verification of Constancy of Performance (AVCP)	Conditioning	Number of samples tested
17195A	System 3	To constant mass	6
17195B	System 3	To constant mass	4

c) Test results

Test method	Parameter	Number of tests	Results		Criteria for Class C_{FL}-s1	
			Continuous parameters Mean	Compliance parameters	Continuous parameters	Compliance parameters
EN ISO 11925-2 (*) (1) 15 s flame application (**): Surface exposure - front side	 $F_s \leq 150$ mm Ignition filter paper	6	 (-) (-)	 Yes No	 (-) (-)	 Yes No
(*) The material didn't melt nor pull away from the pilot burner. *(**) According to Egolf Recommendation ER 29:2004 "material which passes the EN ISO 11925-2 test with a flame exposure time of 30 s shall be considered as passing the test with a 15 s flame exposure time".* *1. Based on the results obtained in test report No. 17195A.*						
EN ISO 9239-1 (2)	Critical flux (kW/m²) Smoke production (%.min)	4	4,5 4	(-) (-)	≥ 4,5 ≤ 750	(-) (-)
2. Based on the results obtained in test report No. 17195B.						

(-) Not applicable.

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3. CLASSIFICATION AND FIELD OF APPLICATION

a) Reference of classification

This classification has been carried out in accordance with EN 13501-1:2007+A1:2009.

b) Classification

The product **Multi-layered engineered parquet floor, treated with RMC FR System** in relation to its reaction to fire behavior is classified as:

Fire behavior	Smoke production
C_{FL}	s1

c) Field of application

This classification for the product as described in §1b, is valid for the following end use conditions:

- Substrate: Euroclass A2-s1,d0 or better with a nominal thickness of at least 6 mm and a nominal density of at least 1350 kg/m³.
- Without air gap.
- Fixing: Loosely mounted onto the substrate. Also valid for applications where the product is glued onto the substrate.
- With or without closed horizontal and/or vertical joints.

This classification is valid for the following product parameters:

Total product: Multi-layered engineered parquet floor, treated with RMC FR System	Total thickness	10 mm
	Total surface mass	6683 g/m² (measured in the laboratory)
Bottom layer: Birch multiplex	Nominal thickness	7,5 mm
	Nominal density	(700 ± 15) kg/m³
	Use of fire retardants	No
Glue between bottom layer and top layer	Type of glue	Polyvinyl acetate (PVAc) glue with an aliphatic isocyanate hardener.
	Used amount (viscous application)	(175 ± 25) g/m²

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Top layer: Fire retardant treated oak	Nominal thickness	2,5 mm
	Nominal density (of the untreated oak)	(750 ± 25) kg/m³
Finishing coat 1: RMC FR Base	Method of application	Roll
	Used amount (wet application)	(35 ± 5) g/m²
	Active amount (retention)	(35 ± 5) g/m²
Finishing coat 2: RMC FR Oil	Method of application	Roll + cleaning/polishing
	Used amount (wet application)	(16 ± 2) g/m²
	Active amount (retention)	(14 ± 2) g/m²

4. RESTRICTIONS

At the time the standard EN 13501-1:2007+A1:2009 was published, no decision was made concerning the duration of validity of a classification report.

Provisions of Regulation (EU) 305/2011, commonly known as the Construction Products Regulation (CPR), prevail over any conflicting provisions in the harmonised standards and technical specifications.

5. WARNING

This classification report does not represent type approval nor certification of the product.

Although at the time the classification report for the tested material/product was drafted there was a product standard for CE marking available, the sponsor specifically requested not to follow the requirements given by this product standard.
Therefore, no CE marking could be affixed under the Construction Products Regulation (CPR: EU 305/2011) / Construction Products Directive and the classification obtained in this classification report is only valid for the tested product, without the application of any extended application rules.

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