



2008-Efectis-R0292

Reaction to fire testing of
Sonaspray K 13 st - sp - FC - FCX,
according to EN 13823:2002

The European experts in fire safety

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Efectis Nederland report

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This report is issued by the TNO company Efectis Nederland BV (previously TNO Centre for Fire Research). TNO decided, in response to international developments and requests by customers, to collaborate with two European Egolf partners, both highly experienced in fire safety: the Norwegian Sintef/NBL and the French CTICM. Thus, through scaling up, a more comprehensive service of high quality and a wider range of facilities can be offered. In order to achieve this, the fire safety related activities of the partners involved have been privatised in this collaboration. With respect to TNO this has led to the privatisation on the 1st of July 2006 of the activities of the TNO Centre for Fire Research via the establishment of the company Efectis Nederland BV.

Product identification:

Sonaspray K 13 st - sp - FC - FCX, further referred to as 'the product'.

Abstract:

Three specimen of the product were subjected to a Single Burning Item according to EN 13823:2002.

Intended application:

The product will be used as a wall, facade or ceiling covering.

Manufacturer/importer:

Asona Benelux BV
P.O. Box 9057
NL-1180 MB AMSTELVEEN
The Netherlands

Product description:

According to the sponsor the product is composed of:

- Cellulose from recycled paper with an addition of Borax salts, to provide the product with fire resistant properties.
- The Sonaspray is applied by spraying with a mix of 80% water and 20% adhesive. The adhesive is a copolymer with a small addition of Poly Vinyl Alcohol.
- The thickness of the sprayed layer is approx. 20 mm, with a surface density of 2.75 kg/m².

Samples:

Sampling procedure: The samples were prepared and sent in by the sponsor.

Age: At the time of receipt: approx. 6 weeks.
At the start of the examinations: 2 weeks.

Date of receipt: April 8, 2008

Specimen preparation:

Substrates used: Paper faced plasterboard, thickness 12 mm

Method of mounting and fixing: The specimens were placed directly against the backing board.

Conditioning: Prior to the examinations, the specimens were conditioned over a period of 2 weeks at a temperature of (23 ± 2) °C and a relative humidity of (50 ± 5) %, according to § 4.1 of EN 13238:2001.

Examination:

Number of tests: A total of three Single Burning Item tests were carried out, all in accordance with EN 13823:2002.

Deviations from the test method: None

Harmonised Product Standard: At the time of examination of the product, the sponsor was not aware of a related existing Harmonised Product Standard.

The results are given in Table 1.

Dates of examination:

April 21 and April 23, 2008

Table 1: Single Burning Item classification parameter results

| Test number | 1 | 2 | 3 | Classification parameter |
|--|-------|------|-------|--------------------------|
| Test parameter | | | | |
| FIGRA Threshold: 0.2 MJ [W/s] | 106.4 | 95.5 | 134.3 | 112.1 |
| FIGRA Threshold: 0.4 MJ [W/s] | 77.4 | 67.5 | 89.4 | 78.1 |
| THR ₆₀₀ [MJ] | 4.0 | 4.2 | 3.9 | 4.0 |
| Lateral flame spread (LFS) to the edge of the long wing specimen {Y=Yes, N=No} | N | N | N | N |
| SMOGRA [m ² /s ²] | 12.5 | 14.6 | 11.9 | 13.0 |
| TSP ₆₀₀ [m ²] | 69.7 | 71.3 | 70.7 | 70.6 |
| Flaming droplets/particles (flaming ≤ 10 s) {Y=Yes, N=No} | N | N | N | N |
| Flaming droplets/particles (flaming > 10 s) {Y=Yes, N=No} | N | N | N | N |

Observations of physical behaviour of the test specimen: None

Conclusions:

A formal classification is to be assessed in accordance with EN 13501-1, "Fire classification of construction products and building elements – Part 1: Classification using data from reaction to fire tests".

Graphs of Rate of Heat Release (HRRav(t)), Rate of Smoke Production (SPRav), Total Heat release (THRa), Total Smoke Production (TSPta), FIGRA and SMOGRA, are presented hereafter followed by some photographs of the test setup and test result.

Remarks:

The test results relate to the behaviour of the test specimens of a 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 product in use.

Regarding the estimated precision of the test method, the following information is given in Annex B of EN 13823:

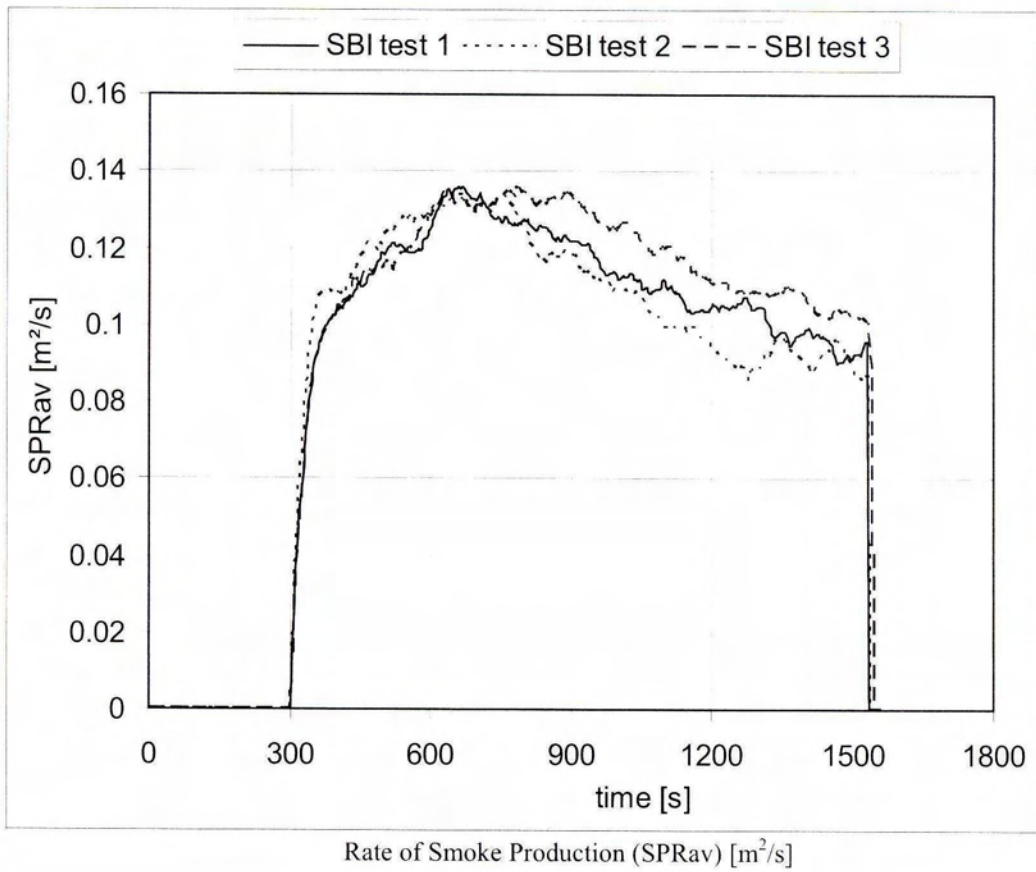
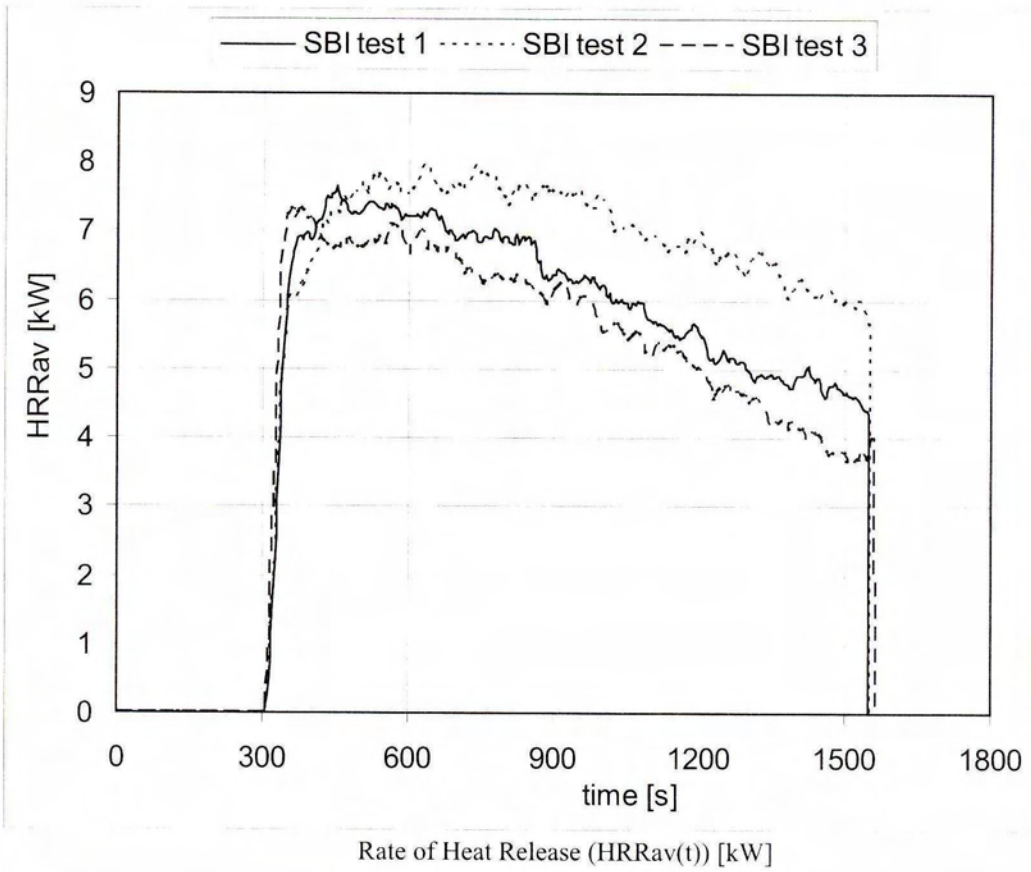
Table B.2 — Average relative standard deviations

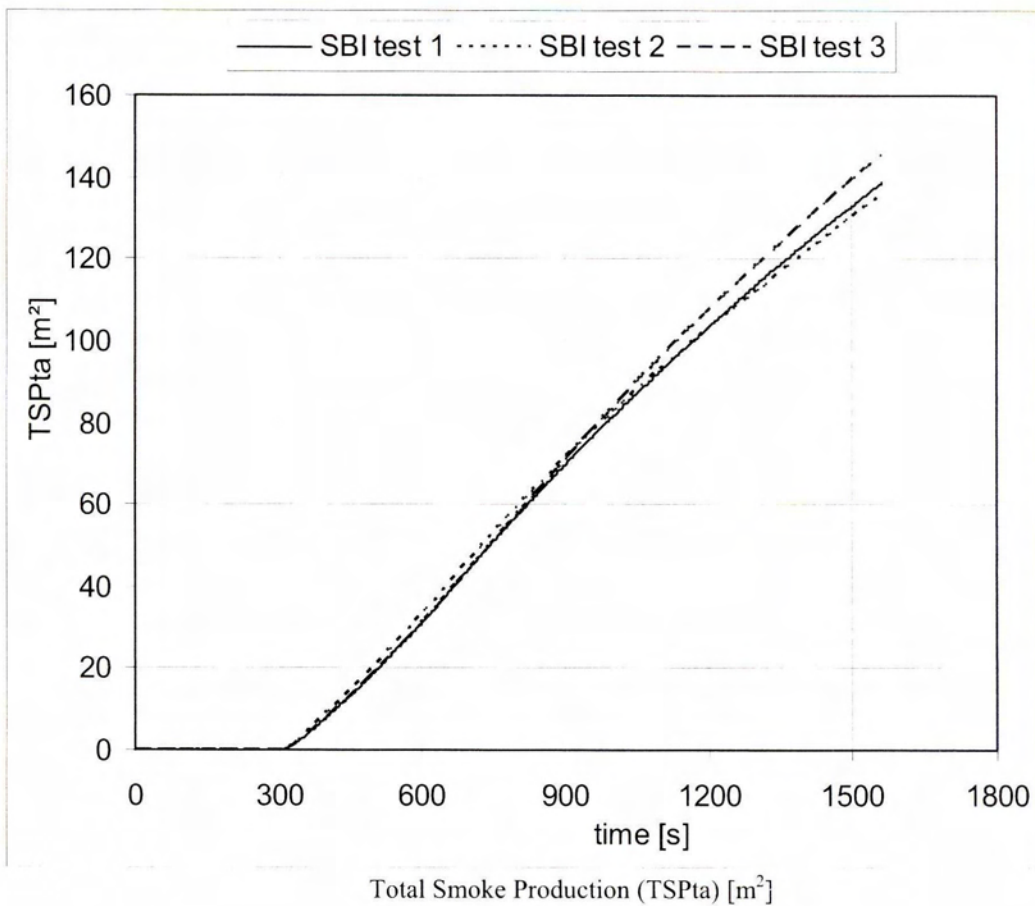
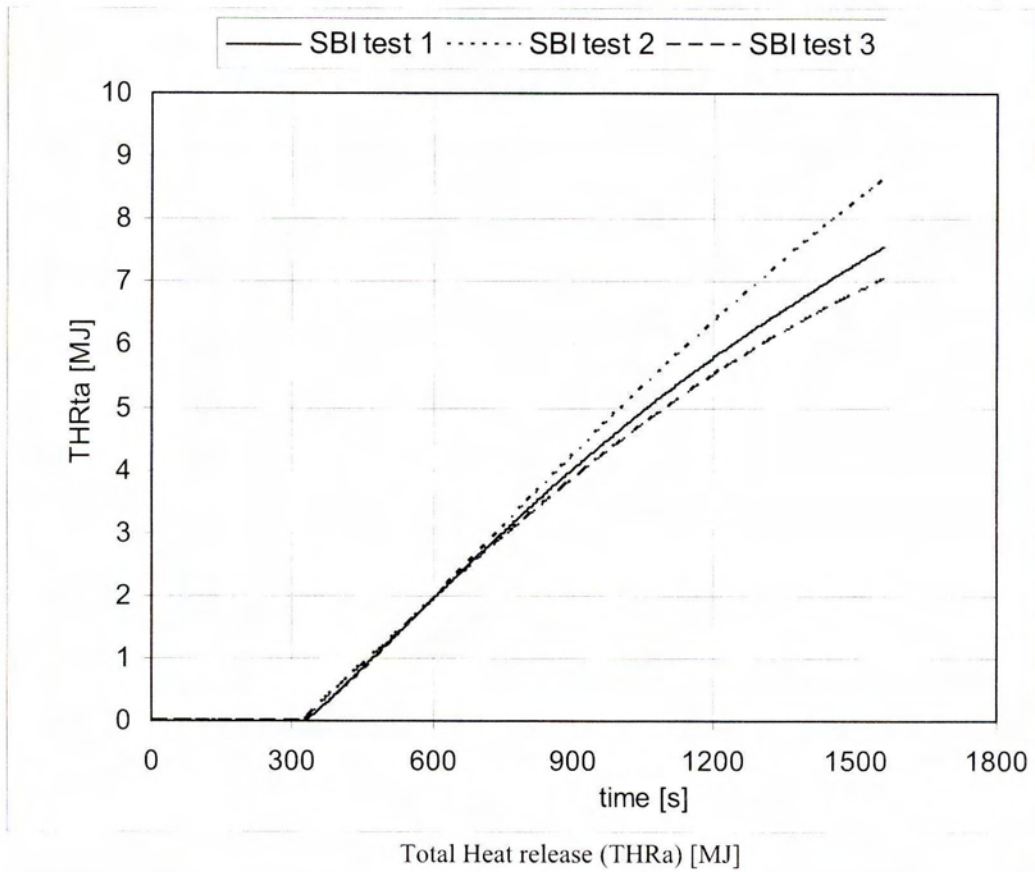
| | FIGRA _{0.2MJ} | FIGRA _{0.4MJ} | THR _{600s} | SMOGRA | TSP _{600s} |
|------------------------------|------------------------|------------------------|---------------------|--------|---------------------|
| Average (s _i /m) | 14 % | 15 % | 11 % | 15 % | 18 % |
| Average (s _r /m) | 23 % | 25 % | 21 % | 40 % | 44 % |

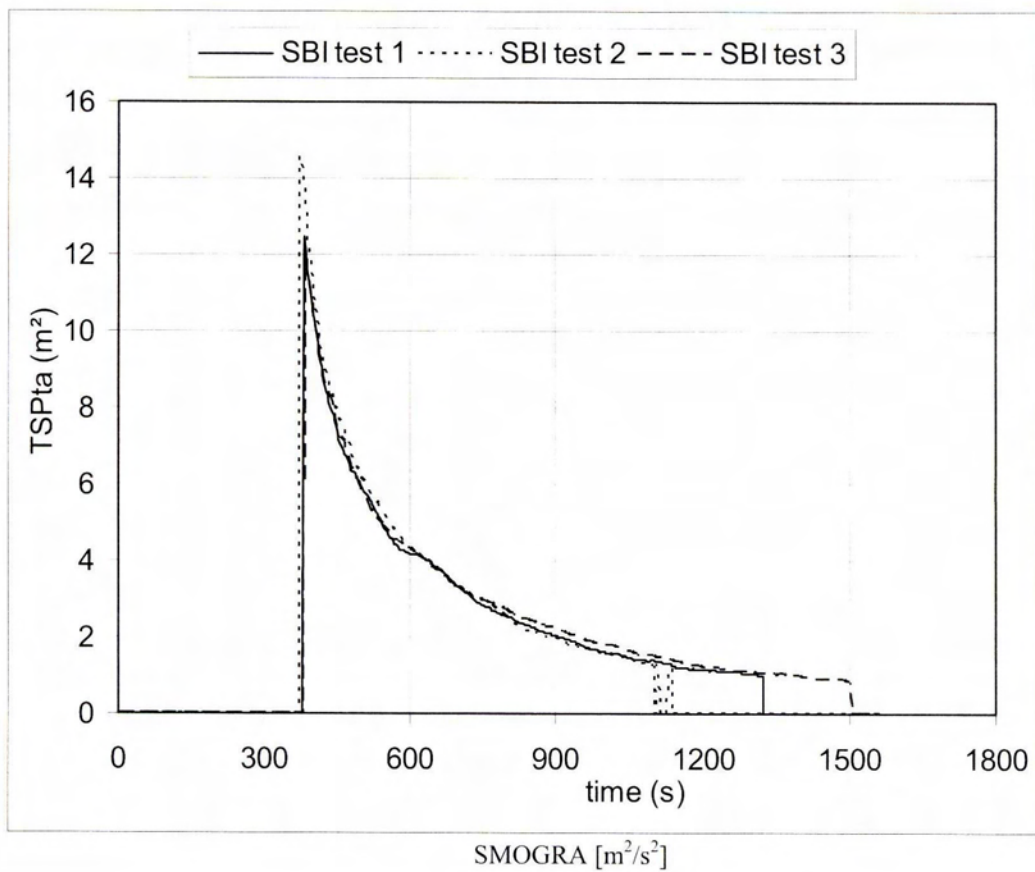
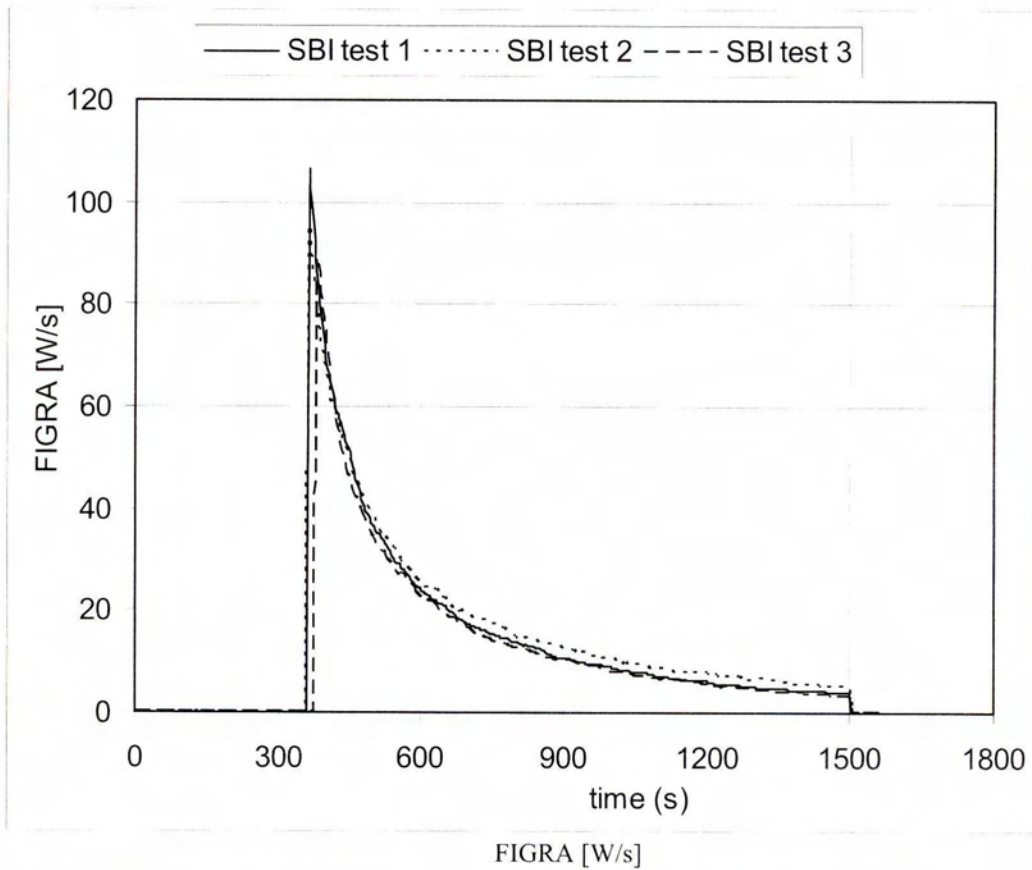
Ing. C.C.M. Steinhage

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Specimen 1 prior to the test



Specimen 1 after the test

Photographs of the SBI test 1