

Zeno-Protect B.V.
To the attention of Mr Pieter de Jong Jr
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|-------------|--------------|--------------------------|---------|
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TEST REPORT 06-113

Samples received :

Floorcovering carpet Protect Solution
Ontvangen op 16/02/06

Aim of the test : determination of fire behaviour

Test conditions :

Standard: **EN ISO 9239-1 (2002)**

Method: Here, a floorcovering is put (loose laid) on an eternit plate (Eflex). During the test, the specimen is irradiated by a gas radiator at an angle of 30°. A small flame is used to ignite the specimen. The specimen is ignited during 10 minutes. In case of inflammable specimens, the test lasts until the flame is extinguished, but 30 minutes at the most. The criterion is the burned length, from which the critical radiant flux is deduced using a calibration curve. Before the test the samples are cleaned with a spray-extraction machine and then dried.

Number of tests: 4

Conditioning samples: 23 ± 2 °C and 50 ± 2 % R.H.

Classification according to EN 13501 –1 (2002)

| Classification | EN ISO 11925-2 (ignition time = 15 s) | EN ISO 9239-1 (test period = 30 min) |
|-----------------|---------------------------------------|---------------------------------------|
| B _{fl} | F _s ≤ 150 mm in 20 s | Critical flux ≥ 8.0 kW/m ² |
| C _{fl} | F _s ≤ 150 mm in 20 s | Critical flux ≥ 4.5 kW/m ² |
| D _{fl} | F _s ≤ 150 mm in 20 s | Critical flux ≥ 3.0 kW/m ² |
| E _{fl} | F _s ≤ 150 mm in 20 s | No demand |
| F _{fl} | No demand | No demand |

Additional classification smoke development according to EN 13501-1 (2002)

| | |
|------------------------------|----|
| Smoke development ≤ 750%.min | s1 |
| Smoke development > 750%.min | s2 |

The tests were performed in week 9/2006

OBTAINED RESULTS

a) Critical Flux :

| Sample | Burned length (mm) | | |
|--------------------------------|--------------------|--------------|--------------|
| | after 10 min | after 20 min | after 30 min |
| width | 400 | 445 | 445 |
| length | 400 | 490 | 490 |
| length | 415 | 485 | 485 |
| length | 410 | 470 | 470 |
| average (of length) | 408 | 482 | 482 |

| Sample | Burned length maximum (mm) | Extinction (min.s) | Critical Flux (kW/m ²) |
|--------------------------------|----------------------------|--------------------|------------------------------------|
| width | 445 | 19'01" | 4.5 |
| length | 490 | 18'23" | 3.8 |
| length | 485 | 16'59" | 3.9 |
| length | 470 | 18'13" | 4.1 |
| average (of length) | 482 | - | 3.9 |

b) Smoke development:

| Sample | Smoke development (%min) | | | Smoke development (%min) |
|--------------------------------|--------------------------|--------------|--------------|--------------------------|
| | after 10 min | after 20 min | after 30 min | Maximum |
| width | 465 | 595 | 642 | 642 |
| | | | | |
| length | 462 | 632 | 686 | 686 |
| length | 479 | 657 | 705 | 705 |
| length | 469 | 612 | 652 | 652 |
| average (of length) | 470 | 634 | 681 | 681 |

CLASSIFICATION

Since the radiation intensity is **higher** than 3.0 kW/m^2 and the smoke development is lower than 750 %min, the quality **Protect Solution** meets the demands of **class D_{FL} s1** according to EN 13501-1.

Didier Van Daele
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