# Determination of the fire index of BBT-Antiflame 2050W

Process Safety

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## Summary:

### Fire Index:
*(derived result of the tests)*

| | |
|---|---|
| **no treated** | **4 . 3** |
| **treated** | **5 . 3** |

The examination is accomplished in accordance with : Determination of the fire index (combustibility and smoke formation) according to the "Directives for the prescriptions on the fire police, Materials and part of construction", Part B: Examination conditions, edition 1988 (with complements 1990, 1994, 1995 and 2005) of the "Vereinigung Kantonaler Feuerversicherungen " (VKF), Bundesgasse 20, Postfach 8576, CH-3001 Bern.

This test report has a validity period from 5 years.

The detailed test results are shown on the table of page 2.

**Date: 2016-05-18**

Our reference: PRS-/LA

Report No. 921999-16-0265-01-D

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The test results refer exclusively to the units under test.

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Head of Laboratory

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Test and Head of Laboratory

The fire index describes the properties of the tested products at effects of heat and flame under controlled laboratory conditions. From this figure no inferences about the fire behavior of the products may by derived under the conditions of a real fire.
Conformity with the test specimen will not be verified by the testing institute.

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**Test object:**

| **Sample:** | **BBT-Antiflame 2050W** |
|---|---|
| The sample name corresponds to the information provided by the requester. A further verification was not made. | |
| **Sample Description according to customer:** | Fir wood with and without flame retardant treatment.<br>Quantity of the flame retardant: 0,15 liter/$m^2$.<br><br>20 pieces: approx. 160 x 60 x 4 mm with and without flame retardant.<br>20 pieces: approx. 30 x 30 x 4 mm with and without flame retardant.<br><br>Volume density measured: (428 ±20) kg/$m^3$<br><br>The material was provided by the customer |
| **Receiving Date:** | 2016-04-14 |

**Applied Testing Procedure**

SOP-No.: 241 (Determination of the combustibility degree)
SOP-No.: 242 (Determination of the smoke formation degree)

**Test set-up**

The tests were carried out in the laboratory for fire -, and explosion prevention of the Swissi Process Safety GmbH in Basel. The testing method is based on empirical bases. The quality of the testing method is supervised by periodic comparison attempts with other laboratories or with reference samples.

The samples were air-conditioned (23°C / 50%rH) over a period of ≥ 28 days.

**Results and evalutation:**

**Basic test / combustibility test:**

**Thickness:** 3,93 (±0,02) mm

| **- Test condition** | **no treated** | | | **treated** | | |
|---|---|---|---|---|---|---|
| - Burning time (in seconds) | 35 | 37 | 33 | 19 | 19 | 20 |
| - attains the height of 150 mm?<br>*Rupture of the cotton thread* | yes | yes | yes | no | no | no |
| - Flame spread in mm<br>*Visual observation of the flame tip.* | 150 | 150 | 150 | ~30 | ~30 | ~30 |
| - Charred till a height of? (in mm) | 150 | 150 | 150 | ~40 | ~40 | ~40 |
| - Flaming droplets? | no | no | no | no | no | no |
| - Filter paper aflame? | no | no | no | no | no | No |
| **- Fire behaviour** | **moderately combustible** | | | **hardly combustible** | | |

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**Smoke test:**

Smoke density test (on sieve):

| | | | | | | |
|---|---|---|---|---|---|---|
| **- Test condition** | **no treated** | | | **treated** | | |
| - Light absorption in % | 1 | 1 | 1 | 2 | 2 | 2 |
| - Mean value | 1% | | | 2 % | | |
| - Smoke behaviour | **weak smoke formation** | | | | | |

**Comment:** Almost no measurable smoke was observed.

**End of experimental part:** 2016-05-13