



TFI Report 22-000106-02

Reaction to fire test

Monitoring test

Customer

Novalis Global Flooring GmbH
Spichernstr. 73
50672 Köln
GERMANY

Product

resilient floor covering
Novalis HDC Rigid Very Heavy Commercial 6,0 IXPE

This report includes 3 pages and 3 annexes.

Responsible at TFI

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- test engineer -

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Aachen, 15 March 2022



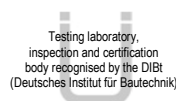
Dr. Bayram Aslan

The present document is provided with an advanced electronic signature.

This report only applies to the tested samples and has been established to the best of our knowledge. Only the entire report shall be reproduced. Under no circumstances, extracts shall be used. Furthermore, we apply the "General Terms and Conditions for the Execution of Contracts" of the TFI Aachen GmbH, also with regard to the order execution.



Notified Body
No. 1658



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



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

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HRB 8157 Aachen
VAT No. DE209411312
Managing Director
Dr.-Ing. Bayram Aslan

1 Transaction

Test order	Reaction to fire test for construction products according to EN ISO 9239-1:2010
Order date	13 January 2022
Your reference	Lars Grüter
Product designation	Novalis HDC Rigid Very Heavy Commercial 6,0 IXPE, Batch No. 20220113
TFI sample number	2200077
Date of manufacture	13 January 2022
Date of sample receipt	17 January 2022
Sampling performed by	Customer cf. sampling report
CE group	Novalis Rigid
Certificate of Performance (CE) of Constancy of	1658-CPR-3447
Comment(s)	The total mass per unit area given in the technical data sheet differs to the initial data.

2 Product Specification

Use surface	PVC (IXPE)*
Construction	heterogeneous
Structure	grained
Pattern	tonal effect without pattern
Colour of the use surface	grey, light grey
Type of delivery	modules
Total thickness [mm]	6.11
Total mass per unit area [g/m ²]	9740

*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/m ²]	≥ 11.0
Average critical heat flux cross production direction [kW/m ²]	≥ 11.0
Integrated smoke density production direction [% x min]	346
Integrated smoke density cross production direction [% x min]	346

Requirements for marking according to fire class B _{fi} -s1	fulfilled
Requirements for relevant properties CE group limits	fulfilled
Requirements for relevant properties product standard (EN 16511:2014)	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 22-000106-02
Reaction to Fire ^a	RP 22-000106-02
Sampling report	

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

Annex F - Photographs

1 Transaction

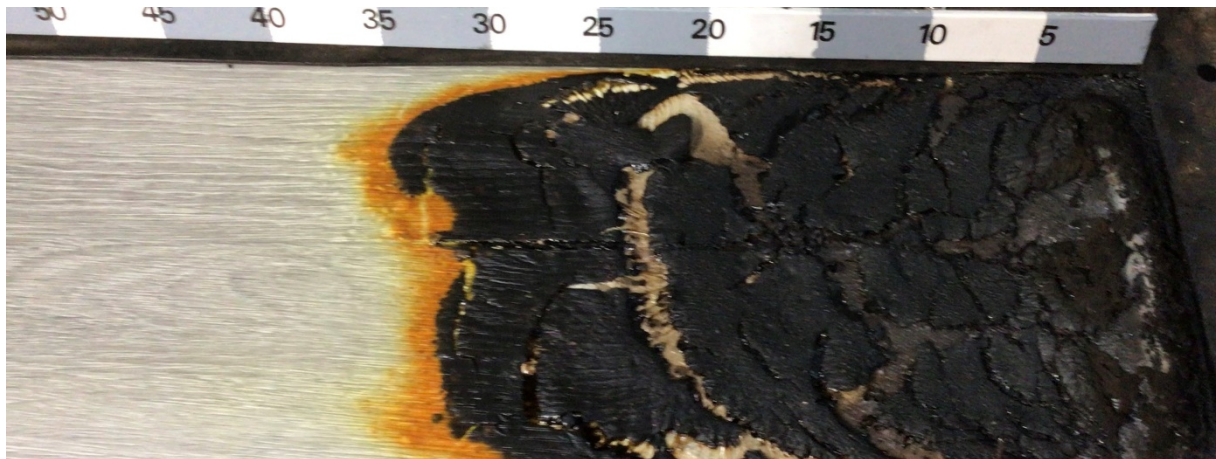
Product designation	Novalis HDC Rigid Very Heavy Commercial 6,0 IXPE
TFI sample number	2200077
Testing period	02 March 2022

2 Test Method / Requirements

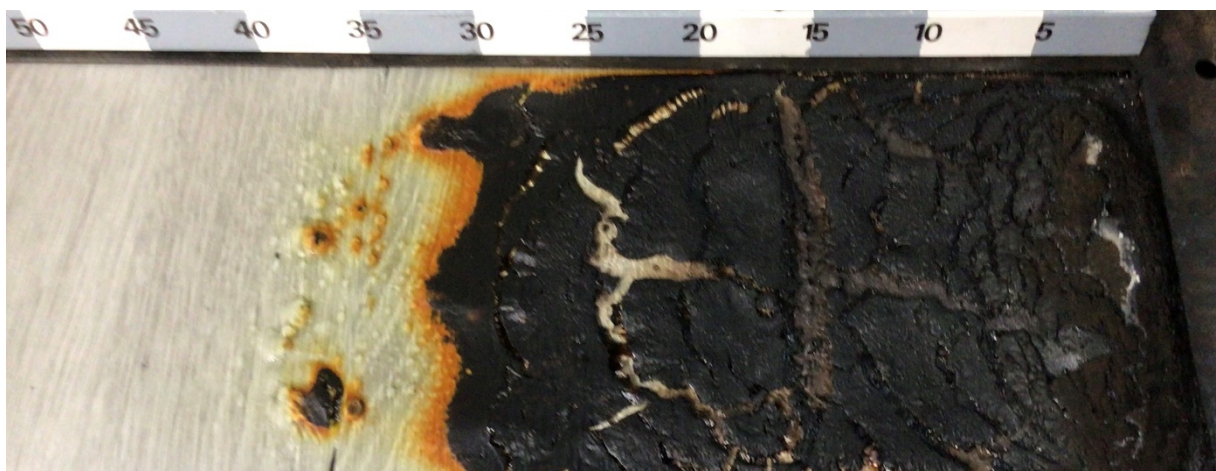
-not specified-

3 Results

3.1 Specimen 1, in production direction



3.2 Specimen 2, cross production direction





Annex RP – Reaction to Fire

1 Transaction

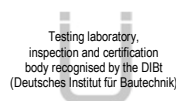
Product designation	Novalis HDC Rigid Very Heavy Commercial 6,0 IXPE
TFI sample number	2200077
Testing period	2 March 2022

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	Yes
Conditioning	Conditioning according to EN 13238:2010
Deviation	<ul style="list-style-type: none"> reduced number of specimens (1 in production direction, 1 cross production direction)

3 Results

cf page 2 - 3





Annex RP - Burning behaviour

Sample designation 2200077
Sample
 Sample No.: 1
 Direction: in production direction

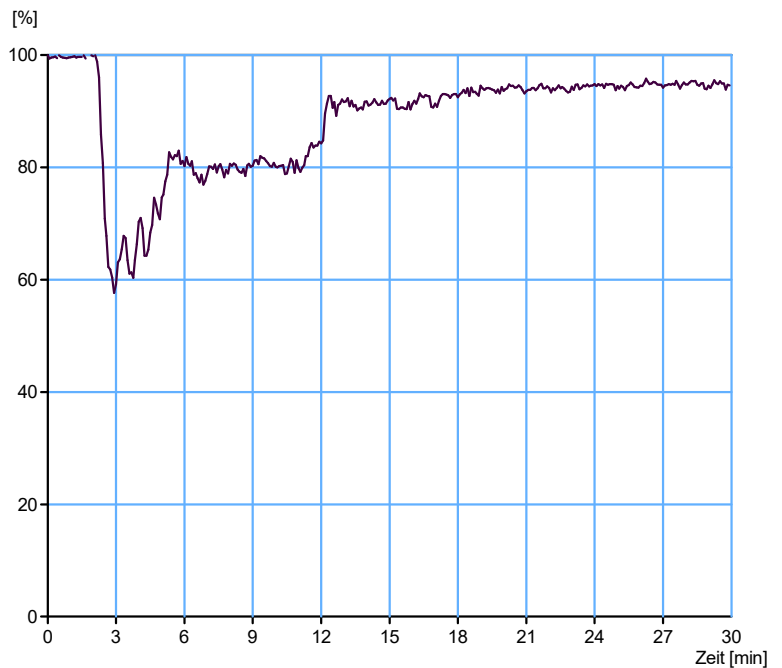
Observation

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	-
glowing, after flame has extinguished	-

Results

Smoke density

Position [mm]	Time [min:s]	Heat Flow [kW/m ²]
50	03:43	12.20
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/m ²]	CHF [kW/m ²]	HF_30 [kW/m ²]	Smoke density integral [%*min]	Flame extinguished after [min:s]	max. burnt distance [mm]	max. light attenuation [%]
10:00	87	11.53	>= 11	11.53	346.4	12:00	87	42.3
20:00	87	11.53						
30:00	87	11.53						



Annex RP - Burning behaviour

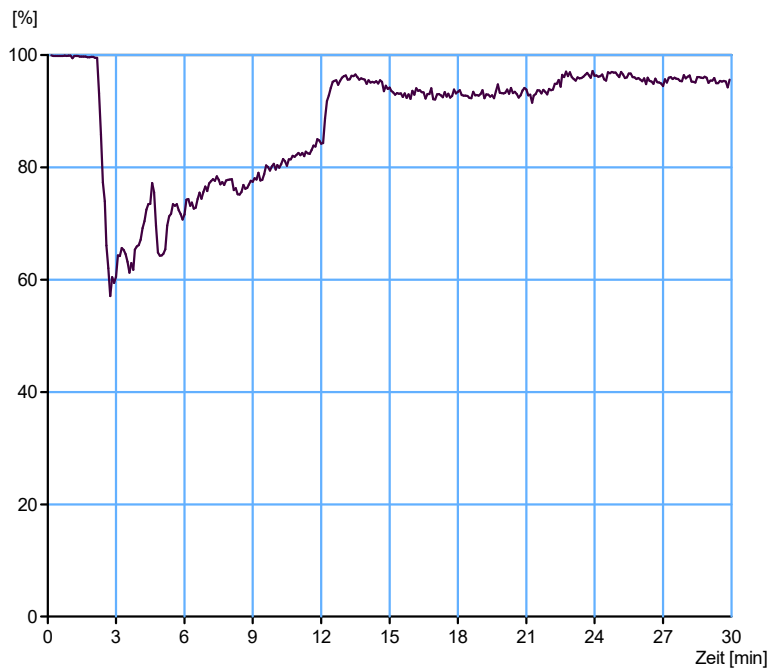
Sample designation 2200077
Sample
 Sample No.: 1
 Direction: cross production direction

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 -
 glowing, after flame has extinguished -

Results

Smoke density

Position [mm]	Time [min:s]	Heat Flow [kW/m ²]
50	04:05	12.20
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/m ²]
10:00	82	11.62
20:00	82	11.62
30:00	82	11.62

CHF [kW/m²] >= 11
 HF_30 [kW/m²] 11.62
 Smoke density integral [%*min] 345.8
 Flame extinguished after [min:s] 12:00
 max. burnt distance [mm] 82
 max. light attenuation [%] 42.9



Sampling Report for floor coverings according to EN14041/14342 (Order No. 21-001330)

Testing laboratory:	TFI Aachen GmbH
Sampler: (Organisation and name of person)	Candy Ren, Decoria
Manufacturer / Contractor:	Novalis International Ltd.
Sampling site (factory):	Guangyuan Road Dantu 63, 212000 Zhenjiang, China VR

Product name:	Novalis HDC Rigid Very Heavy Commercial 6,0 IXPE	Article number:	
Group/product range:	<input checked="" type="checkbox"/> CE: 1658-CPR-3447 <input type="checkbox"/> DIBt: <input checked="" type="checkbox"/> TÜV-Interior: 70 710 6478-1	Sample type:	<input type="checkbox"/> textile floor covering <input checked="" type="checkbox"/> resilient floor covering <input type="checkbox"/> laminate <input type="checkbox"/> wood flooring <input type="checkbox"/> surface for sports areas <input type="checkbox"/>
Batch no.:	20220113	Production date of batch:	Jan 13rd 2022

Sampling date and time:	Jan 13rd 2022 / 15:00		
Sample taken from:	<input checked="" type="checkbox"/> production <input type="checkbox"/> stock <input type="checkbox"/> retain sample	Storage mode:	<input type="checkbox"/> exposed <input checked="" type="checkbox"/> packed
Storage location:	warehouse	Packaging material:	aluminium foil
Size of sample:			

Particular remarks: (Possible negative impacts caused by emissions at the sampling site, problems, questions etc.)	<input type="checkbox"/> taken as retain sample according to MVV TB instructions <input type="checkbox"/> gas driven forklift <input type="checkbox"/> monitoring testing based on approval principles
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Planned tests:	<input checked="" type="checkbox"/> construction features <input type="checkbox"/> determination of fire class (RP) <input type="checkbox"/> emission testing (Initial type test) <input checked="" type="checkbox"/> TÜV-Interior Emission Monitoring <input type="checkbox"/> TÜV-Interior Quality Monitoring	<input type="checkbox"/> formaldehyde <input checked="" type="checkbox"/> RP red. number of samples <input type="checkbox"/> emission testing (Monitoring) <input type="checkbox"/> Standard <input type="checkbox"/> Premium	<input type="checkbox"/> PCP <input type="checkbox"/> Small Burner Test Allocation criteria V
Fire class:	Bfl-s1	<input checked="" type="checkbox"/> unglued	<input type="checkbox"/> glued with:
<input type="checkbox"/> technical datasheet will be submitted to TFI within 3 days	<input checked="" type="checkbox"/> 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.

Signature of the sampler (in case of third party sampling)
(Vorlage 303 - Rev. 4 vom 08.03.2018)

Signature of the company



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