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## RECOAT FLOOR 2K TESTS FOR PUBLIC TRANSPORT PURPOSES

### Extensive testing to the highest standards: a must for reliability and safety

This information leaflet provides an overview of all executed tests of the Recoat Floor 2K anti-slip coating system, with a focus on fire tests executed by Warringtonfire and Efectis. Recoat Floor 2K anti-slip coating system consists of Recoat Floor and Recoat Multi Primer. Recently our Recoat FLOOR 2K anti-slip coating system has been officially approved by one of the most renowned European underground railway systems that is part of Transport for London (TfL).

### Sustainable and safe as a starting point

At Recoat, it is our mission to develop and produce water-based coatings in accordance with the "Green Chemistry" principle. All coatings are intended to reduce strain on the whole maintenance sector and therefore, to change the living environment. This is made possible by focusing on extending the lifespan of existing materials instead of replacing them.

To achieve our mission we aim to meet the strictest qualifications when it comes to the performance of our products. We strongly focus on the durability and safety of our coatings in all circumstances.

### Certificates to rely on

That's why we work closely together with independent product testing companies such as Warringtonfire, Knightscott Surface Solutions, Efectis and Dercom coating innovations before launching new products on the maintenance market.

Our products are also tested according to current NEN and ISO standards on a variety of surfaces with regard to hardness, resistance to liquids, cross-cut tests, elasticity, resistance to cracking, elongation and/or detachment from a test panel.

Tests are available [online](#). An abstract of these tests is included in this document. Efectis and Warringtonfire tests reports are available upon request.



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## RECOAT FLOOR system officially approved by Transport for London (TfL)

Recently our Recoat FLOOR 2K anti-slip coating system has been officially approved by one of the most renowned European underground railway systems that is part of Transport for London (TfL).

The "Fire Safety Performance of Materials – Stations and Tunnel Infrastructure" standard specifies the requirements for materials with regard to combustibility, smoke emission and toxic fume emission. Fulfilling these requirements qualifies a product for use in subsurface locations. This is the strictest qualification in the business.

### Product description

#### Product: Recoat Floor 2K

Recoat Floor is an extremely durable, waterborne clear, matt, 2k waterborne floor coating with unique anti-slip properties. Recoat Floor is specially developed for maintaining and repairing different types of floors. The coating extends the life span of the treated surfaces and is invisible due to the extremely matt gloss. The coating is suitable for various indoor and outdoor substrates. Recoat Floor has unique anti-slip properties without the floor becoming rough. This makes the floor easy to clean. In addition, Recoat Floor is highly resistant to chemicals and chewing gum is unable to adhere to it.



#### Product: Recoat Multi Primer Clear

Recoat Multi Primer Clear is an extremely durable, waterborne, universal, clear, semi-gloss primer which is suitable for various substrates, both indoor and outdoor. Recoat Multi Primer Clear can be used as bonding primer, saturation primer, cosmetic primer (to provide colour) and anticorrosive primer. This 1k primer provides excellent adhesion and anticorrosive properties and has a very high favourable yield. Recoat Multi Primer Clear is very scratch and wear-resistant and has a very high spreadability. Sanding the primer before applying the other coatings is not required and can be painted over after 1-2 hours with almost any type of paint and/or coating.





## I Overview of performed tests for Public Transport | Underground

Our products are extensively tested with a focus on durability and safety in all circumstances. Below you will find an overview of:

1. a smoke and toxicity test,
2. a smoke density test,
3. an ignitability test
4. a reaction to fire testing of Recoat Floor Radiant Panel test executed on Recoat Floor 2K and Recoat Multi Primer Clear.

The approval of Recoat Floor 2K anti-slip coating system by the aforementioned customer is based on these test reports, field tests and case studies of other Public Transport locations such as London Heathrow Airport and Gatwick Airport station.

### 1. Safety Data Sheets

Recoat Floor - [General Safety Data sheet \(SDS\) 88142](#)

Recoat Multi Primer - [General Safety Data Sheet \(SDS\)78251](#)

### 2. Smoke and toxicity assessment executed by Warringtonfire and Certification Limited.

*Generic description*

Coating system applied to gypsum fibreboard. The final coating product, Recoat Floor, is a matt, non-yellowing, 2 component waterborne floor coating with anti-slip properties.

Test number	Recoat 2K FLOOR Test name	Description	Testing company	Test report
412336	Smoke and Toxicity Assessment	To determine the toxic fume and optical density produced from Recoat Floor when tested in accordance with methods T10.01, T10.02, T10.04 and T11.01 as defined in BS EN 45545-2:2013+A1:2015 at an irradiance level of 50kW/m2 without a pilot flame.	Warringtonfire Testing and Certification Limited	<a href="#">Download pdf</a>



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#### Summary of test results

- The average Ds(4) value determined was 40.
- The average VOF4 value determined was 94
- The average Ds (max) value determined within 10 minutes was 45
- The average Ds(max) value determined within 20 minutes was 45
- The average CIT value at four minutes was 0.01.
- The average CIT value at eight minutes was 0.03.

### 3. Smoke density – Panel Test executed by Warringtonfire and Certification Limited.

#### Generic description

Coating system applied to gypsum fibreboard. The final coating product, Recoat Floor, is a matt, non-yellowing, 2 component waterborne floor coating with anti-slip properties.

Test number	Recoat 2K FLOOR Test name	Description	Testing company	Test report
412342	Smoke and Toxicity Assessment	To determine the smoke density of Recoat Floor when tested in accordance with BS 6853: 1999 incorporating amendment No.1 Annex D.8.4 (Withdrawn)/LUL S1085: 2015: Attachment B.6.	Warringtonfire Testing and Certification Limited	<a href="#">Download pdf</a>

#### Test results

	Specimen No.1	Specimen No.2	Average
Ao (ON)	0.552	0.537	0.545
Ao (OFF)	0.965	0.92	0.945



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#### 4. Ignitability and determination of the reaction to fire executed by Efectis. Test reports and classification.

##### Abstract

Determination of the ignitability properties of Recoat Floor, by direct small flame impingement according to EN ISO 11925-2:2020, with the objective to obtain the reaction to fire classification according to EN 13501-1:2018.

Test number	Description	Testing company	Test report
2021-Efectis -R001811	Reaction to fire testing of Recoat Floor ignitability test according to EN ISO 11925-2:2020.	Efectis Nederland BV	<a href="#">Download pdf</a>

##### Test results

**Table 1: Ignitability classification parameter results**

Flame application time: 30 s					
Sample	Ignition of sample	Maximum flame Height	t <sub>150</sub>	Afterburning time	Ignition of filter paper
	{Y=Yes/N=No}	[mm]	[s]	[s]	{Y=Yes/N=No}
Surface ignition					
1	N	15	not reached	-	N
2	N	15		-	N
3	N	15		-	N
4	N	15		-	N
5	N	15		-	N
6	N	15		-	N
Maximum		15			
Classification parameters		<b>150 mm reached within 60 s</b>			<b>N</b>
		<b>Ignition of filter paper</b>			<b>N</b>

##### Abstract

Determination of the reaction to fire properties of Recoat Floor, when exposed to the thermal attack by a Radiant Panel according to EN ISO 9239-1, with the objective to obtain the reaction to fire classification according to EN 13501-1:2018.



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Test number	Description	Testing company	Test report
2021-Efectis -R001812	Reaction to fire testing of Recoat Floor Radiant Panel test according to EN ISO 9239-1:2020.	Efectis Nederland BV	<a href="#">Download pdf</a>

Test results

Table 1: Horizontal surface spread of flame, heat flux and light attenuation

Sample number		1	2	3	Classification parameter
<b>Spread of flame</b>					
Distance	[mm]	Time [s]			
	15	130	130	130	
	60				
	110				
	160				
	210				
	260				
	310				
	360				
	410				
	460				
	510				
	560				
	610				
	660				
	710				
	760				
	810				
	860				
	910				
<b>Maximum spread of flame</b>					
Distance	[mm]	15	14	15	
Flameout	[s]	720	730	725	
<b>(Critical) Heat Flux(CHF)</b>					
HF	[kW/m <sup>2</sup> ]	>=11	>=11	>=11	>=11
<b>Light attenuation (LA)</b>					
Smoke density	[%.min]	11	9	9	10
Test end	[s]	1800	1800	1800	

Observations of physical behaviour of the test specimen:

The specimens extinguished when the pilot burner was removed.

No smoke production over a long period of time (>200 seconds) was observed.



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## Classification

Classification of reaction to fire performance in accordance with EN 13501-1:2018. This classification report defines the classification assigned to Recoat Floor in accordance with the procedures given in EN 13501-1:2018.

Classification number: 2021-Efectis-R001813. The classification report is available upon request.

**The product, Recoat Floor, in relation to its reaction to fire behaviour is classified:**

**B<sub>fl</sub>**

**The additional classification in relation to smoke production is:**

**s1**

**Reaction to fire classification: B<sub>fl</sub> - s1**

## Contact us

Please feel free to contact us if you have any questions or remarks about our product range or test reports. As mentioned in this article, we're open to performing customer specific tests that meet our needs. We look forward to helping you with sustainable protection that lasts.

## II Abstract of performed tests

These tests are available [online](#).

Please contact us if you require any additional information.

## Product: Recoat Floor 2K

*Slip resistance measurements*

Test number	Recoat 2K FLOOR Test name	Description	Testing company	Test report
26012022	Slip resistance tests have been carried out using a Calibrated KSS Pendulum Tester. All tests were carried out in dry and wet conditions.	Slider type: 3" Rubber slider 96. Certificate Number: 31/21. Pendulum Test Value (PTV) Dry shows a <b>Low Slip Potential</b> : Dry 61 Wet 55.	Knightscott Surface Solutions Limited.	<a href="#">Download PDF to Slip Test Report</a>  <a href="#">Download PDF to Slip Test Worksheet</a>





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### Fire Classification

Fire Classification of construction products and building elements according to NEN EN 13501-1

Test number	Recoat 2K FLOOR Test name	Description	Testing company	Test report
2018330069	Fire classification according to NEN EN 13501-1	Substrate: powdercoated stainless steel Classification according to NEN EN 13501-1: B - s1 d0	Dercom coating innovations, The Netherlands.	<a href="#">Download pdf</a>

### Product comparison

Test number	Recoat 2K FLOOR Test name	Description	Testing company	Test report
N.A.	Product comparison	Taber Wear Index CS-10 (mg loss / 1000 cycles).	N.A.	<a href="#">Download pdf</a>

### Tests Recoat Floor V8620

Test number	Recoat 2K FLOOR Test name	Description	Testing company	Test report
2019330052	Determination of resistance to liquids by spotting method confirm ISO 2812-4 Method A	Principle: A coated test panel is exposed to a test substance using the spotting method. The effects of the exposures are assessed in accordance with agreed criteria.	Dercom coating innovations, The Netherlands	<a href="#">Download pdf</a>
N.A.	Recoat Floor on Vinyl panel (after 7 months curing at 20°C)	TABER WEAR FACTOR: 23,5 (MG LOSS PER 1000 ABRASION CYCLES) ABRADANT: CS-17 LOAD per arm: 1KG.	Dercom coating innovations, The Netherlands	<a href="#">Download pdf</a>
2018270041	Pencil Hardness Report According to ISO-15184 (ASTM D3363)	Substrate material: Glass. Substrate thickness; 4 mm.	Dercom coating innovations, The Netherlands	<a href="#">Download pdf</a>





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2018270033	König Pendulum Hardness Report According to ISO-1522 (ASTM D4366)	Substrate material: Glass. Substrate thickness: 4 mm.	Dercom coating innovations, The Netherlands	<a href="#">Download pdf</a>
2018270020	Cross-Cut Test Report According to ISO-2409 (ASTM 3359).	Substrate material: Aluminium. Substrate thickness: 1.2 mm (3/64 in.)	Dercom coating innovations, The Netherlands	<a href="#">Download pdf</a>
2016420011	Recoat Floor on marmoleum panel (after 3 week curing at 20°C and 1 week at 40°C)	TABER WEAR FACTOR: 23,15 (MG LOSS PER 1000 ABRASION CYCLES) ABRADANT: CS-10. LOAD: 2KG.	Dercom coating innovations, The Netherlands	<a href="#">Download pdf</a>
2018270023	Cross-Cut Test Report According to ISO-2409 (ASTM 3359)	Substrate: Concrete. Substrate thickness: 1 cm (13/32 in.). <i>Test</i>	Dercom coating innovations, The Netherlands	<a href="#">Download pdf</a>
2018270057	Determination of resistance to liquids by spotting method confirm ISO 2812-4 Method A	Principle: A coated test panel is exposed to a test substance using the spotting method. The effects of the exposures are assessed in accordance with agreed criteria.	Dercom coating innovations, The Netherlands	<a href="#">Download pdf</a>
2018270022	Cross-Cut Test Report According to ISO-2409 (ASTM 3359)	Substrate: Vinyl. Substrate thickness: 1 cm (13/32 in.)	Dercom coating innovations, The Netherlands	<a href="#">Download pdf</a>



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2018270049	Conical Mandrel Report According to ISO-6860 (ASTM D522)	Substrate material: Aluminium. Substrate thickness: 1.2 mm (3/64 in.)	Dercom coating innovations, The Netherlands	<a href="#">Download pdf</a>
2018270065	Determination of resistance to liquids by spotting method confirm ISO 2812-4 Method A	Principle: A coated test panel is exposed to a test substance using the spotting method. The effects of the exposures are assessed in accordance with agreed criteria.	Dercom coating innovations, The Netherlands	<a href="#">Download pdf</a>

*QUV Test report*

Test number	Recoat 2K FLOOR Test name	Description	Testing company	Test report
N.A.	QUV Test Report	The samples were exposed to 1500 hours of artificial weathering in accordance with ISO 11507 (ASTM G154) in a Q-Lab QUV cabinet using UVA340 lamps and operating a continuously cycling test program of 4 hours UV at 60°C at an irradiance of 0.71 W/m <sup>2</sup> / nm and 4 hours condensation at 50°C. Color measurements in accordance with ISO 11664 (ASTM E1164) and 60° Gloss measurements in accordance with ISO 2813 (ASTM D523) were carried out before and after the test. The total color change as a result of the weathering was expressed in ΔE <sub>94</sub> units.	Dercom coating innovations, The Netherlands	<a href="#">Download pdf</a>



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## Product: Recoat Multi Primer Clear

*Recoat Product comparison 1K Multi primer*

Test number	Recoat 2K FLOOR Test name	Description	Testing company	Test report
N.A.	Product comparison	Taber Wear Index CS-10 (mg loss / 1000 cycles)	N.A.	<a href="#">Download pdf</a>

*Recoat Product comparison 1K Multi primer*

Test number	Recoat 2K FLOOR Test name	Description	Testing company	Test report
2018270042	Pencil Hardness Report According to ISO-15184 (ASTM D3363)	Substrate material: Glass. Substrate thickness: 4mm	Dercom coating innovations, The Netherlands	<a href="#">Download pdf</a>
2018270026	Cross-Cut Test Report According to ISO-2409 (ASTM 3359)	Substrate: Concrete. Substrate thickness: 1.2 mm (3/64 in.)	Dercom coating innovations, The Netherlands	<a href="#">Download pdf</a>
2018270058	Determination of resistance to liquids by spotting method confirm ISO 2812-4 Method A	Substrate: Concrete. Substrate thickness: 1.2 mm (3/64 in.)	Dercom coating innovations, The Netherlands	<a href="#">Download pdf</a>
2018270050	Conical Mandrel Report According to ISO-6860 (ASTM D52)	Substrate material: Aluminium. Substrate thickness: 1.2 mm (3/64 in.)	Dercom coating innovations, The Netherlands	<a href="#">Download pdf</a>



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2018340070	ABRASION RESISTANCE REPORT ACCORDING TO ISO 7784 (ASTM D4060)	Test equipment: taber Abraser. TABER WEAR FACTOR: 83.1	Dercom coating innovations, The Netherlands	<a href="#">Download pdf</a>
2018270066	Determination of resistance to liquids by spotting method confirm ISO 2812-4 Method A	Principle: A coated test panel is exposed to a test substance using the spotting method. The effects of the exposures are assessed in accordance with agreed criteria	Dercom coating innovations, The Netherlands	<a href="#">Download pdf</a>
2018270034	König Pendulum Hardness Report According to ISO-1522 (ASTM D4366)	Substrate material: Glass. Substrate thickness: 4 mm.	Dercom coating innovations, The Netherlands	<a href="#">Download pdf</a>
2018270021	Cross-Cut Test Report According to ISO-2409 (ASTM 3359)	Substrate material: Aluminum. Substrate thickness: 1.2 mm (3/64 in.)	Dercom coating innovations, The Netherlands	<a href="#">Download pdf</a>