



Report VN710 134029.2

Test Report

Applicant

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Reference

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Application

Testing of the burning behaviour according EN ISO 9239-1 and ignitability according to EN ISO 11925-2.

Test material

"floors@work"

Material used in testing was anonymized for laboratory purposes. A detailed sample list is contained in the report.

Issuing and Signatures

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Translation

Authorised for Institute
Ing. Hannes Vittek

A handwritten signature in blue ink, appearing to read "J. V. Zambach", written over a dotted line.

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1 Order

1.1 Chronology

| Date | Received | Order |
|------------|------------|--|
| 04.10.2017 | 11.10.2017 | Testing of the burning behaviour according EN ISO 9239-1 and ignitability according to EN ISO 11925-2. |

1.2 Samples

| Nr. | Received | Sample Identification |
|-----|------------|---------------------------|
| 1 | 11.10.2017 | "work 55" (457 x 457 mm) |
| 2 | 11.10.2017 | "work 80" (1219 x 228 mm) |

(Unless otherwise stated samples are provided by the customer.)

2 Findings / Testes performed

2.1 Description of the specimens / Information given by the applicant

Test results

| | |
|----------------------------|---|
| Material (of wear layer): | PVC (according to the specification by the applicant) |
| Construction: | heterogeneous |
| Constitution of wearlayer: | transparent wear layer |
| Type of floor covering: | smooth floor covering |
| Structure of wearlayer: | grained surface |
| Colouring: | marbled / veined |
| Dimensions: | tiles / planks |

| Tested sample | Wear layer thickness | Total thickness | Total weight |
|-----------------|----------------------|-----------------|-----------------------|
| Sample 1 | 0,22 mm | 2,5 mm | 4080 g/m ² |
| Sample 2 | 0,80 mm | 2,5 mm | 4080 g/m ² |

The submitted samples are heterogeneous PVC floor coverings according to EN ISO 10582.

2.2 Determination of the burning behaviour of floor coverings using a radiant heat source - orientating

Test conditions

According to: EN ISO 9239-1

Conditioning: according EN 13238 (4.3)

Substrate: Fibre cement boards according EN 13238 (5.1.2)

Arrangement of specimens: loose

Statement

The test results relate to the behaviour of the test specimens of the products under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the products in use.

Test results

Tested sample: 1

| Specimen (direction) | Flame spread [cm] after | | | | Self extinguishing | Self extinguishing after [min : sec] |
|-------------------------|-------------------------|--------|--------|--|-----------------------|--|
| | 10 min | 20 min | 30 min | | | |
| 1 (length) | 16 | -- | -- | | 16 | 12 : 00 |
| 2 (cross) | 15 | -- | -- | | 15 | 12 : 00 |

| Specimen (direction) | Radiant flux [kW/m ²] | | | | at Self extinguishing [CHF] | Maxi. light attenuation [%] | Integral of smoke ob- scuration [%·min] |
|-------------------------|-----------------------------------|---------------------------|----------------------------|--|-----------------------------------|-----------------------------------|--|
| | after 10 min [HF-10] | after 20min [HF-20] | after 30 min [HF-30] | | | | |
| 1 (length) | 9,8 | -- | -- | | 9,8 | 33 | 79 |
| 2 (cross) | 10,0 | -- | -- | | 10,0 | 29 | 68 |

| | |
|--|----------------------------|
| Mean value of critical radiant flux ¹⁾ | -- kW/m² |
| Mean value of integral of smoke obscuration ²⁾ | -- %·min |

Remarks:

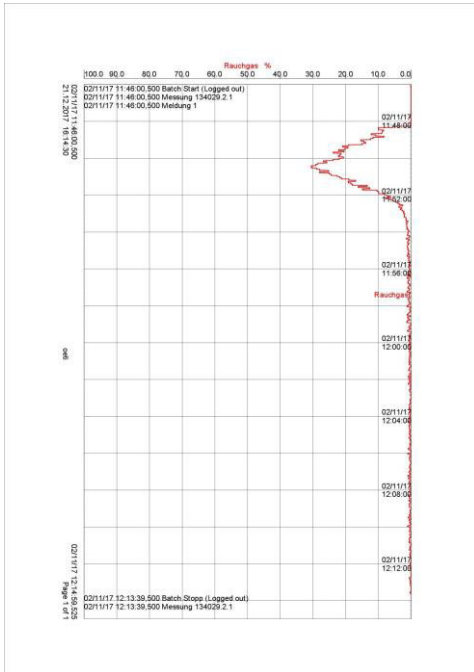
- 1) The mean value of the critical radiant flux is calculated from the results of HF-30 or CHF of the three specimens with the same direction. If both values are stated, the lowest one is taken for calculation.
- 2) The mean value of the integral of smoke obscuration is calculated from the results of the three specimens with the same direction.

| Measuring point [mm] | Time [min : sec] at which the flames are reaching the measuring points | |
|-------------------------|---|-----------------------|
| | Specimen 1 (length) | Specimen 2 (cross) |
| 50 | 2 : 50 | 3 : 10 |
| 100 | 4 : 11 | 3 : 50 |
| 150 | 4 : 50 | 5 : 20 |

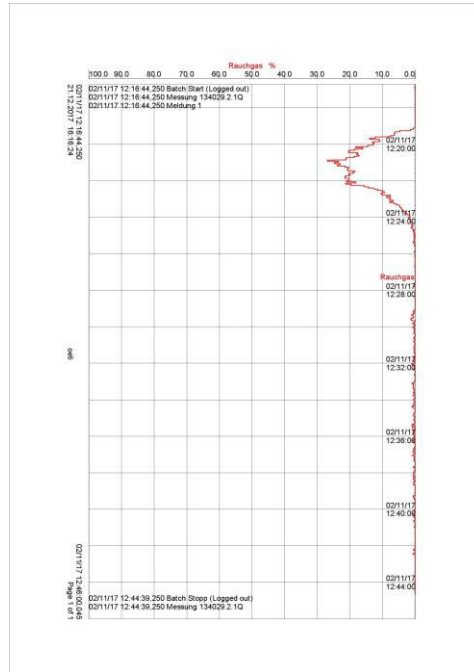
Special observations during the test: blistering

2.2.1 Diagrams of integrated smoke obscuration

Specimen 1 (length)



Specimen 2 (cross)



2.2.2 Appearance of specimens after test

This photo shows the specimens 1 and 2 (from left to right side). One section of the rule is equivalent to 5 cm.



2.3 Determination of the burning behaviour of floor coverings using a radiant heat source

Test conditions

According to: EN ISO 9239-1

Conditioning: according EN 13238 (4.3)

Substrate: Fibre cement boards according EN 13238 (5.1.2)

Arrangement of specimens: loose

Statement

The test results relate to the behaviour of the test specimens of the products under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the products in use.

Test results

Tested sample: 1

| Specimen (direction) | Flame spread [cm] after | | | | Self extinguishing | Self extinguishing after [min : sec] |
|-------------------------|-------------------------|--------|--------|--|-----------------------|--|
| | 10 min | 20 min | 30 min | | | |
| 1 (length) | 17 | -- | -- | | 17 | 12 : 00 |
| 2 (cross) | 20 | -- | -- | | 20 | 12 : 00 |
| 3 (cross) | 20 | -- | -- | | 20 | 12 : 00 |
| 4 (cross) | 18 | -- | -- | | 18 | 12 : 00 |

| Specimen (direction) | Radiant flux [kW/m ²] | | | | at Self extinguishing [CHF] | Maxi. light attenuation [%] | Integral of smoke ob- scuration [%·min] |
|--|-----------------------------------|---------------------------|----------------------------|--|-----------------------------------|-----------------------------------|--|
| | after 10 min [HF-10] | after 20min [HF-20] | after 30 min [HF-30] | | | | |
| 1 (length) | 9,6 | -- | -- | | 9,6 | 47 | 142 |
| 2 (cross) | 9,2 | -- | -- | | 9,2 | 53 | 179 |
| 3 (cross) | 9,2 | -- | -- | | 9,2 | 50 | 178 |
| 4 (cross) | 9,4 | -- | -- | | 9,4 | 47 | 156 |
| Mean value of critical radiant flux ¹⁾ | | | | | 9,3 kW/m² | | |
| Mean value of integral of smoke obscuration ²⁾ | | | | | 171 %·min | | |

Remarks:

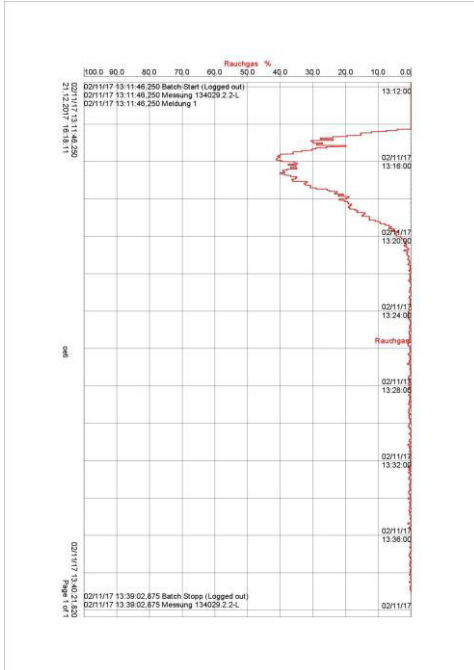
- 1) The mean value of the critical radiant flux is calculated from the results of HF-30 or CHF of the three specimens with the same direction. If both values are stated, the lowest one is taken for calculation.
- 2) The mean value of the integral of smoke obscuration is calculated from the results of the three specimens with the same direction.

| Measuring point [mm] | Time [min : sec] at which the flames are reaching the measuring points | | | |
|-------------------------|--|-----------------------|-----------------------|-----------------------|
| | Specimen 1 (length) | Specimen 2 (cross) | Specimen 3 (cross) | Specimen 4 (cross) |
| 50 | 3 : 00 | 3 : 10 | 2 : 50 | 3 : 00 |
| 100 | 3 : 50 | 4 : 00 | 3 : 50 | 3 : 50 |
| 150 | 4 : 30 | 4 : 40 | 4 : 40 | 5 : 00 |
| 200 | -- :-- | 5 : 50 | 6 : 00 | -- :-- |

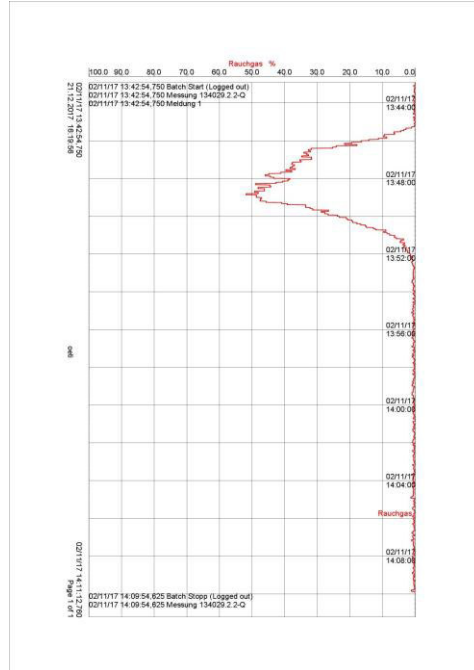
Special observations during the test: blistering

Diagrams of integrated smoke obscuration

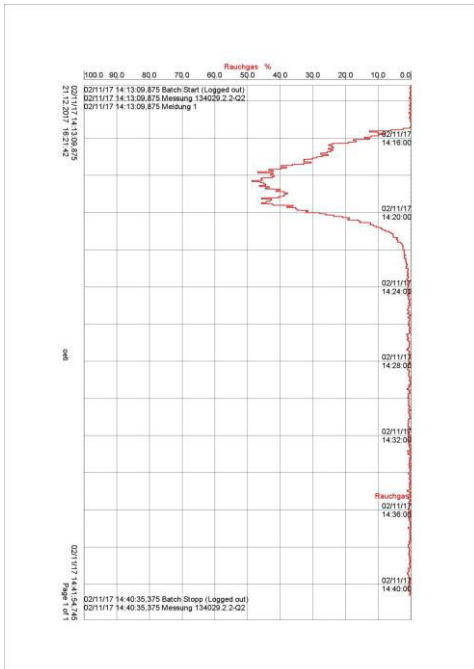
Specimen 1 (length)



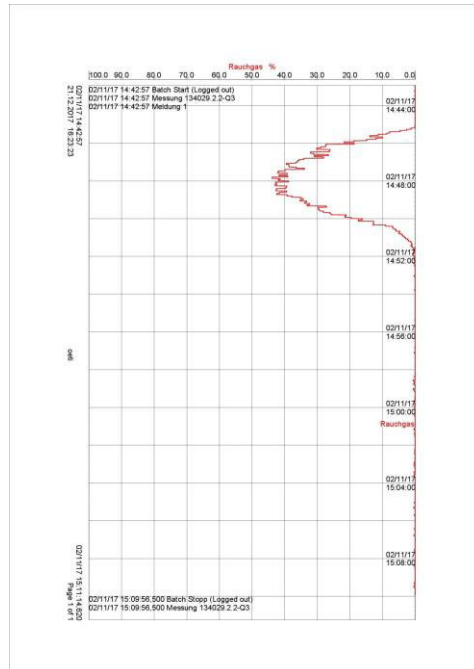
Specimen 2 (cross)



Specimen 3 (cross)



Specimen 4 (cross)



2.3.2 Appearance of specimens after test

This photo shows the specimens 1 to 4 (from left to right side). One section of the rule is equivalent to 5 cm.



2.4 Reaction to fire tests – Ignitability of building products subjected to direct impingement of flame

Test conditions

According to EN ISO 11925-2

Conditioning: according EN 13238 (4.2)

Substrate: Fibre cement boards according EN 13238 (5.1.2)

Arrangement of the samples: loose laid

Number of specimen: 3 in length, 3 in cross direction (250 mm x 90 mm)

Exposure conditions: Surface exposure

Flame application time: 15 s

Statement

The test results relate to the behaviour of the test specimens of the products under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the products in use.

Test results

Tested sample: 2

| Specimen | Length direction | | | Cross direction | | |
|--------------------------------------|------------------|----|----|-----------------|----|----|
| | 1 | 2 | 3 | 1 | 2 | 3 |
| Ignition | no | no | no | no | no | no |
| Flaming debris | no | no | no | no | no | no |
| Ignition of filter paper | no | no | no | no | no | no |
| Reaching the measuring mark (150 mm) | no | no | no | no | no | no |
| Time to reach the measuring mark | -- | -- | -- | -- | -- | -- |

Special observations during the test: none

3 Remarks

Validity

There are no regulations concerning duration of validity in the individual test standards. As the results of the examinations refer only to the submitted and examined samples, the report is valid for these for an unlimited period. A period of validity specified as part of an expert evaluation is in the discretion of the consultant or the ÖTI.

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Results of performed tests only refer to the sample material provided.

Without explicit written other agreement testing is destructive and the sample material is transferred to the property of ÖTI, which is entitled to freely decide on storage and disposal.

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In this report individual non-accredited test procedures are marked with *.

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End of report