

IBS-Institute, Linz, Austria

Test Certificate

BV-ref. no. 4291/13
Date: 27 January 2013
IBS-/KI-am

Subject of testing: Anti-flaming agent type "Ceracoat Anti fire " (fire retardant) – for wood
Quantity layed on: 140 g/m²

Classification: B1, "inflammable with difficulty"
Q1, "weakly smoking"
Tr 1, "non dripping"

Applicant: Ceracoat Group
Flawilerstrasse 31
CH-9500 WIL

Date of application: 19 January 2013
Date of test: 26 January 2013
Expert: Ing. R. KIBLER

This report contains: Pages: 5
Enclosures: 1 test protocol
2 technical data sheets

Validity: until 26 January 2024 – according to ÖNORM B 3800, part 2

Subject of testing: Anti-flaming agent type "Ceracoat Anti fire " (fire retardant) – for wood
Lay-on quantity 140 g/m²

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Seen by the
**Chamber of Industry and Commerce
of Thurgovia**
8570 Weinfelden (Switzerland) 2014-09-24

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Bases for testing:

ÖNORM B 3800, part 2:

"Behavior in case of fire of building materials and construction units – construction units: definitions, requirements, tests"

Edition: 1 march 1997

withdrawn on: 1 january 2004

former standard ÖNORM B 3800, part 1 (historical)

"Behavior in case of fire of building materials and construction units – construction units: definitions, requirements, tests"

Edition: 1 december 1998

withdrawn on: 1 january 2004

Note:

Because of the still lacking national legislation regarding construction/building concerning European classification according to EN 13501-1 the aforementioned historical standards are further consulted as bases.

The test criteria of the alternatively applied previous standard ÖNORM B 3800, part 1, contain in view of IBS on national basis – all requirement profiles concerning fire protection technique for anti-flame agents for wood which are essential in the fire catching phase.

Air conditioning before execution of tests:

Standard climate 23° C/50 % humidity. The test samples were stored before testing at 23° C +/- 2° C and 50 % +/- 5 % humidity until the approximate mass constancy. The spruce wood plates were stored in the standard climate at least for two weeks before the tests. After subsequent impregnation with the anti-flame agent the test sample was stored at least for 24 hours.

Description of test samples according to applicant data:

Anti flame agent, type "Ceracoat Anti fire " (fire retardant) for wood, quantity layed on 140 g/m² on 12 mm spruce wood (picea abies), branchless.

On each test sample the treatment was effected by brush application by the IBS in 2 steps with 70 g/m² each.

The anti flame agent was applied on one side, evenly and full-laminar. The visible side is in this case the side which is exposed to fire.

The plates of spruce wood were backed with 12 mm CaSi-plates (A "non inflammable")



Quantity of liquid to be layed on according to manufacturer:

Min. 140 g/m²

Color: like water, clear

Determined average humidity of wood before fire tests:

10 %

Temperature of test samples:

The test samples had a temperature of 23° C before test started.

The tests were carried out on:

26 january 2013

Results of the fire tests:

The detailed test results of the combustibility test with exploration of the dripping behavior and the smoke intensity can be viewed in the enclosed test protocol.

General description of the execution of tests:

Examination of hard inflammability:

The material samples received from the applicant with measurements of 800 x 300 mm are tested in the Schlyter-test appliance.

Combustion tests are thus carried out in vertical insertion position with test samples inserted in parallel position (distance 50 mm). During a period of 15 minutes a test sample is fire treated by a six-nozzle-serial burner (propane-nitrogene-air mixture) covering a full surface in the lower area of the sample.

According to ÖNORM B 3800, part 1, a maximum of 40 cm of charred length should not be exceeded; the test sample not exposed to flammation should not catch fire and the period of afterburning resp. afterglowing should not exceed 1 minute resp. 5 minutes.

Test of smoke intensity





There were drawn representative samples with measurements 30 x 30 x 4 mm and were submitted to fire tests according to the standards in the Lüscher–smoke intensity test appliance. There the samples were exposed to a burner flame length of 150 mm on one side laminar.

The density of smoke gas arising in this case was measured by a narrow tape photo element (photoelectric measuring instrument and the light turbidity was displayed.

The determined value is only a measure for the smoke gas density and does not anyhow consider any eventual toxic effect of the arising smoke gases.

The above mentioned general description of the test procedure is only of informative character. Detailed test procedures with measures of test preparation can only be viewed from ÖNORM B 3800, part 1.

Observations of test:

(see also enclosed test protocol)

- Discoloration can already be observed directly after test start
- After approx. 1 minute the test material catches fire in the area of direct flame exposure.
- An expansion of the flame area beyond the area of direct flame exposure is not observed
- After 10 minutes at the latest the flame area shrinks.
- A dropping of parts of the test sample is not observed.
- An afterburning is observed during 48 seconds max.
- An after glowing is not observed.
- The destroyed length amounts to max. 39 cm.
- After carrying out the light turbidity test it is measured a light turbidity of 12 %

Evaluation:

As it may already be stated concerning the accomplished burning tests according to the conditions of the already mentioned ÖNORMs, all the tested samples fulfil these standards and therefore can be designated as **B1, "inflammable with difficulty"**. Further the samples in question can be classified as **Tr 1, "non dripping"** in the drop formation class and as **Q1, "weakly smoking"** in the smoke formation class.

The achieved test results refer only to the test samples presented for testing.



Mechanical or chemical admission is to be avoided in any case, therefore it is not admissible to apply the ant flame agent on wooden floors.

These results are valid for all kinds of utilizable wood from a thickness of 12 mm, a gross density of 480 kg/m³ with quantity of liquid applied in this case of at least 140 g/m².

Duration of validity:

From the test date (26 January 2013) eleven years **until 26 January 2024** according to ÖNORM B 3800, part 2. The duration of validity expires prematurely, if technical modifications on the tested product as described herein or if the lay-on quantity of the ant flame agent falls below the quantity as stated herein.

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