



Centre for Fire Research
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TNO report

2005-CVB-R0466(E)

**Examination according to NEN 6065 and NEN
6066 of VEKAPLAN K rigid PVC Kompakt sheet
material; thickness 4 mm.**

This is a translation of the Dutch report 2005-CVB-R0466

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This report was compiled in December 2005.
If it is to be consulted after a period of time, it is advised to contact
the Centre for Fire Research TNO to check whether the usefulness
of the contents has remained unaltered.

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Subject:

Vekaplan K PVC Kompakt sheet material, thickness 4 mm.

Examined on:

Contribution to fire propagation according to the Dutch standard NEN 6065 (1997) and the smoke production during fire according to the Dutch standard NEN 6066 (1997).

Contractor/ Manufacturer:

Veka AG, Technical-Department-Sheet
P.O. Box 1262
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Germany

Period of examination:

November 2005.

Period of issue and number of the report:

December 2005; **2005-CVB-R0466(E)** – Original language: Dutch.

Material

Composition:

Vekaplan K is a flat, rigid and pigmented homogeneous sheet material. According to the manufacturer the material has been produced of polyvinyl chloride (PVC) basic material with addition of pigments.

Surface densities (determined on the samples and according to info):

Surface densities vary from 5.8 (white) to 6.1 kg/m² (beige) at 4 mm nominal sheet thickness;
Density: 1380 to 1460 kg/m³ (info).

The sample

Sampling:

By the manufacturer a mix of white and beige coloured samples were submitted for examination.

Age:

No information received.

Date of su mittance of samples:

November 7, 2005.

Test method:

The determination of the contribution to fire propagation was carried out according to the Dutch standard NEN 6065 (1997), that of the smoke production during fire according to the Dutch standard NEN 6066 (1997).

The examination was proportionally divided over both submitted sample colours.

During the examination on the contribution to fire propagation the specimens were placed in front of a non-combustible backing with an air gap according to par. 5.2.5e of NEN 6065 and with the examination on the smoke production on the flat standard substrate according to par. 5.2.3b of NEN 6066.

Test results: Veka **Vekaplan K** PVC Kompakt sheet – white and beige, thickness 4 mm.

Contribution to fire propagation

A - Surface spread of flame according to NEN 6065:

Product colour	Test no.	Surface spread of flame during	
		the first 1½ minute	10 minutes
		mm	mm
White	1	60	120
	2	80	100
	3	70	110
Beige	4	60	100
	5	80	200
	6	60	120

The examined **Vekaplan K** PVC sheet samples belong to **surface spread of flame class 1**.

B - Contribution to flashover according to NEN 6065:

Product colour	Test no.	Supplied energy	Flash-over time
		Watt	Minutes
White	1	750	>30
	2	1500	>30
	3	1875	>20
Beige	4	750	>30
	5	1500	>30
	6	1875	>20

Resulting in:
 E15: > 1875 Watts;
 E5 :> 1875 Watts.

The examined **Vekaplan K** PVC sheet samples belong to **flashover class 1**.

Test results: Veka **Vekaplan K** PVC Kompakt sheet, thickness 4 mm.

Smoke production during fire according to NEN 6066:

Product colour	Test no.	Thermal irradiance	Maximum smoke density $D_{L,max}$		Time of $D_{L,max}$
			per test	determining	
			kW/m^2	m^{-1}	m^{-1}
White	1	20	2.1		19¼
Beige	2	30	5.4		19¼
White	3	40	7.0		12¼
White	4	50	7.5		10¼
Beige	5	50 determining	8.8	8.3	8¼
	6		8.3		9¼
	7		7.9		10¼

Assessment of the product:

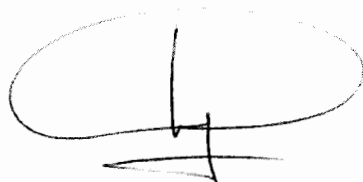
Based on the test results the examined rigid **Vekaplan K** PVC Kompakt sheet material in both colours white and beige, with a nominal thickness of 4 mm, nominal surface densities of 5.8 to 6.1 kg/m^2 and nominal densities of 1380 to 1460 kgm^3 , produced by Veka AG at Sendenhorst, Germany, is assessed as follows:

- Contribution to fire propagation according to NEN 6065 (1997): **Class 1;**

- Determining smoke density according to NEN 6066 (1997) : $\bar{D}_{L,h,max} = 8.3 m^{-1}$.

Remarks:

- 1 - During the examinations weakening and sagging out of the material was observed, which however **did not** lead to excessive burning dripping.
- 2 - To be able to position the specimens as long as possible during the flash-over examination, with respect to weakening and sagging out caused by the heating, they were placed behind a very open metal wire grid.
- 3 - The test results only relate to the behaviour of the material in the examined colours and produced with the applied unique recipe, which is secured by the manufacturer with the product code **Vekaplan K Kompaktplatte**.



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