Protokol o zkoušce nehořlavosti hrazení z plastů

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Efectis Nederland report

2007-Efectis-R0011[Rev.1] (E)

Determination of the reaction to fire according to the Dutch standard NEN 6065 and smoke production during fire according to the Dutch standard NEN 6066 of MSW PVC Buchtenprofiles (partition profiles) – overall thickness approx. 35 mm.

English translation of Dutch test report 2007-Efectis-R001 [Rev.1].

Date	March 2007
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Contractor	MSW-Kunststoffe GmbH Postfach 16 28 Im Schlatt 8 D-49393 LOHNE Germany

This report was issued in first in January and revised in March 2007. The revision insludes the addition of reaction to fire test results according to NEN 6065. It is advised after a longer period of use to inform at Efectis Nederland whether the contents has not been altered.

Project name	Reaction to fire and smoke production
Project number	2007213 / 101
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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 lead to the privatisation on the 1st of July of the activities of the TNO Centre for Fire Research via the establishment of the company Efectis Nederland BV.

Subject:
MSW PVC Buchtenprofiles (stable partition profiles) – approx.. 11.5 kg/m^2 – overall thickness approx. 35 mm.

Examined on:
Contribution to fire propagation according to the Dutch standard NEN 6065: 1997 and smoke production during fire according to the Dutch standard NEN 6066: 1997.

Contractor/manufacturer:
MSW-Kunststoffe GmbH
Postfach 16 28
Im Schlatt 8
D-49393 LOHNE
Germany

Period of examination:
December 2006 and February 2007.

Month of issue and number of the report:
March 2007; **2007-Efectis-R0011 [Rev.1] (E).**

Material
Composition:
The MSW Buchtenprofiles submitted for examination were double-walled profiles, used e.g. for the composition of partition panels in stables. According to the manufacturer's information the profiles are produced by extrusion with a mixture of PVC-U ingredients. The profiles consist of two outer layers with a thickness of 2 to 2.5 mm, which are connected by 8 cross ribs per profile, each with a thickness of approx. 2 mm and positioned on mutual distances of approx. 25 mm. At one side the profile edges are provided with a hollow, profiled groove with a depth of approx. 20 mm and at the other side, in the hollow groove fitting, bulging out contra profile of approx. 20 mm (tongue and groove connection) (see photo). Mass and overall profile thickness (*determined on submitted samples*): approx.. 11.5 kg/m^2 and approx.35 mm.

Sample:
Sampling:
Medio November 2006 and in the end of January 2007 bright grey coloured and for the product representative profile samples were submitted for examination by the contractor.

Age: No information received. At the start of examination: approx. 3 weeks.

Preparations:
Before examination the prepared specimens were conditioned for 3 weeks at 23 ± 2 °C and 50 ± 5 % R.H.

Test method and execution of the examination:
The examinations were carried out according to NEN 6065 and NEN 6066 on profile specimens provided with an integrated standard joint connection over the middle.

Test results of MSW PVC **Buchtenprofiles** - surface density approx. 11,5 kg/m^2 - overall thickness approx. 35 mm.

A - Contribution to fire propagation – Surface flame spread - NEN 6065 (1997).

Test	Surface spread of flame during	
	the first 1½ minute	10 minutes
	mm	mm
1	160	400
2	180	380
3	150	350
4	160	380
5	180	400
6	170	370

Observations during tests:
Besides the standard burning behaviour along the material no burning dripping or other special phenomina were observed.

The examined MSW PVC profile belongs to surface spread of flame class 2.

B - Smoke production during fire according to NEN 6066 (1997)

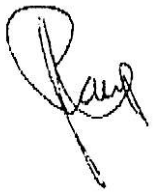
Test	Thermal irradiance	Maximum smoke density $D_{L,max}$		Time of $D_{L,max}$
		per test	determining	
	kW/m^2	m^{-1}	m^{-1}	min
1	20	2.3		20
2	30	4.2		12
3	40	4.6		17¾
4	**50 determining**	7.6	**7.9**	10¼
5		7.8		13½
6		8.3		9½

Assessment:
Based on the test results the examined MSW-Kunststoffe **rigid-PVC Buchtenprofile** (stable partition panel profile), with a surface density of approx. 11,5 kg/m^2 and an overall thickness of approx.. 35 mm, is assessed as follows:

A - <u>Surface spread of flame classification</u> according to NEN 6065 (1997) : Class 2 (*).

B - Determining smoke density according to NEN 6066 (1997): $\bar{D}_{L;h;max} = 7.9\ m^{-1}$.

(*) Remark:
For a formal NEN 6065-classification also the "Flash-over" testing part should be determined, to provide its specific classification. Due to the introduction of the new Dutch-European reaction tot fire and optical density test methods and the classification system according to EN 13501-1 in 2002, the flash-over testing part is not carried out anymore. Based on previous experience however with testing similar PVC products as the MSW profile that was tested and of which in general an equal or better classification was found than for the surface flame spread, it is justified to state that this product also belongs to flash-over class 2 and therewith also satisfies the Contribution to fire propagation class 2 according to NEN 6065: 1997.



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Dr. F. Paap

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