

Prüfprotokoll / Test protocol

Entzündbarkeit von Produkten bei direkter Flammeneinwirkung – Teil 2: Einzelflammentest nach **EN ISO 11925-2:2010**

Ignitability of products subjected to direct impingement of flame - Part 2: Single-flame source test acc. to EN ISO 11925-2:2010

Auftrags-Nr.: **2715058/2**
Order-No:

Auftraggeber: Trex Company, Inc.
Costumer: Exeter Drive 160, VA 22603-8605 Winchester / USA

Auftragnehmer: Entwicklungs- und Prüflabor Holztechnologie GmbH - **EPH**
Testing institute: Laborbereich Oberflächenprüfung
*Development and Examination Laboratory for Wood Technology Ltd. - EPH
Laboratory Surface Testing*

Prüfmaterial: TREX Transcend - 1"x 5.5", WPC-Bodendiele mit Nut; 25 mm
Test object: TREX Transcend - 1"x 5.5", WPC-Decking with grooved edge profile; 25 mm
(vgl. Prüfbericht 2715058/2 , Absatz 2 / cf. Test report 2715058/2, article 2)

Datum der Prüfung: 09.04.2015
Date of testing:

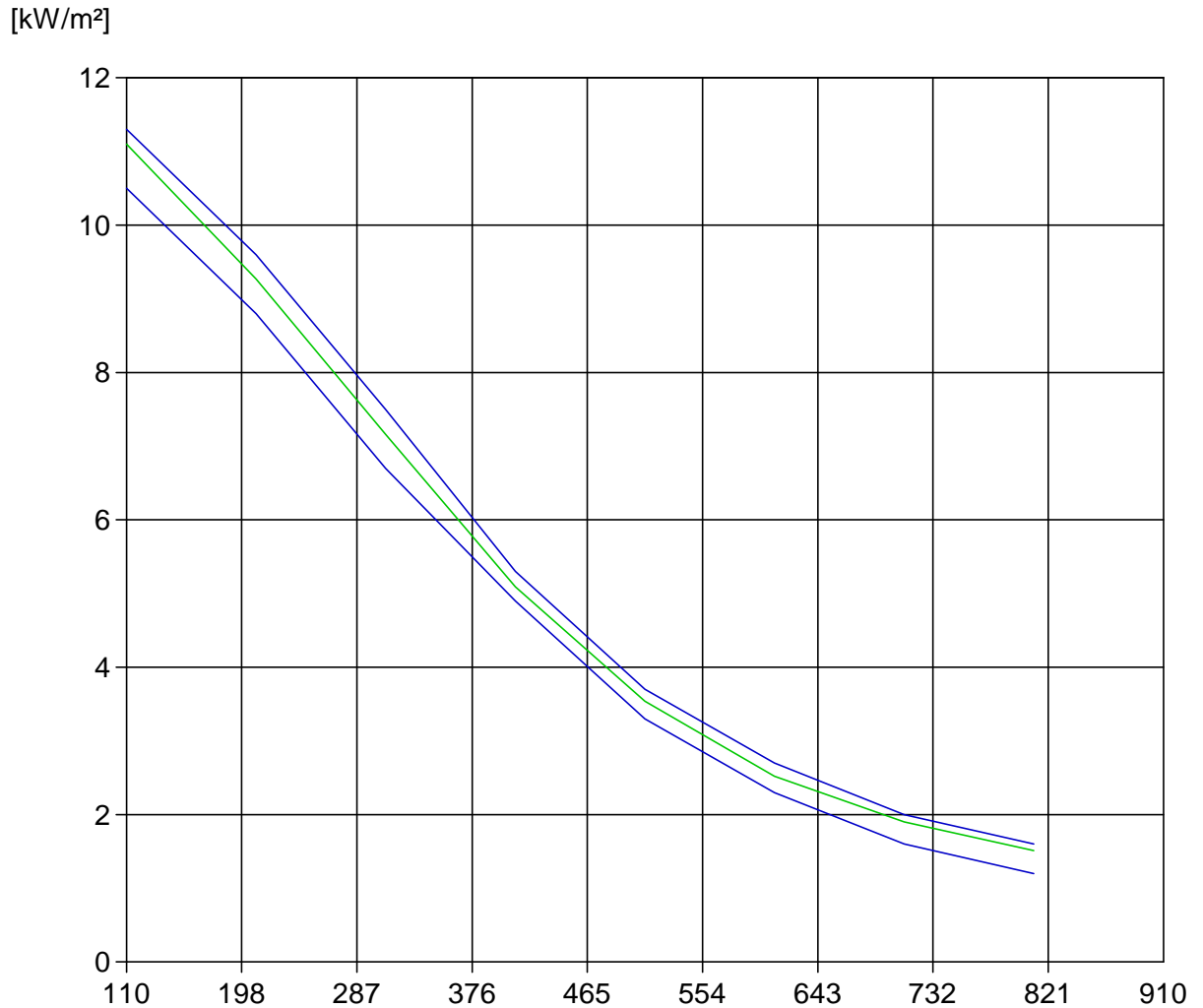
Trägermaterial: 8 mm Faserzement
Backing material: 8 mm Fibre cement board

| Art der Beflammung <i>Kind of impingement</i> Flächenbeflammung 15 s <i>Surface impingement</i> (20 s) Probe <i>Sample</i> | L1 – längs <i>lengthwise</i> | L2 – längs <i>lengthwise</i> | L3 – längs <i>lengthwise</i> | Q1 – quer <i>crosswise</i> | Q2 – quer <i>crosswise</i> | Q3 – quer <i>crosswise</i> |
|--|--|--|--|--------------------------------------|--------------------------------------|--------------------------------------|
| Zeitpunkt der Entzündung [s] <i>Time of ignition [s]</i> | 13 | 12 | 12 | 12 | 13 | 12 |
| maximale Flammenhöhe [mm] <i>max. extent of flame [mm]</i> | 34 | 31 | 35 | 30 | 32 | 32 |
| Zeitpunkt des Auftretens [s] <i>Moment of max. extent of flame [s]</i> | 15 | 15 | 15 | 15 | 15 | 15 |
| 150 mm Flammenhöhe erreicht (J/N) <i>150 mm extent reached (Y/N)</i> | N / N | N / N | N / N | N / N | N / N | N / N |
| Erlöschen der Flamme vor Versuchsende (J/N) <i>Extinction of flame before end of test (Y/N)</i> | J / Y | J / Y | J / Y | J / Y | J / Y | J / Y |
| Weiterbrennen nach Versuchsende (J/N) [s] <i>Burning on after the end of test (Y/N) [s]</i> | N / N | N / N | N / N | N / N | N / N | N / N |
| Entzündung des Filterpapiers [s] <i>Ignition of the filter paper [s]</i> | N / N | N / N | N / N | N / N | N / N | N / N |
| Aussehen der Probe nach der Brandprüfung: <i>Appearance of the specimen after the test:</i> | - | | | | | |
| Rauchentwicklung (visuell): <i>Smoke production (visual):</i> | ohne / no | | | | | |
| * Probe wurde nach - gelöscht! <i>Specimen was removed after -</i> | | | | | | |

Die Prüfergebnisse beziehen sich nur auf das Verhalten der Proben von einem Bauprodukt unter den speziellen Prüfbedingungen bei der Prüfung. Sie sind nicht als einziges Kriterium zur Bewertung der potentiellen Brandgefahr des Bauproduktes im Anwendungsfall zu verstehen.

The test results only apply to the reaction to fire behaviour of the specified building product under the described testing conditions during the test. Those are not allowed to be the only one criterion for the evaluation of the potential fire hazard of the building product in use case.

Heat Flow Profile



Black body temp. calibration

= 361 °C

Black body temp. test

cf. Test protocol

Test chamber temp. calibration

= 110 °C

Test chamber temp. test

cf. Test protocol

The test was performed according to EN ISO 9239-1.

Testing Institution

eph - Entwicklungs- und Prüflabor Holztechnologie
Dresden
Zellescher Weg 24
01217 Dresden

Differences to the Standard Test Procedure

acc. to EN ISO 9239-1

Date of Test protocol

08.04.2015

Test protocol Reference

2715058/2-L1

Customer

Trex Company, Inc.
Mr. Kyle Lancaster
Exeter Drive 160
VA 22603-8605 Winchester / USA

Manufacturer/Supplier

adress cf. customer

Date of Sample receipt

09.03.2015

Sampling Procedure

by the customer

Product Identification

TREX Transcend - 1"x 5.5"

Details of Conditioning

acc. to DIN EN 13238, article 4

General Product Characterization

WPC-Decking with grooved edge profile
Thickness [mm]: 25
Backing Board: 8 mm fibre cement
Kind of mounting: mechanical
Mass per area unit [kg/m²]: 26,37
Sample lengthwise

Observations

Blistering: No
Molten / fluid droplets: No
Burning up to backing board: No
Glowing after extinguishment: No
Staining / charring to: 466 mm
Further observations:

Date of Testing

08.04.2015

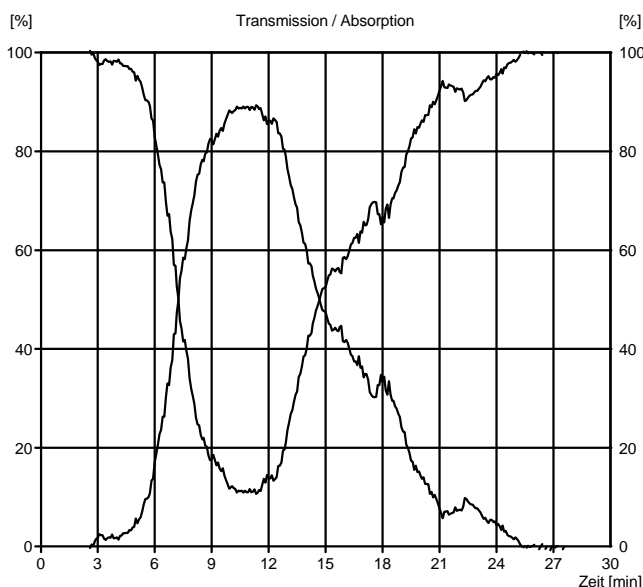
Conditions before Testing

Radiant temperature = 363 °C
Test chamber temperatur = 106 °C

Test Results

| Position [mm] | Time [s] | Heat Flow [kW/m²] |
|---------------|----------|-------------------|
| 50 | 205 | 12.20 |
| 100 | 287 | 11.28 |
| 150 | 405 | 10.37 |
| 200 | 492 | 9.45 |
| 250 | 555 | 8.43 |
| 300 | 617 | 7.37 |
| 350 | 698 | 6.33 |
| 400 | 834 | 5.30 |
| 450 | 1051 | 4.47 |
| 500 | - | - |
| 550 | - | - |
| 600 | - | - |
| 650 | - | - |
| 700 | - | - |
| 750 | - | - |
| 800 | - | - |
| 850 | - | - |
| 900 | - | - |
| 950 | - | - |
| 1000 | - | - |

Light Transmission / Absorption



| Time [min] | Position [mm] | Heat Flow [kW/m²] |
|------------|---------------|-------------------|
| 10 | 297 | 7.43 |
| 20 | 466 | 4.22 |
| 30 | 466 | 4.22 |

| | |
|----------------------------------|-------|
| CHF [kW/m²] | 4.22 |
| HF_30 [kW/m²] | 4.22 |
| Smoke density integral [%*min] | 841.3 |
| Flame extinguished after [min:s] | 30:00 |
| max. burnt distance [mm] | 466 |
| max. light attenuation [%] | 89.4 |

The test results relate to the behavior of the test specimen of a product under the particular conditions of the test.

They are not intended to be the sole criterion in order to assess the potential fire hazard of the product in real use.

The test was performed according to EN ISO 9239-1.

Testing Institution

eph - Entwicklungs- und Prüflabor Holztechnologie
Dresden
Zellescher Weg 24
01217 Dresden

Differences to the Standard Test Procedure

acc. to EN ISO 9239-1

Date of Test protocol

08.04.2015

Test protocol Reference

2715058/2-Q1

Customer

Trex Company, Inc.
Mr. Kyle Lancaster
Exeter Drive 160
VA 22603-8605 Winchester / USA

Manufacturer/Supplier

adress cf. customer

Date of Sample receipt

09.03.2015

Sampling Procedure

by the customer

Product Identification

TREX Transcend - 1"x 5.5"

Details of Conditioning

acc. to DIN EN 13238, article 4

General Product Characterization

WPC-Decking with grooved edge profile
Thickness [mm]: 25
Backing Board: 8 mm fibre cement
Kind of mounting: mechanical
Mass per area unit [kg/m²]: 25,89
Sample crosswise

Observations

Blistering: No
Molten / fluid droplets: No
Burning up to backing board: No
Glowing after extinguishment: No
Staining / charring to: 396 mm
Further observations:

Date of Testing

08.04.2015

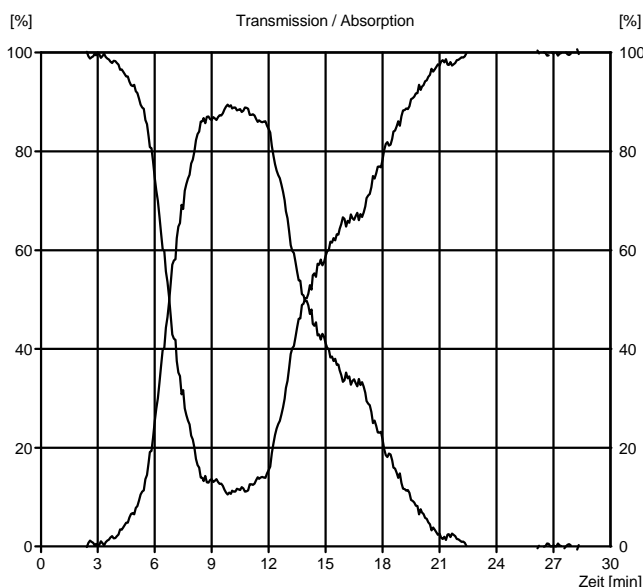
Conditions before Testing

Radiant temperature = 364 °C
Test chamber temperatur = 104 °C

Test Results

| Position [mm] | Time [s] | Heat Flow [kW/m²] |
|---------------|----------|-------------------|
| 50 | 192 | 12.20 |
| 100 | 313 | 11.28 |
| 150 | 409 | 10.37 |
| 200 | 479 | 9.45 |
| 250 | 549 | 8.43 |
| 300 | 622 | 7.37 |
| 350 | 738 | 6.33 |
| 400 | - | - |
| 450 | - | - |
| 500 | - | - |
| 550 | - | - |
| 600 | - | - |
| 650 | - | - |
| 700 | - | - |
| 750 | - | - |
| 800 | - | - |
| 850 | - | - |
| 900 | - | - |
| 950 | - | - |
| 1000 | - | - |

Light Transmission / Absorption



| Time [min] | Position [mm] | Heat Flow [kW/m²] |
|------------|---------------|-------------------|
| 10 | 293 | 7.52 |
| 20 | 396 | 5.38 |
| 30 | 396 | 5.38 |

| | |
|----------------------------------|-------|
| CHF [kW/m²] | 5.38 |
| HF_30 [kW/m²] | 5.38 |
| Smoke density integral [%*min] | 786.8 |
| Flame extinguished after [min:s] | 30:00 |
| max. burnt distance [mm] | 396 |
| max. light attenuation [%] | 89.5 |

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The test was performed according to EN ISO 9239-1.

Testing Institution

eph - Entwicklungs- und Prüflabor Holztechnologie
Dresden
Zellescher Weg 24
01217 Dresden

Differences to the Standard Test Procedure

acc. to EN ISO 9239-1

Date of Test protocol

08.04.2015

Test protocol Reference

2715058/2-L2

Customer

Trex Company, Inc.
Mr. Kyle Lancaster
Exeter Drive 160
VA 22603-8605 Winchester / USA

Manufacturer/Supplier

adress cf. customer

Date of Sample receipt

09.03.2015

Sampling Procedure

by the customer

Product Identification

TREX Transcend - 1"x 5.5"

Details of Conditioning

acc. to DIN EN 13238, article 4

General Product Characterization

WPC-Decking with grooved edge profile
Thickness [mm]: 25
Backing Board: 8 mm fibre cement
Kind of mounting: mechanical
Mass per area unit [kg/m²]: 26,35
Sample lengthwise

Observations

Blistering: No
Molten / fluid droplets: No
Burning up to backing board: No
Glowing after extinguishment: No
Staining / charring to: 487 mm
Further observations:

Date of Testing

08.04.2015

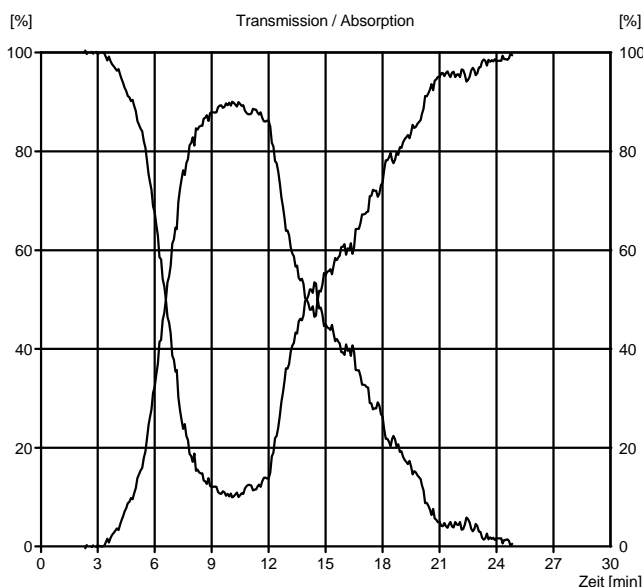
Conditions before Testing

Radiant temperature = 361 °C
Test chamber temperatur = 103 °C

Test Results

| Position [mm] | Time [s] | Heat Flow [kW/m²] |
|---------------|----------|-------------------|
| 50 | 199 | 12.20 |
| 100 | 288 | 11.28 |
| 150 | 351 | 10.37 |
| 200 | 418 | 9.45 |
| 250 | 527 | 8.43 |
| 300 | 570 | 7.37 |
| 350 | 659 | 6.33 |
| 400 | 835 | 5.30 |
| 450 | 1010 | 4.47 |
| 500 | - | - |
| 550 | - | - |
| 600 | - | - |
| 650 | - | - |
| 700 | - | - |
| 750 | - | - |
| 800 | - | - |
| 850 | - | - |
| 900 | - | - |
| 950 | - | - |
| 1000 | - | - |

Light Transmission / Absorption



| Time [min] | Position [mm] | Heat Flow [kW/m²] |
|------------|---------------|-------------------|
| 10 | 318 | 6.99 |
| 20 | 472 | 4.13 |
| 30 | 487 | 3.90 |

| | |
|----------------------------------|-------|
| CHF [kW/m²] | 3.90 |
| HF_30 [kW/m²] | 3.90 |
| Smoke density integral [%*min] | 847.7 |
| Flame extinguished after [min:s] | 30:00 |
| max. burnt distance [mm] | 487 |
| max. light attenuation [%] | 90.1 |

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The test was performed according to EN ISO 9239-1.

Testing Institution

eph - Entwicklungs- und Prüflabor Holztechnologie
Dresden
Zellescher Weg 24
01217 Dresden

Differences to the Standard Test Procedure

acc. to EN ISO 9239-1

Date of Test protocol

08.04.2015

Test protocol Reference

2715058/2-L3

Customer

Trex Company, Inc.
Mr. Kyle Lancaster
Exeter Drive 160
VA 22603-8605 Winchester / USA

Manufacturer/Supplier

adress cf. customer

Date of Sample receipt

09.03.2015

Sampling Procedure

by the customer

Product Identification

TREX Transcend - 1"x 5.5"

Details of Conditioning

acc. to DIN EN 13238, article 4

General Product Characterization

WPC-Decking with grooved edge profile
Thickness [mm]: 25
Backing Board: 8 mm fibre cement
Kind of mounting: mechanical
Mass per area unit [kg/m²]: 26,33
Sample lengthwise

Observations

Blistering: No
Molten / fluid droplets: No
Burning up to backing board: No
Glowing after extinguishment: No
Staining / charring to: 498 mm
Further observations:

Date of Testing

08.04.2015

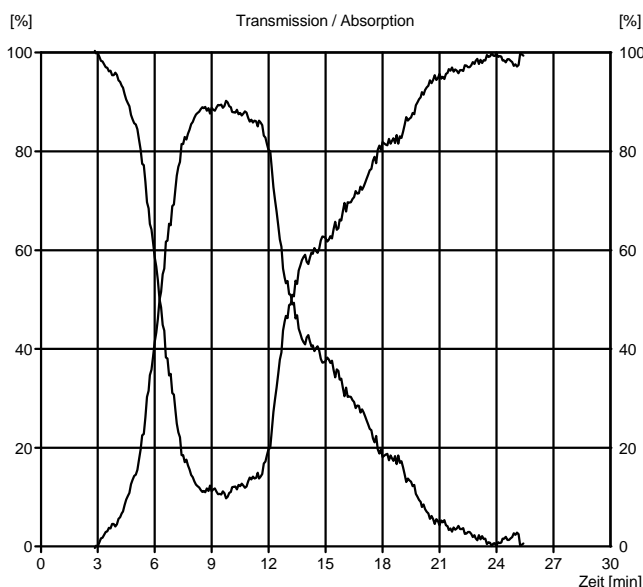
Conditions before Testing

Radiant temperature = 364 °C
Test chamber temperatur = 113 °C

Test Results

| Position [mm] | Time [s] | Heat Flow [kW/m²] |
|---------------|----------|-------------------|
| 50 | 168 | 12.20 |
| 100 | 269 | 11.28 |
| 150 | 348 | 10.37 |
| 200 | 423 | 9.45 |
| 250 | 483 | 8.43 |
| 300 | 545 | 7.37 |
| 350 | 616 | 6.33 |
| 400 | 730 | 5.30 |
| 450 | 1002 | 4.47 |
| 500 | - | - |
| 550 | - | - |
| 600 | - | - |
| 650 | - | - |
| 700 | - | - |
| 750 | - | - |
| 800 | - | - |
| 850 | - | - |
| 900 | - | - |
| 950 | - | - |
| 1000 | - | - |

Light Transmission / Absorption



| Time [min] | Position [mm] | Heat Flow [kW/m²] |
|------------|---------------|-------------------|
| 10 | 343 | 6.48 |
| 20 | 459 | 4.33 |
| 30 | 498 | 3.73 |

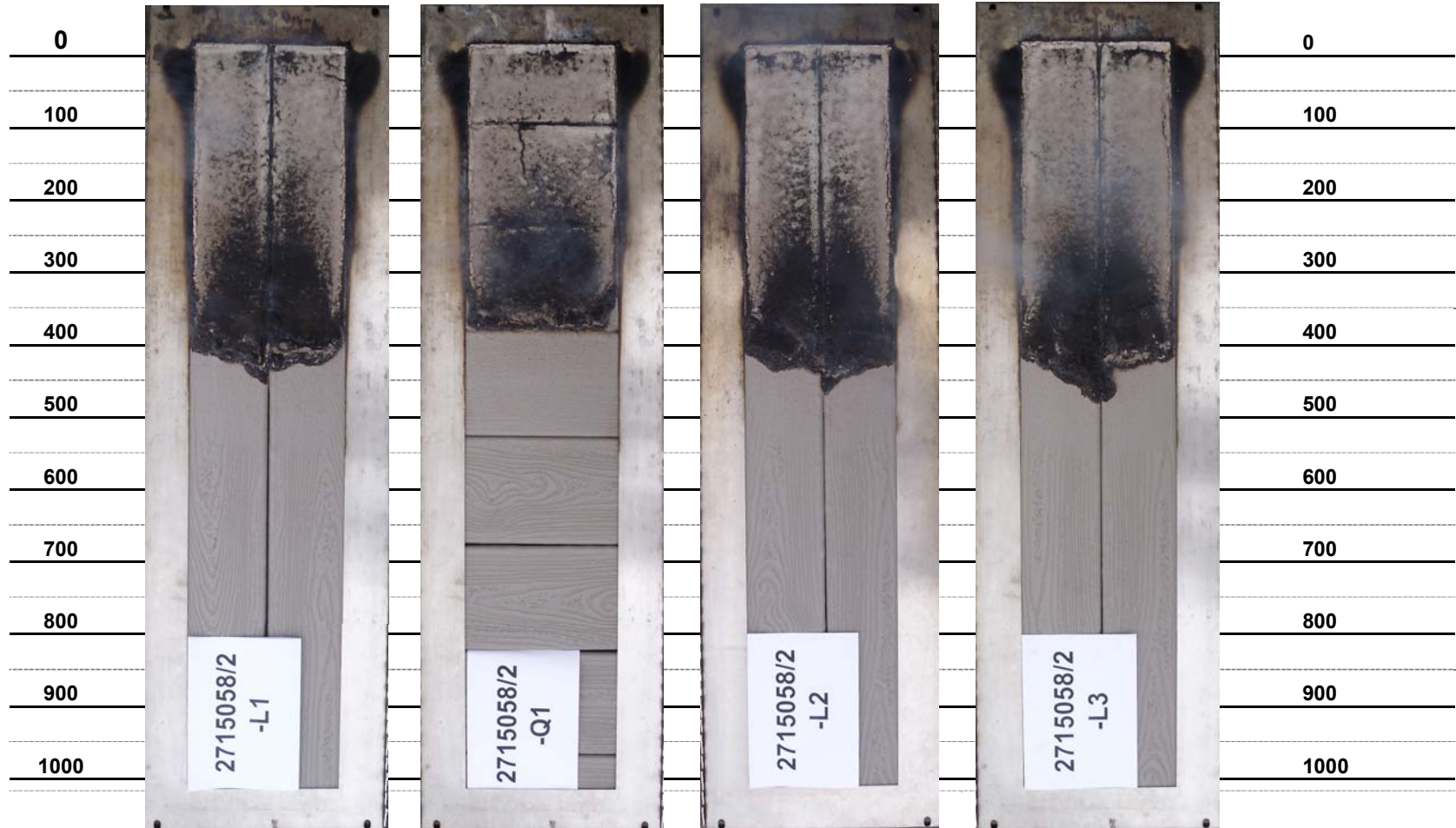
| | |
|----------------------------------|-------|
| CHF [kW/m²] | 3.73 |
| HF_30 [kW/m²] | 3.73 |
| Smoke density integral [%*min] | 811.9 |
| Flame extinguished after [min:s] | 30:00 |
| max. burnt distance [mm] | 498 |
| max. light attenuation [%] | 90.3 |

The test results relate to the behavior of the test specimen of a product under the particular conditions of the test.

They are not intended to be the sole criterion in order to assess the potential fire hazard of the product in real use.

Order-No.:
2715058/2

Flame spread
L [mm]



| | 2715058/2-L1 | 2715058/2-Q1 | 2715058/2-L2 | 2715058/2-L3 | Mean L1-L3 |
|-------------------------------|-----------------------------------|------------------------|------------------------|------------------------|------------------------------|
| Critical heat flow | CHF 4,22 kW/m ² | 5,38 kW/m ² | 3,90 kW/m ² | 3,73 kW/m ² | 3,95 kW/m² |
| Smoke production | JR 841,3 % * min | 786,8 % * min | 847,7 % * min | 811,9 % * min | 833,6 % * min |
| Duration of Flame spreading | t_{Max} 1800 s | 1800 s | 1800 s | 1800 s | 1800 s |
| max. Flame spread | L_{Max} 466 mm | 396 mm | 487 mm | 498 mm | 484 mm |
| max. Light absorption | R_{Max} 89,4 % | 89,5 % | 90,1 % | 90,3 % | 89,9 % |
| Reaction to fire class | | | | | D_{fi-s2} |