

Attestation

On 16 June 2011 Eurofins Product Testing A/S received a sample of PVC floor covering with the name

Flex Design Forbo Flooring Systems

The floor covering sample has been selected by Forbo Flooring Systems as being representative.

The emissions were tested according to AgBB and the guidelines of the DIBt (AgBB - Committee for Health-related Evaluation of Building Products, DIBt - German Institute for Building Technology). Sampling, testing and evaluation were performed according to ISO 16000-3, ISO 16000-6, ISO 16000-9, ISO 16000-11, ISO 16017-1 in the latest versions, see the test report no. G09012.

Evaluation of the test result according to AgBB:

- Carcinogenic substances were not detectable after 3 and after 28 days.
- The sum of VOC ("TVOC") after 3 days was below the limit of 10 mg/m³.
- The sum of VOC after 28 days was 0.26 mg/m³ and below the limit of 1 mg/m³.
- The sum of SVOC after 28 day was below the limit of 0.1 mg/m³.
- After 28 days the value R was calculated from the detected VOC with single concentrations above 5 μg/m³. This value R was below the limit of 1.
- The sum of VOC without LCI-value after 28 days was below the limit of 0.1 mg/m³.

The tested product complies with the requirements of DIBt (October 2010) in combination with the NIK values from AgBB (May 2010) for use in the indoor environment.

17 November 2011

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Emission Test Certificate

Friday July 31st, 2009

Supplier: Forbo Flooring Systems (23 Ormsby Place, Wetherill Park NSW 2164)

Sample Description: Surestep PUR vinyl flooring

Date Tested: March 2006 (Tested by Eurofins Environmental A/S – ISO17025 Accredited)

Test Method: ASTM D5116 "Standard Guide for Small-Scale Environmental Chamber Determinations of Organic Emissions from Indoor Material/Products".

Emission Data:

Specification Green Building Council of Australia Green Star Office Design IEQ-13 Green Star Office Interiors IEQ-11	Surestep PUR	
Total Volatile Organic Compound emission rate <0.5 mg/m ² /hr (24 hours)	Total Volatile Organic Compound emission rate 0.3 mg/m²/hr (24 hours)	
4-Phenylcyclohexene emission rate <0.05 mg/m²/hr (24 hours)	4-Phenylcyclohexene emission rate <0.01 mg/m²/hr (24 hours)	

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Certificate of Compliance – VOC Emissions

Eternal Wood Resilient Sheet Flooring - Color - 12802 Forbo Flooring

Forbo Flooring selected a sample representative of its Eternal Wood Resilient Sheet Flooring - Color - 12802 product manufactured in Forbo - Coevorden and submitted it for testing on November 25, 2009. Berkeley Analytical measured and evaluated the emissions of volatile organic compounds (VOCs) from this sample according to California Department of Health Services (CDHS) Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers (CA/DHS/EHLB/R-174, 2004; also known as, chamber testing portion of CA Section 01350) and ASTM Standard Guide D 5116-06. Chemical sampling and analysis were performed following U.S. EPA Compendium Methods TO-1 and TO-17 and ASTM Standard Method D 5197-03.

Calculations were performed with the following standard classroom and office exposure parameters to project the concentrations of VOCs of concern resulting from the use of this product. The results of the test and the calculated concentrations for the classroom and office are presented in Berkeley Analytical laboratory report, 135-030-02A-Dec2809.

Exposure Scenarios

Standardized	Room Volume	Area Specific Air Flow	Flooring
Environment	(m³)	Rate (m/h)	Area (m²)
Classroom	231	2.10	89.2
Office	30.6	1.85	11.1

Summary of test results according to the CA DHS Standard Practice guidelines:

 Predicted concentrations of all VOCs of concern including formaldehyde were below the guideline concentrations.

Based on these results, the tested product sample meets the VOC emission requirements for use in classroom and office environments as defined in the CA DHS *Standard Practice*. Thus, the testing requirements are met to qualify the product as a low-emitting material in the Collaborative for High Performance Schools rating system (CHPS Designed & CHPS Verified). Also, the testing requirements are met for USGBC LEED v3 for Commercial Interiors, EQ Credit 4.3 Low-Emitting Flooring Systems under the optional pathway.

Certificate No.: 091228-04 Dated: December 28, 2009

Raja S. Tannous Laboratory Director Kelly Campbell
Ouality Manager