TFI Report 20-001471-01

Reaction to fire test

Monitoring test

Customer

Novalis International Ltd.
Unit F, 10th Floor, CNT Tower, 338 Hennessy Road
Wanchai
HONG KONG

Product

resilient floor covering

Novalis Luxury Vinyl Tile Heavy Commercial 2,5 / 0,55

This report includes 3 pages and 3 annexes.

Responsible at TFI

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senior engineer fire testing
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Aachen, 12 February 2021

Dr. Andreas Zoëga
- head of testing laboratory -

The present document is provided with an advanced electronic signature.

1 Transaction

Test order	Reaction to fire test for construction products according to EN ISO 9239-1:2010
Order date	19 November 2020
Your reference	Candy Ren, L.Grüter
Product designation	Novalis Luxury Vinyl Tile Heavy Commercial 2,5 / 0,55 Article no.: 5424, Batch no.: 201102M
TFI sample number	2002119
Date of manufacture	02 November 2020
Date of sample receipt	02 December 2020
Sampling performed by	Customer cf. sampling report
CE group	Novalis Luxury Vinyl Tile
Certificate of Constancy of Performance (CE)	1658-CPR-3443

2 Product Specification

Use surface	PVC*
Construction	heterogeneous
Structure	grained
Pattern	tonal effect without pattern
Colour of the use surface	beige, light brown (Color no.: 5424*)
Type of delivery	modules
Total thickness [mm]	2.53
Thickness of the use surface [mm]	0.55*
Total mass per unit area [g/m²]	4270
	*customer information

3 Results

Burning behaviour using a radiant heat source according to EN ISO 9239-1:2010

Average critical heat flux production direction [kW/m²]	≥ 11.0
Average critical heat flux cross production direction [kW/m²]	≥ 11.0
Integrated smoke density production direction [% x min]	345
Integrated smoke density cross production direction [% x min]	295

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Requirements for marking according to fire class B_{fl}-s1	fulfilled
Requirements for relevant properties CE group limits	fulfilled
Requirements for relevant properties product standard (EN ISO 10582:2012)	fulfilled
Adhesion	none
Substrate according to EN 13238:2010	fibre cement board

The measurement results are evaluated without consideration of the measurement uncertainty with reference to compliance with limit values, unless otherwise specified by the test standard.

The test results relate to the behaviour of the test specimens of a construction 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 construction product in use.

The present test report is part of the regular monitoring. The regular monitoring also comprises the annual audit report of the inspection body on the assessment of the factory production control and the product marking.

4 Annexes

Photographs	F 20-001471-01
Reaction to Fire [a]	RP 20-001471-01
Sampling report	

The annexes marked [a] are based on tests accredited in accordance with EN ISO/IEC 17025.

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Annex F - Photographs

1 Transaction

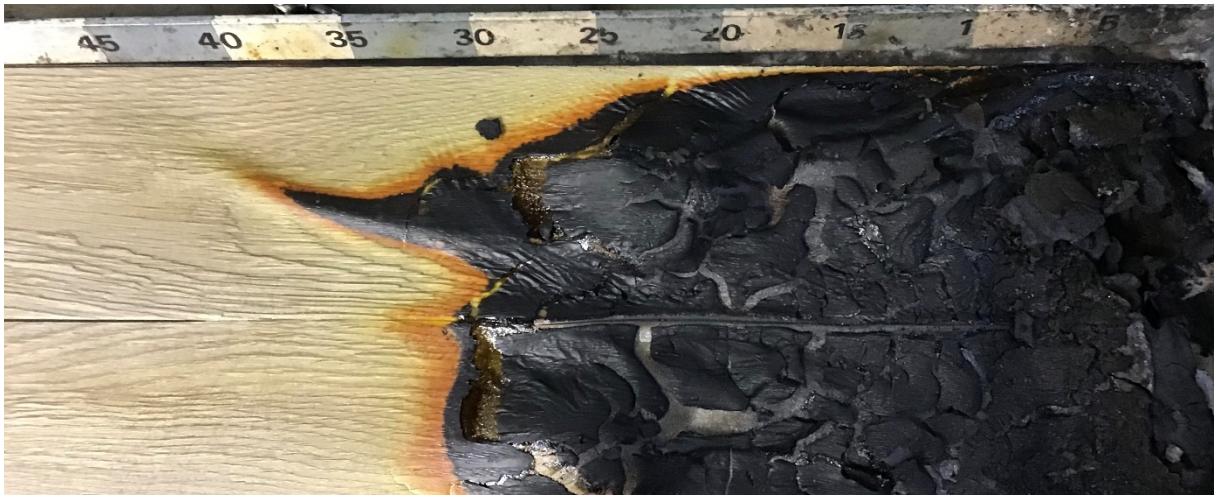
Product designation	Novalis Luxury Vinyl Tile Heavy Commercial 2,5 / 0,55
TFI sample number	2002119
Testing period	25 January 2021

2 Test Method / Requirements

-not specified-

3 Results

3.1 Specimen 1, in production direction



3.2 Specimen 2, cross production direction

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Annex RP – Reaction to Fire

1 Transaction

Product designation	Novalis Luxury Vinyl Tile Heavy Commercial 2,5 / 0,55
TFI sample number	2002119
Testing period	25 January 2021

2 Test Method / Requirements

EN ISO 9239-1:2010 Part 1	Determination of the burning behaviour using a radiant heat source
Substrate according to EN 13238:2010	Fibre cement board
Adhesion	-none -
Joint according to EN ISO 9239-1:2010	No
Conditioning	Conditioning according to EN 13238:2010
Deviation	• reduced number of specimens (1 in production direction, 1 cross production direction)

3 Results

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Annex RP - Burning behaviour

Sample designation	2002119
Sample	
Sample No.:	1
Direction:	in production direction

Observation

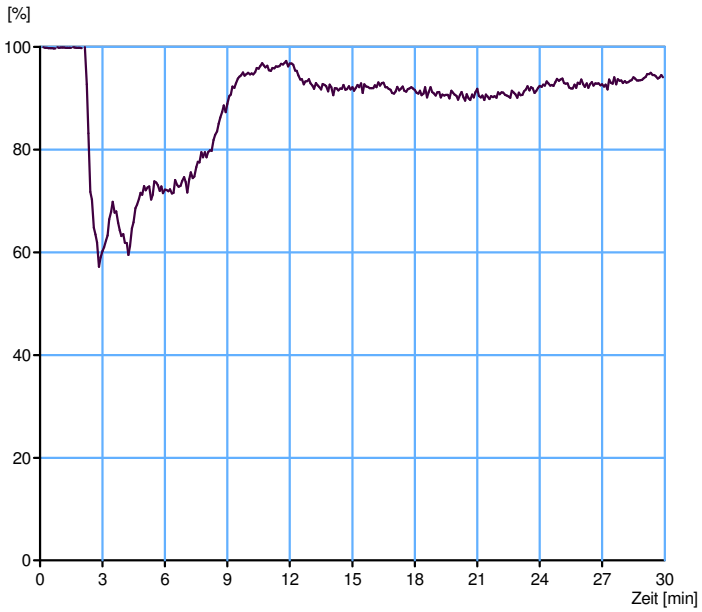
molten/singed during pre-radiation up to	0 mm
buckled/contracted from pilot flame area up to	0 mm
penetration of flame through substrate	-
transitory flaming	-
blistering	x
glowing, after flame has extinguished	-

Results

Position [mm]	Time [min:s]	Heat Flow [kW/m²]
50	03:03	11.90
100	-	-
150	-	-
200	-	-
250	-	-
300	-	-
350	-	-
400	-	-
450	-	-
500	-	-
550	-	-
600	-	-
650	-	-
700	-	-
750	-	-
800	-	-
850	-	-
900	-	-
950	-	-
1000	-	-

Time [min:s]	Position [mm]	Heat Flow [kW/m²]
10:00	94	11.20
20:00	94	11.20
30:00	94	11.20

Smoke density



CHF [kW/m²]	>= 11
HF_30 [kW/m²]	11.20
Smoke density integral [%*min]	344.5
Flame extinguished after [min:s]	12:00
max. burnt distance [mm]	94
max. light attantuation [%]	42.8

Annex RP - Burning behaviour

Sample designation	2002119
Sample	
Sample No.:	1
Direction:	cross production direction

Observation

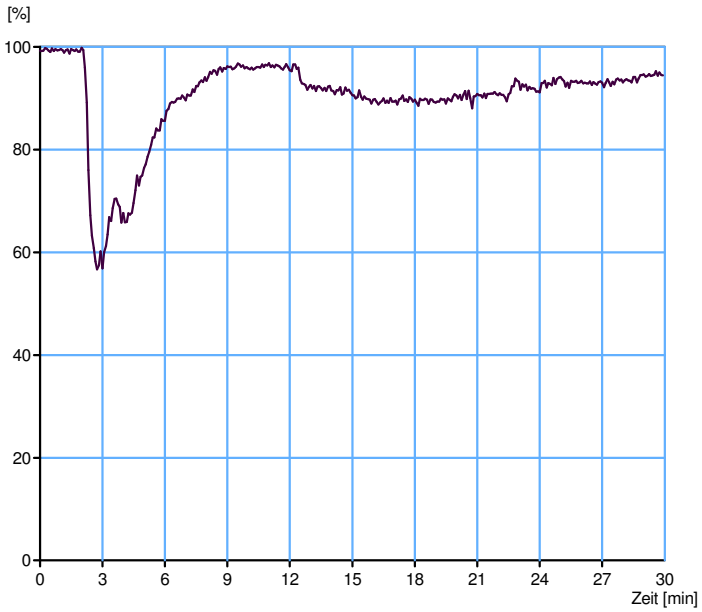
molten/singed during pre-radiation up to	0 mm
buckled/contracted from pilot flame area up to	0 mm
penetration of flame through substrate	-
transitory flaming	-
blistering	x
glowing, after flame has extinguished	-

Results

Position [mm]	Time [min:s]	Heat Flow [kW/m²]
50	03:37	11.90
100	-	-
150	-	-
200	-	-
250	-	-
300	-	-
350	-	-
400	-	-
450	-	-
500	-	-
550	-	-
600	-	-
650	-	-
700	-	-
750	-	-
800	-	-
850	-	-
900	-	-
950	-	-
1000	-	-

Time [min:s]	Position [mm]	Heat Flow [kW/m²]
10:00	95	11.18
20:00	95	11.18
30:00	95	11.18

Smoke density



CHF [kW/m²]	>= 11
HF_30 [kW/m²]	11.18
Smoke density integral [%*min]	294.5
Flame extinguished after [min:s]	12:00
max. burnt distance [mm]	95
max. light attantuation [%]	43.3

Sampling Report for floor coverings according to EN14041/14342 (Order No. **20-000992**)

Testing laboratory:	TFI Aachen GmbH
Sampler: (Organisation and name of person)	Candy Ren
Manufacturer / Contractor:	Novalis International Ltd.
Sampling site (factory):	63, Guangyuan Rd, Dantu , Zhenjiang China

Product name:	Luxury Vinyl Tile Heavy Commercial 2,5 / 0,55	**Article number:**	5429
Group/product range:	☒ CE: 1658-CPR-3443 ☐ DIBt: ☒ TÜV-Interior: 70 710 6478-2	**Sample type:**	☐ textile floor covering ☒ resilient floor covering ☐ laminate ☐ wood flooring ☐ surface for sports areas ☐
Batch no.:	201102M	**Production date of batch:**	2020/11/02

Sampling date and time:	11/19		
Sample taken from:	☐ production ☑ stock ☐ retain sample	**Storage mode:**	☐ exposed ☑ packed
Storage location:	Zhenjiang	**Packaging material:**	aluminum foil
Size of sample:	228.60 x 1219.20 mm		

Particular remarks:
(Possible negative impacts caused by emissions at the sampling site, problems, questions etc.)

☐ **taken as retain sample according to MVV TB instructions**
☐ gas driven forklift ☐ monitoring testing based on approval principles

Planned tests:

☒ construction features	☐ formaldehyde	☐ PCP
☐ determination of fire class (RP)	☒ RP red. number of samples	☐ Small Burner Test
☐ emission testing (Initial type test)	☐ emission testing (Monitoring)	
☒ TÜV-Interior Emission Monitoring	☐ Standard ☐ Premium	Allocation criteria V1,2
☐ TÜV-Interior Quality Monitoring		

Fire class: Bfl-s1 ☒ unglued ☐ glued with:

☐ technical datasheet will be submitted to TFI within 3 days ☒ technical datasheet is attached

Hereby the signatories confirm the correctness of the above information. The sample was hand selected and packed in accordance with the sampling instructions.

Candy Ren
Signature of the sampler (in case of third party sampling)

Novalis
Signature of the company

(Vorlage 303 - Rev. 4 vom 08.03.2018)

Notified Body No. 1658

Testing laboratory, inspection and certification body recognised by the DIBt (Deutsches Institut für Bautechnik)

DAkkS Deutsche Akkreditierungsstelle D-ZE-17152-01-00

Accredited for the methods indicated in the annex to the DAkkS certificate

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