ENVIRONMENTAL PRODUCT DECLARATION

as per ISO 14025 and EN 15804

Owner of the Declaration	**James Halstead PLC**
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-JHP-2013111-E
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Valid to	31.03.2018

Expona ® Design - Resilient Vinyl Floor Covering

James Halstead PLC

Institut Bauen
und Umwelt e.V.

www.bau-umwelt.com / https://epd-online.com

1. General Information

James Halstead PLC

Programme holder
IBU - Institut Bauen und Umwelt e.V.
Rheinufer 108
D-53639 Königswinter

Declaration number
EPD-JHP-2013111-E

This Declaration is based on the Product Category Rules:
Floor coverings, Version 1.1: 29.10.2012
(PCR tested and approved by the independent expert committee)

Issue date
01.04.2013

Valid to
31.03.2018

Prof. Dr.-Ing. Horst J. Bossenmayer
(President of Institut Bauen und Umwelt e.V.)

Prof. Dr.-Ing. Hans-Wolf Reinhardt
(Chairman of SVA)

Expona ® Design - Resilient Vinyl Floor Covering

Owner of the Declaration
James Halstead PLC
Beechfield, Hollinhurst Road, Whitefield,
Manchester, M26 1JN, UK

Declared product / Declared unit
Expona ® DESIGN - Resilient Vinyl Floor Covering

Scope:
Expona ® DESIGN from James Halstead plc, Manchester, UK. The declaration refers to a floor covering of thickness 3.0mm with a 0.7mm transparent wear layer. The products are manufactured in Guangdong Province, PR China. The product is distributed by Objectflor Art und Design Belags GmbH, Your Flooring Partner. The owner of the declaration shall be liable for the underlying information and evidence.

Verification

The CEN Norm EN 15804 serves as the core PCR
Independent verification of the declaration and data according to ISO 14025
☐ internally ☒ externally

Prof. Dr. Birgit Grahl
(Independent tester appointed by SVA)

2. Product

2.1 Product description

Expona ® DESIGN Luxury Vinyl Tiles from James Halstead PLC are highly decorative resilient vinyl floor coverings of 3.0mm total thickness with a 0.7mm clear wear layer. Expona ® DESIGN is manufactured strictly in accordance with EN ISO 10582. The uppermost surface is treated with a reinforced PUR surface coating offering enhanced resistance to dirt pick up and staining. The uppermost surface also encompasses emboss impressions to give the product a natural wood, stone or design impression along with slip performance class DS to EN 13893 and R10 to DIN 51130. The resilience and life time of the product is imparted with the 0.7mm clear wear layer which meets Type 1>80% for binder content according to EN ISO 10582:2012 with over 97% binder. The decorative design is achieved through the use of a 0.07mm printed vinyl film comprising wood, design and stone images with high definition realistic impressions.
The products performance with regards to resistance to dimensional stability changes and residual indentation is imparted with the use of specially engineered and formulated high density core and backing layers.

2.2 Application

Expona ® DESIGN features a highly resilient 0.7mm clear wear layer and is a floor covering for extremely heavy traffic areas in domestic, commercial and industrial applications.
High performance resilient floor covering for commercial and professional use e.g. in Retail Shops and Stores, Schools, Healthcare, Office and Administration areas.
Expona ® Design is use classified as 23, 34, 43 according to EN ISO 10874:2012 (EN 685)

2.3 Technical Data

Excerpt of technical data sheets widely available at www.Objectflor.de or www.Polyflor.com

Constructional data

Name	Value	Unit
Product thickness EN ISO 24346	3	mm
Surface weight EN ISO 23997	5.1	kg/m^2
Abrasion Class EN ISO 10582	Type 1: 97%	
Product Form Tiles & planks	Tiles up to 610x610 mm Planks up to 203x1219mm	

2.4 Placing on the market / Application rules

Product Standards:
EN ISO 10582:2012 (EN 649) – Resilient Floorcoverings – Heterogeneous vinyl floorcoverings Specification.
EN ISO 10874:2012 (EN 685) – Resilient, Laminate and Textile Floorcoverings Classification.
EN 13501-1:2002 – Fire Classification of construction products and building elements.
EN 14041:2004 – Resilient, Textile and Laminate Floorcoverings - Essential characteristics
James Halstead plc ® floor coverings comply with European technical approval standards (CE Conformity and marking) and respective national approval standards for building products, eg the general technical approval of the German Institute for Building Technology (DIBt) and the French Regulation.

2.5 Delivery status

Delivery of tiles up to 610x610mm and planks 203x1219mm in cardboard packages of average 3.34m^2.

2.6 Base materials / Ancillary materials

The product has the following composition:

Ingredient	Expona Design [%]
PVC	35.1
Filler	52.8
Plasticiser	10.4
Stabiliser	1.0
Pigment	0.2
Additive	0.4
Polyurethane coating	0.1

The floor coverings contains 14% of internally recycled production waste.
Vinyl – suspension PVC resin sourced locally to the factory. Vinyl offers flooring its resilient properties of hard wearing performance in use and coupled with aesthetics of design. Finally the vinyl thermoplastic means the product is 100% recyclable.
Filler – calcium carbonate powder filler sourced locally to the factory to impart strength, impact resilience and dimensional stability properties to the product. Calcium carbonate is a widely abundantly available natural mineral.
Plasticiser - Plasticisers are used to give the product flexibility.
Pigment (Colouring) – the product is offered its decorative layers with thin vinyl print films under the resilient wear layer. The films are printed using a wide variety of standard issue printing colours.
Additives – to aid processing a rosin ester is added to the core and backing layers.
Poyurethane coating- a UV cross linked and reinforced polyurethane coating is added to the surface of the product
According to the latest revision of Article 59, the Regulation (EC) No 1907/2006 on the Registration, Evaluation, Authorisation and restriction of Chemicals (REACH). "the REACh list", of substances of very high concern' (SVHC) the product is not manufactured with or contains any of these substances above a concentration of 0.1% by weight.

2.7 Manufacture

All the layers are laminated together through a process of time, high pressure and high temperature inside a pressing machine, either continuous or discontinuous, to form a heterogeneous sheet. At the same time the corresponding realistic emboss feel effect is applied. After cooling and conditioning re-inforced PUR coating is applied to the surface and the master sheets annealed to relax out. These sheets are then cut in a controlled environment into the respective plank and tile sizes with a supplementary bevelled edge being added to some designs. Finally the floor coverings are packaged (see chapter 2.10). All left overs which arise during production (trimming, cutting, defect product and bevelled leftovers) are without exception placed back into the calendering process to make new flooring, in a closed loop, internal recycling system.
ISO 9001:2008 - Certificate FM 95826 Notified body BSi
ISO 14001:2004 – Certificate EMS 95827 Notified body BSi

2.8 Environment and health during manufacturing

Since 2000, the environmental management system is certified to ISO 14001 - Environmental management systems (/DIN EN ISO 14001/).
Air: the exhaust air resulting from production processes is cleaned according to local legal requirements. Emissions are significantly below the permitted tolerances.
Water/Soil: Contamination of water and soil does not occur. Effluent resulting from production processes is processed internally and routed back to production. The quality of water is audited on a regular basis.
Noise protection: noise intensive systems such as granulation are structurally enclosed and controlled.

2.9 Product processing/Installation

The relevant installation instructions can be found on the Objectflor website. The appropriate tools for installing vinyl resilient flooring should be used such as a rule, craft knife, measure. Care should be taken when using sharp tools.
The installation of the floor covering is based on the technical regulations of DIN 18365.
When installing resilient floorings often acrylic and/or polyurethane adhesive systems are utilised. Care should be taken to read fully and understand the precautions that should be adhered. Observe all liability insurance association regulations for commercial processing operations where appropriate.
Waste vinyl material accumulated on site (off cuts) shall be collected and separated into waste types. Vinyl can be recycled using the AgPR recycling facility. Any other disposal methods such as landfill and incineration should comply with local waste disposal authority instructions. Where possible though vinyl products should always be recycled.

2.10 Packaging

Expona ® Design is packed in cardboard packages. Packaging material and transportation aids such as wooden pallets, cardboard, paperboard PET strapping and recyclable PE film should be collected separately for later recycling.

2.11 Condition of use

The product is a vinyl resilient floor. It is inert in its supplied state.

2.12 Environment and health during use

According to the current state of knowledge, hazards to water, air and soil cannot occur during the proper use of the described products.

No damage to health or impairment is expected under normal use corresponding to the intended use of resilient flooring. Indoor Air Quality VOC emissions are independently monitored at least three times annually for performance. Expona Design complies with the requirements of:
1. The DIBt/AgBB (2012) scheme
2. The requirements of the standard method for the testing and evaluation of volatile organic chemical emissions from indoor sources using environmental chambers (version 1.1) as defined by the California Department of Public Health (CDPH) – version of February 2010.(CA01350 FloorScore)
3. Eurofins v3.1 (2011) Indoor Air Comfort Gold standards.
4. According to the French evaluation method, the product achieves - Class A+ - L'etiquetage sanitaire des produits de construction. Decret no 2011-321 du mars 2011 relatif a l'etiquetage des produits de construction ou de revetement de mur ou de sol et des peintures et vermis sur leurs emissions de pollutants volatis.

2.13 Reference service life

The reference service life of 20 years used as a RSL for the purpose of this EPD constitutes the minimum service life.
The service life of resilient floor coverings depends on the correct installation taking into account the declared use classification and the adherence of the producers cleaning instructions.

2.14 Extraordinary effects

Fire

Flammability rating Bfl according to EN 13501-1:2002 (Exova Warrington Fire, Notified Bodt 0833, April 2011, test report 306937).

Fire protection

Name	Value
Building material class EN 13501-1:2002	Bfl s1

Water

It is clear that water on the surface could present potentially a slip hazard. Water spillages should be cleared immediately. For areas where water and contaminants are frequent an EN 13845 safety flooring is advised.

Mechanical destruction

Abrasion and impact loading classification see product definition in this EPD. The dragging of heavy objects across the floor can cause damage and breaking of edges (risk of injury).

2.15 Re-use phase

Dry adhesives systems are available, where the installation is temporary, to allow for ease of removal of vinyl tiles for reuse of recycling. The adhesive manufacturer's instructions should be followed.
If it has been sorted correctly vinyl tiles can be recycled and put back into new flooring.

2.16 Disposal

Vinyl Flooring: leftovers which arise from construction site as well as those from deconstruction measures should be primarily routed to a material utilisation stream such as AgPR.
The producer of flooring as waste is obliged to assign the respective waste code number according to the European waste catalogue. The number depends on its specific application in the use stage.

2.17 Further information

Certified by the CSTB to the quality accreditation NF UPEC system for France. The classification is U4 P3 E2 C2.
The approval number is: No 728/348-001.1. See the CSTB website for copies of certificates www.cstb.fr
The product is also classed A+ for use in major use such as Healthcare and Education areas according to the BRE EAM Life Cycle Analysis (LCA) - Certificate ENP 429 and ENP 437. See the Green Guide to Specification live database at www.greenbooklive.co.uk
The product is certified by Eco-Specifier Global as Green Rate Level A - Silver PLUS according to the Green Tag Plus environmental accreditation system in Australia. See website for more details www.globalgreentag.com.

3. LCA: Calculation rules

3.1 Declared Unit

Name	Value	Unit
Declared unit installed	1	m^2
Conversion factor to 1 kg	1/5.1	-

3.2 System boundary

Type of EPD: cradle to grave.
Modules A1-A3 include processes that provide materials and energy input for the system, manufacturing and transport processes up to the factory gate, as well as waste processing.
Module A4 includes transport of the floor covering to the place of installation.
Module A5 includes the production of adhesive for the installation of the floor covering, and incineration of off-cuts and packaging material.
Module B2 is including provision of cleaning agent, energy and water consumption for the cleaning of the floor covering incl. waste water treatment. The LCA results in this EPD are declared for a one year usage.
Module C1 considers electricity supply for the de-construction of the flooring.
Module C2 includes transportation of the post-consumer waste to waste processing.
Modules C3: end of life scenarios are declared for:
- 100% incineration in a waste incineration plant (WIP)
- 100% landfilling
- 100% recycling according to information from AgPR, (Arbeitsgemeinschaft PVC-Bodenbelag Recycling)

Module D includes benefits from all net flows given in module A5 and C3 that leave the product boundary system after having passed the end-of-waste state in the form of recovery and/or recycling potentials.
Module D is declared for each scenario separately.

3.3 Estimates and assumptions

End of life is declared for three different scenarios (see chapter 3.2.). For the assessed floor coverings it is assumed that no significant degradation of materials occurs during landfilling; no significant emissions are considered for more than 100 years.
The methodological approach of recycling materials in this study does consider processing required to prepare the material (electricity for grinding) in module

A1-A3. In the end of life scenario "100% recycling" the material for recycling leaves the system without environmental burden and without crediting any value.

3.4 Cut-off criteria

In the assessment, all available data from production are considered, i.e. raw materials used, utilised thermal energy, and electric power consumption. Thus material and energy flows contributing less than 1% of mass or energy are considered. It can be assumed that the total sum of neglected processes does not exceed 5% of energy usage and mass. The manufacturer provided data on the transport expenditure for all relevant material flows. Machines and facilities required during production are neglected.

3.5 Background data

For life cycle modelling of the considered products, the GaBi Software System for Life Cycle Engineering, developed by PE INTERNATIONAL AG, has been used to model the product systems considered in this assessment. All relevant background datasets are taken from the GaBi 6 software database. The datasets from the GaBi database are documented in the online documentation. To ensure comparability of results in the LCA, the basic data of GaBi database were used for energy, transportation and auxiliary materials.

3.6 Data quality

The data quality can be described as good. The primary data collection has been done thoroughly, all relevant flows are considered. Technological, geographical and temporal representativeness is given.

3.7 Period under review

The period under review is the year 2010.

3.8 Allocation

In most cases the assessed production sites use the same assembly line to produce different product types. The allocation of material and energy to produce the declared product was determined by the participants during the data collection process. The products considered in this study and the respective EPD are considered to be homogenous and qualitatively comparable over time. Allocation is applied where renewable materials are used as input substances. Specific information is given in the GaBi datasets documentation.

3.9 Comparability

Basically, a comparison or an evaluation of EPD data is only possible if all the data sets to be compared were created according to EN 15804 and the building context, respectively the product-specific characteristics of performance, are taken into account.

4. LCA: Scenarios and additional technical information

The following technical information is a basis for the declared modules.

Transport to the construction site (A4)

Name	Value	Unit
Litres of fuel per m² (truck)	0.0084	l/100km
Litres of fuel per m² (ship)	0.0021	l/100km
Transport distance (truck)	2000	km
Transport distance (ship)	21000	km
Capacity utilisation (including empty runs)	85	%

The scenario for the transport to the point of installation considers a transport to the European market by ship and distribution in Europe by truck.

Installation in the building (A5)

Name	Value	Unit
Auxiliary	0.3	kg
Material loss [unit: %]	4.5	%

Maintenance (B2)

Name	Value	Unit
Maintenance cycle [per year]	156	Number/a
Water consumption	0.003	m^3
Auxiliary	0.04	kg
Electricity consumption	0.55	kWh

End of Life (C1-C4)

Name	Value	Unit
Incineration	5.1	kg
Recycling	5.1	kg
Landfilling	5.1	kg

Reuse, recovery and/or recycling potentials (D), relevant scenario information

For module D the credits given in module A5 and C3 are declared.

For waste incineration combustion in a WIP (R1 < 0.6) with energy recuperation is considered.

5. LCA: Results

The results for module B2 refer to a period of one year.
For the calculation of the impact of B2 for a certain service life the values for B2 have to be multiplied by the estimated service life in years.

DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; MND = MODULE NOT DECLARED)

PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARYS
Raw material supply	Transport	Manufacturing	Transport	Construction-installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X			X	X	MND	X	MND	MND	MND	MND	MND	X	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT: 1m² installed

Parameter	Unit	A1 - A3	A4	A5	B2	C1	C2	C3/I[1]	C3/L[2]	C3/R[3]	C4/I	C4/L	C4/R	D/I	D/L	D/R
GWP	[kg CO_2-Äq.]	8,0E+00	2,2E+00	9,4E-01	4,3E-01	1,4E-02	4,9E-02	9,2E+00	0	0	0	3,8E-01	0	-2,4E+00	-1,9E-01	-1,9E-01
ODP	[kg CFC11-Äq.]	1,0E-08	2,2E-11	3,3E-10	2,6E-10	1,3E-11	8,6E-13	1,3E-09	0	0	0	1,9E-10	0	-8,9E-10	-7,13E-11	-7,1E-11
AP	[kg SO_2-Äq.]	2,5E-02	5,2E-02	1,3E-03	1,6E-03	6,8E-05	2,2E-04	9,5E-03	0	0	0	1,1E-03	0	-5,7E-03	-4,6E-04	-4,6E-04
EP	[kg PO_4^{3-}-Äq.]	2,9E-03	5,6E-03	1,7E-04	1,3E-04	3,6E-06	5,1E-05	5,7E-04	0	0	0	1,4E-03	0	-3,8E-04	-3,1E-05	-3,1E-05
POCP	[kg Ethen Äq.]	4,9E-03	2,2E-03	1,8E-04	1,7E-04	4,0E-06	-7,3E-05	9,7E-04	0	0	0	1,7E-04	0	-4,7E-04	-3,81E-05	-3,8E-05
ADPE	[kg Sb Äq.]	1,8E-05	6,1E-08	2,9E-07	2,0E-07	2,0E-09	1,8E-09	2,5E-06	0	0	0	7,2E-08	0	-1,9E-07	-1,5E-08	-1,5E-08
ADPF	[MJ]	1,8E+02	2,7E+01	1,2E+01	8,3E+00	2,5E-01	6,8E-01	4,2E+01	0	0	0	5,7E+00	0	-4,0E+01	-3,3E+00	-3,3E+00

Caption: GWP = Global warming potential; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential of land and water; EP = Eutrophication potential; POCP = Formation potential of tropospheric ozone photochemical oxidants; ADPE = Abiotic depletion potential for non fossil resources; ADPF = Abiotic depletion potential for fossil resources

RESULTS OF THE LCA - RESOURCE USE: 1m² installed

Parameter	Unit	A1 - A3	A4	A5	B2	C1	C2	C3/I	C3/L	C3/R	C4/I	C4/L	C4/R	D/I	D/L	D/R
PERE	[MJ]	8,8E+00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PERM	[MJ]	3,1E-02	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PERT	[MJ]	8,8E+00	3,2E-01	1,7E+00	8,3E-01	4,2E-02	2,7E-02	2,0E+00	0	0	0	2,6E-01	0	-2,9E+00	-2,3E-01	-2,3E-01
PENRE	[MJ]	1,1E+02	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PENRM	[MJ]	6,7E+01	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PENRT	[MJ]	1,8E+02	2,7E+01	1,2E+01	8,3E+00	2,5E-01	6,8E-01	4,2E+01	0	0	0	5,7E+00	0	-4,0E+01	-3,3E+00	-3,3E+00
SM	[kg]	8,6E-01	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RSF	[MJ]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NRSF	[MJ]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FW	[kg]	6,3E+01	7,5E-01	3,2E+00	3,2E+00	1,1E-01	3,0E-02	2,6E+01	0	0	0	-3,0E+00	0	-8,1E+00	-6,5E-01	-6,5E-01

Caption: PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non renewable primary energy excluding non renewable primary energy resources used as raw materials; PENRM = Use of non renewable primary energy resources used as raw materials; PENRT = Total use of non renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Use of net fresh water

RESULTS OF THE LCA – OUTPUT FLOWS AND WASTE CATEGORIES: 1m² installed

Parameter	Unit	A1 - A3	A4	A5	B2	C1	C2	C3/I	C3/L	C3/R	C4/I	C4/L	C4/R	D/I	D/L	D/R
HWD	[kg]	6,3E-03	0	7,4E-04	1,9E-03	0	0	2,6E-03	0	0	0	1,5E-03	0	0	0	0
NHWD	[kg]	3,8E-01	1,0E-03	1,8E-01	5,8E-03	1,1E-04	8,8E-05	3,8E+00	0	0	0	5,2E+00	0	-1,0E-02	-8,4E-04	-8,4E-04
RWD	[kg]	3,5E-03	3,7E-05	2,2E-04	7,3E-04	3,7E-05	9,5E-07	1,2E-03	0	0	0	1,0E-04	0	-2,6E-03	-2,0E-04	-2,0E-04
CRU	[kg]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MFR	[kg]	-	-	-	-	-	-	-	-	-	-	-	-	8,8E-01	8,8E-01	6,1E+00
MER	[kg]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EEE	[MJ]	-	-	-	-	-	-	-	-	-	-	-	-	7,1E+00	5,7E-01	5,7E-01
EET	[MJ]	-	-	-	-	-	-	-	-	-	-	-	-	2,1E+01	1,7E+00	1,7E+00

Caption: HWD = Hazardous waste disposed; NHWD = Non hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy

Not all of the life cycle inventories applied in this study support the methodological approach for the waste and water indicators. The data are based on publications of industry. The indicators for waste and water of the system are evaluated, but contain a higher degree of uncertainty.

[1] Scenario "I" = 100% Incineration'
[2] Scenario "L" = 100% Landfilling
[3] Scenario "R" = 100% Recycling
The evaluation of best EoL-scenario requires the consideration of further aspects like avoidance of combustion of fossil fuels when incinerated and demand for landfilling when recycled.

6. LCA: Interpretation

For GWP the raw material extraction and processing (A1) is the main contributor in the product stage (A1-A3). Thermal and electrical energy consumed for the manufacturing of the flooring contributes about 20% of the impact in the aggregated module (A1-A3). For the end of life scenario "100% incineration" the emissions of the combustion process has a significant influence on the GWP for the products. Credit is given for incineration in D for energy substitution in the incineration process. AP and EP in the product stage are determined by the extraction and processing of the raw materials (A1) and the energy generation (A3). The AP impact in A4 is due to the considered transport scenario via ship form China to Europe and distribution in Europe per truck. The main contributor for POCP in the product stage is raw material extraction and processing (A1). POCP is mainly influenced by the upstream process for the PVC production (> 60%). Transportation to the point of installation is also relevant for POCP. For all impact categories the transport processes in A2 and C2, installation (A5) and demolition (C2) have a negligible influence.

7. Requisite evidence

Indoor Air Quality - VOC Accreditation
DIBt: Z.156.603-499 - external audits and surveillance monitoring by Eurofins Product Testing A/S, Galten, Denmark

Test Report: Determination of the VOC emissions from Expona Design according to the AgBB (German operation working committee) method (inspection report number G12554) from 02/03/2012.

Method: Testing in a 0.25m3 chamber on the basis of the AgBB Method ISO 16000 series.

Result: According to the AgBB evaluation method, the tested product complies with the requirements of the DIBt (October 2010) for use in the indoor environment.

2011-IACG-019 - Eurofins Indoor Air Comfort Gold v3.1(2011) – Compliance and external surveillance of VOC by Eurofins Product Testing A/S, Galten, Denmark. For updated copies of certification please ask Objectflor or see www.eurofins.com/iac-certified.aspx.

Testing Institute: Eurofins DK, Galten, Denmark

Test Report: Determination of the VOC emissions from Expona Design according to the AgBB (2012) method and Indoor Air Comfort v3.1 (2011)

Result: According to the evaluation methods the product complies with the requirements of Indoor Air Comfort GOLD for use in the indoor environment.

French VOC Regulation

Test Report: Determination of the VOC emissions from Expona Design according to the French Regulation (Decret No 2011-321 du mars 2011) method (inspection report number G12554) from 02/03/2012.

Method: Testing in a 0.25m3 chamber on the basis ISO 16000 series series.

Result: According to the French evaluation method, the tested product complies achieves- Class A+ - L'etiquetage sanitaire des produits de construction. Decret no 2011-321 du mars 2011 relatif a l'etiquetage des produits de construction ou de revetement de mur ou de sol et des peintures et vermis sur leurs emissions de pollutants volatis.

SCS FloorScore - Indoor Air Quality Certified to SCS-EC-10.2-2007. Conforms to California Specification 01350 (standard method v1.1) for the school classroom and private office parameters; also in compliance with 9µg/m3 formaldehyde CREL for all parameters. Registration SCS-FS-02385. For current live certification please see www.scscertified.com/products or ask Objectflor.

8. References

Institut Bauen und Umwelt 2011
Institut Bauen und Umwelt e.V., Königswinter (pub.): Generation of Environmental Product Declarations (EPDs)

General principles
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