



**Instytut Techniki Budowlanej**  
 BUILDING RESEARCH INSTITUTE  
**GROUP OF TESTING LABORATORIES**  
 accredited by Polish Center for Accreditation  
 accreditation certificate  
 N° AB 023



Thermal Physics, Sanitary Systems and Environment Department  
 Thermal Physics, Sanitary Systems and Environment Laboratory

## TEST REPORT N°LFS00-1901/15/R17NF

**Client:** Profile Vox Spółka z o.o., Sp. k.  
**Client address:** UL. Gdynska 143, 62-004 Czerwonak koło Poznania, POLAND

### Information about test item

**Test item:** Construction products of chemical origin - Wall Panels FB 300 Kerradeco, with name, description, condition, identification PVC-UE foam bottom layer and hard PVC-U upper layer, coated with digital printing and lacquer. Products contains addition of flame retardants.

Two panels with dimensions 1500x 300 mm, tightly wrapped with plastics foil were delivered. Date of manufacture: 12.03.2015.

**Date of receipt:** 23.03.2015 r.  
**N° of receipt protocol** LFS00-1901/15/R17NF  
**Receipt procedure** Procedure № 18

### Information about tests:

**Test commencement date:** 27.03.2015  
**Test completion date:** 06.05.2015  
**Further information about tests:** For laboratory test sample of Wall Panels FB 300 Kerradeco, with dimensions 300x330 mm was cut (surface 0,1 m<sup>2</sup>).

### CHARACTERISTICS EXAMINED

Determination of emissions of volatile organic compounds from the product in laboratory chamber. Emission class of product, as tested with ISO 16000 and calculated for European Reference Room.

### TEST CONDITIONS

Laboratory chamber stainless steel cap. 0.1 m<sup>3</sup>,  
 Temperature - (23 ± 2) ° C,  
 Relative humidity (50 ± 5)%  
 Multiplicity of air exchange 0.05 m<sup>3</sup>h<sup>-1</sup>.  
 Product loading factor 1m<sup>2</sup>/m<sup>3</sup>

**THERMAL PHYSICS SANITARY SYSTEMS AND ENVIRONMENT**  
 Warsaw | ul. Fitrowa 1 | tel. +48 22 5976 272 | fax + 48 22 5796 486

00-611 Warsaw | Filtrowa 1 | tel.+4822 825 04 71 | fax +4822 825 52 86 | Director tel.+4822 825 28 85 | +4822 825 13 03 | fax +4822 825 77 30 |  
 02-656 Warsaw | Ksawerów 21 | tel.+4822 843 14 71 | fax +4822 843 29 31 | Regon: 000063650 | VAT: PL5250009358 | BPH S.A. |  
 Al. Jerozolimskie 27 | 00-508 Warsaw | IBAN: PL87106000760000321000166236 | SWIFT: BPHKPLPK | www.itb.pl | instytut@itb.pl

**TEST METHODS**

PN-EN ISO 16000-9:2009 Indoor air – Part 9: Determination of the emission of volatile organic compounds from building products and furnishing – Emission test chamber method

PB LS-002/5/12-2011 „Determination of solvents and unsaturated monomers vapours by gas chromatography with sample enrichment“

ISO 16000-6:2011 Indoor air – Part 6: Determination of volatile organic compounds in indoor air and test chamber air by active sampling on Tenax TA sorbent, thermal desorption and gas chromatography using MS or MS/FID

ISO 16000-3:2011 Indoor air. Part 3: Determination of formaldehyde and other carbonyl compounds in indoor air and test chamber air – Active sampling method.

**HARMONISED STANDARD**

PN-EN 13245-2:2009 Plastics - Unplasticized poly(vinyl chloride) (PVC-U) profiles for building applications - Part 2: PVC-U profiles and PVC-UE profiles for internal and external wall and ceiling finishes

**REQUIREMENTS**

<sup>A)</sup> Arrêté du 19 avril 2011 relatif à l'étiquetage des produits de construction ou de revêtement de mur ou de sol et des peintures et vernis sur leurs émissions de polluants volatils, Ministère de l'écologie, du développement durable, des transports et du logement. Journal officiel de la République Française, Texte 15 sur 192, 13 mai 2011

**TEST RESULTS**

Table 1. Emission of volatile organic compounds from FB 300 Kerradeco Wall Panels

Substances	CAS	Concentration in test chamber air ( $\mu\text{g}/\text{m}^3$ )		Limit value <sup>A)</sup> Class A+
		After 3 days	After 28 days	
Formaldehyde	50-00-0	9 ± 1	6 ± 1	< 10
Acetaldehyde	75-07-0	2 ± 1	2 ± 1	< 200
Toluene	108-88-3	<5	<5	< 300
Tetrachloroethylene	127-18-4	<5	<5	< 250
Ksylene	1330-20-7	20 ± 4	9 ± 1	< 200
1,2,4 -Trimethylbenzene	95-63-6	<5	<5	< 1000
1,4 -Dichlorobenzene	106-46-7	<5	<5	< 60
Ethylbenzene	100-41-4	6 ± 1	<5	< 750
2-Butoxyethanol	111-76-2	<5	<5	< 1000
Styrene	100-42-5	<5	<5	< 250
<b>Total organic volatile compounds (TVOC)<sup>1)</sup></b>	-	208 ± 38	110 ± 20	< 1000

The expanded uncertainty was calculated using a factor of  $k = 2$ , which corresponds to the level of confidence of approximately 95%

<sup>1)</sup> Volatile organic compounds detected in test chamber air:

1-methoxy-2-propanol (CAS 107-98-2),  
methyl methacrylate (CAS 80-62-6),  
butyl acetate (CAS 123-86-4),  
cyclohexanone (CAS 108-94-1),  
benzaldehyde (CAS 100-52-7),  
decamethylcyclopentasiloxane (CAS 541-02-6)  
decamethylcycloheptasiloxane (CAS 540-97-6).

**Result of the test: Product complies with class A+ requirements**

Responsible for the test

Halina Deptuła, Msc

Deptuła

Authorizing person

Halina Prejzner, PhD

Halina Prejzner

Warsaw, 13.05.2015

*Testing Laboratory declares that test results relate only to the object under test. Test Report should not be reproduced without a written permission of Testing Laboratory in any other form than as a whole.*

*Test Report is not substitute for documents required for placing on the market and making available of construction products*

ZASTĘPCA KIEROWNIKA  
Zakładu Fizyki Ciepłej,  
Instalacji Sanitarnych i Środowiska

dr inż. Michał Piasecki