ENVIRONMENTAL PRODUCT DECLARATION

as per ISO 14025 and EN 15804

Owner of the Declaration	Amorim Revestimentos S.A.
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-AMO-20150058-IAA2-EN
ECO EPD Ref. No.	ECO-00000396
Issue date	12/08/2016
Valid to	11/08/2021

Decor Vinyl Cork Flooring Floating

Amorim Revestimentos S. A.

Institut Bauen und Umwelt e.V.

www.ibu-epd.com / https://epd-online.com

ECO PLATFORM EPD EN 15804 VERIFIED

1. General Information

Amorim Revestimentos S. A.	Decor Vinyl Cork Flooring Floating
Programme holder IBU - Institut Bauen und Umwelt e.V. Panoramastr. 1 10178 Berlin Germany	**Owner of the Declaration** Amorim Revestimentos, S.A. Rua do Ribeirinho, nº 202 Apartado 13 4536 - 907 S. Paio Oleiros Portugal
Declaration number EPD-AMO-20150058-IAA2-EN	**Declared product / Declared unit** 1 m² of Decor Vinyl Cork Flooring Floating
This Declaration is based on the Product Category Rules: Floor coverings, 07.2016 (PCR tested and approved by the SVR)	**Scope:** The data on which the Life Cycle Assessment is based is from the production process of Decor Vinyl Cork Flooring Floating taking place in both industrial units of Amorim Revestimentos (Oleiros and Lourosa). The owner of the declaration shall be liable for the underlying information and evidence; the IBU shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.
Issue date 12/08/2016	
Valid to 11/08/2021	**Verification** The CEN Norm /EN 15804/ serves as the core PCR Independent verification of the declaration according to /ISO 14025/ ☐ internally ☒ externally
Prof. Dr.-Ing. Horst J. Bossenmayer (President of Institut Bauen und Umwelt e.V.)	
Dr. Burkhart Lehmann (Managing Director IBU)	Patricia Wolf (Independent verifier appointed by SVR)

2. Product

2.1 Product description

Decor Vinyl Cork Flooring Floating consists of a multilayer structure that takes advantage of the exclusive properties of cork. A natural material with good insulation and shock absorption features, cork provides superior comfort, noise reduction, thermal insulation and resistance. Decor Vinyl Cork Flooring Floating is the combination of this raw material with trendy decor.

2.2 Application

Decor Vinyl Cork Flooring Floating fit the most demanding needs for domestic areas. This flooring product meets the requirements of the usage class 33 for commercial use and 23 for domestic use according to /ISO 10874/ standard.

2.3 Technical Data

Relevant technical construction data for the product is referred in the following table:

Constructional data

Name	Value	Unit
Nominal thickness for cork surfaces /ISO 24342/	2,7	mm
Straightness measured at the surface layer /ISO 24342/	≤ 0,30	mm
Squareness /ISO 24342/	≤ 0,20	mm
Total mass per unit area average /ISO 23997/	Nominal value (9210) - 10 % + 13%	g/m²
Dimensional stability (humidity) /EN14085/ Annex C	≤ 0,25	%
Openings between panels /EN 14085/ (Annex B)	≤ 0,20	mm
Height difference between panels /EN 14085/ (Annex B)	≤ 0,15	mm
Flatness of the panel (Length - Concave / Convex) /EN 14085/ (Annex A)	≤ 0,50 / ≤ 1,0	%
Flatness of the panel (Width - Concave / Convex) /EN 14085/ (Annex A)	≤ 0,10 / ≤ 0,15	%
Residual indentation /ISO 24343-1/	≤ 0,10	mm

Colour fastness /ISO 105-B02/ Method	≥ 6	Blue wool scale
Thickness swelling /ISO 24336/	≤15	%
Effect of castor chair /ISO 4918/	No disturbance to the surface other than slight change in appearance and no delamination shall occur	Visual effect
Effect of a furniture leg /ISO 16581/	No damage shall be visible when tested with foot type 0	Visual effect
Thermal resistance /EN 12667/	≤ 0,11	(m²K)/W

2.4 Application rules

The standards and general technical approval regarding Decor Vinyl Cork Flooring Floating are the following:
- ISO 10582:2010 - Resilient floor coverings -- Heterogeneous poly(vinyl chloride) floor coverings – Specification.
- EN 14085:2010 - Resilient floor coverings. Specification for floor panels for loose laying.
- EN 14041:2004 - Resilient, textile and laminate floor coverings – Essential characteristics.

2.5 Delivery status

The dimensions of rectangular panels of Decor Vinyl Cork Flooring Floating are declared in the following table.

Dimensions of panels (ISO 24342)	Specification
Dimensions	1220 x 185 x 10,5mm (wood visuals) 905 x 295 x 10,5mm (stone visuals)

The constituting layers of Decor Vinyl Cork Flooring Floating are showed in the following table.

Name	Value	Unit
PVC film with varnish	0,5	mm
PVC printed film	0,07	mm
Agglomerate cork layer	2,70	mm
HDF	6,00	mm
Backing cork layer	1,30	mm

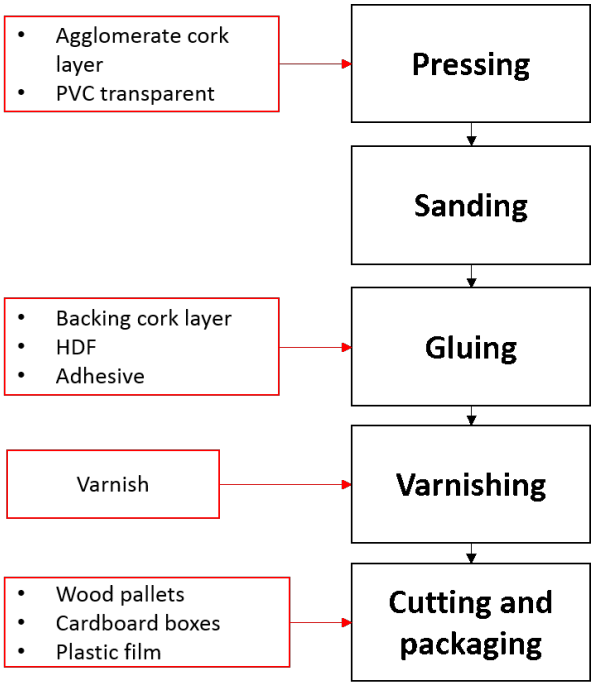
2.6 Base materials / Ancillary materials

The primary product components and materials of the product are indicated as a percentage mass in the following table.

Name	Value	Unit
Varnish	0,2	%
PVC	7,7	%
PVC Printed Film	1,2	%
Agglomerate cork layer	21,0	%
HDF	62,4	%
Adhesive	3,6	%
Backing cork layer	3,7	%

2.7 Manufacture

General flow production of Decor Vinyl Cork Flooring Floating is represented in the following graphic.



The production process of Decor Vinyl on Cork Flooring Floating begins with the manufacturing of agglomerate pressed cork and backing layer. Following this process, the printed layer and the PVC are assembled to the agglomerate cork layer. After this, the backing cork layer and the cork agglomerate layer are glued to the HDF using an adhesive. The top layer is coated with a protective varnish, creating a hard wearing surface. The next stage consists in pre-cutting and cutting, in order to shape the planks. The last stage is packaging. The planks are laid in cardboard boxes, wrapped in plastic film and placed on wooden pallets, secured by plastic straps. Finally, the product is ready to go to a distribution platform.

2.8 Environment and health during manufacturing

During the production process the environmental and health aspects are considered.
Air: The emission of particles and pollutants are collected in filter systems and the levels are below the permissible limits.
Water: The product requires a low water consumption that is totally treated in an Industrial Waste Water Treatment Plant (IWWTP).
Noise: Noise resulting from operation during the production process is below the permissible limits.

2.9 Product processing/Installation

The subfloor must be even, flat, dry and variations should not exceed 3 mm in 2 m (0.12" in 6.6 feet).
All types of concrete, wooden and ceramic surfaces must be completely dry.
Never install Amorim Revestimentos floating floors with Corkloc® without using a PE moisture barrier film with a minimum thickness of 20 cm (8").
More information on installing the flooring product can be found on the manufacturer's website.

2.10 Packaging

Resilient floor coverings are delivered in packages designed to protect the corners, edges and surfaces of the product, under normal conditions of transport and handling (compliant with /EN 13329/).
Product planks are laid in cardboard boxes, wrapped in packaging film and placed on wooden pallets, secured by plastic straps.
These packaging materials can be collected separately and recycled.
Pallets can either be re-used (Euro pallets) or recycled as wood.

2.11 Condition of use

Decor Vinyl Cork Flooring Floating products have in their composition a significant amount of natural renewable raw materials, meaning that they have stored about 12,43 kg CO_2/m² of product resulting from photosynthesis.

2.12 Environment and health during use

The following table indicates the information about safety properties.

Safety properties - EN 14041	Standard- Test Method	Unit	Specification
Fire resistance	EN 13501-1	Class	Bfl s1
Slip Resistance	EN 13893	Class	DS
Formaldehyde emission	EN 717-1	Class	E1
Content pentachlorophenol (PCP)	EN 14041 Annex B	%	PCP Free

2.13 Reference service life

The expected service life of the product was determined based on empirical experience of the manufacturer, considering the different use classes, according to /ISO 10874/. The following table indicates the expected service life for domestic, commercial and industrial uses.

Application area	Class	Expected service life
Domestic	23	25 years
Commercial	33	15 years

2.14 Extraordinary effects

Fire

Fire performance according to EN 13501 – 1 (building products) of Cork Flooring Floating Waterproof is Bfl s1.

Fire protection

Name	Value
Building material class	-
Smoke gas development	-
Burning droplets	-

Water

There are no environmental impacts on water identified in the use stage of the product since the product is mainly composed by natural materials that are not hazardous to water masses.

Mechanical destruction

There are no potential harm to health and environment known resulting from mechanical destruction of the product.

2.15 Re-use phase

The product is mainly composed by cork, wood and PVC. Wood and cork can also be suitable for composting. PVC can be shredded, granulated or powdered and then re-melted to make a secondary input material. Waste from the product can be reused in the process as replacement of some of the raw materials. This type of flooring can also be reused, although its service life is expected to be less than the original warranty from the manufacturer. This type of flooring can also be reused, although its service life is expected to be less than the original warranty from the manufacturer. Regarding energy recovery, wood and cork can be incinerated in order to produce thermal energy or electricity.

2.16 Disposal

According to /European Waste Catalogue/ the used floor covering can be classified in the main category "17 Construction and Demolition Waste (including road construction)".
Considering the specific constitution of this floor covering, and assuming that the layers cannot be separated at the end of life, the waste code applied is the following:
17 09 04 Mixed construction and demolition waste other than those mentioned in 17 09 01, 17 09 02 and 17 09 03
These types of waste materials can be recovered according to the European Waste Framework Directive.

2.17 Further information

Other information can be found in the website of the different brands of the manufacturer Amorim Revestimentos:
http://www.wicanders.com/
http://www.cortex.de/
http://www.corklife.de/

3. LCA: Calculation rules

3.1 Declared Unit

The declared unit is 1 m² of floor covering with the following characteristics:

Declared unit

Name	Value	Unit

Declared unit	1	m^2
Conversion factor to 1 kg	1,25E-01	-

3.2 System boundary
Type of the EPD: cradle to gate. This EPD includes the stage A1-A3 - Production Stage: Includes the production phase of all the products and chemicals used in the product, carbon sequestration of the raw material (cork), the transport of these materials from the suppliers to the industrial unit of Amorim Revestimentos and the production stage of Decor Vinyl Cork Flooring Floating.

3.3 Estimates and assumptions
CO_2 intake due to photosynthesis associated to cork and wood was considered, according to /EN 16449/. Information on components and average weight percentage of adhesives was obtained from their technical data sheets.

3.4 Cut-off criteria
All available data associated directly to the manufacture of the product was included in the LCA, with the exception of infrastructure and buildings. Hence, the study complies with the cut-off criteria of 1% of renewable and non-renewable primary energy usage and 1% of the total mass of that unit process.

3.5 Background data
Specific data was used based on average production of 2014. For processes which the producer has no influence or specific information, like the extraction of raw materials, generic data from the following main sources were considered:
- /Ecoinvent 2.0/
- /Ecoinvent 3.0/
- /PRé Consultants/

3.6 Data quality
Specific data refer to the production of 2014. The data sets of processes from the /Ecoinvent/ database are less than 8 years old. The data sets are based on literature and average data from specific industrial units. Regarding geography coverage, whenever possible average European data and Portugal - specific energy mix were used. In cases where no average European data was available, it was used the most approximate data set.
Considering these aspects, the data used in this study is considered of high quality.

3.7 Period under review
The specific data collected from the manufacturer refer to the year of 2014.

3.8 Allocation
Energy, water, wastewater and air emissions allocated to this product were determined by the manufacturer, considering the different processes involved in the production of the product.
Cork powder resulting from production is reused in the process to produce thermal energy and electricity. Cork shreds are also reused internally in the process. Internal recycling/reusing of these materials is, therefore, considered a closed loop process.

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

Not relevant

Transport to the construction site (A4)
Not relevant

Name	Value	Unit
Litres of fuel	-	l/100km
Transport distance	-	km
Capacity utilisation (including empty runs)	-	%
Gross density of products transported	-	kg/m^3
Capacity utilisation volume factor	-	-

Installation in the building (A5)
Not relevant

Name	Value	Unit
Auxiliary	-	kg
Water consumption	-	m^3
Electricity consumption	-	kWh
Other energy carriers	-	MJ
Material loss	-	kg
Output substances following waste treatment on site	-	kg
Dust in the air	-	kg

Use (B1) see cap. 2.12 use
Not relevant

Name	Value	Unit

Maintenance (B2)
Not relevant

Name	Value	Unit
Information on maintenance	-	-
Maintenance cycle	-	Number/ RSL
Water consumption	-	m^3
Auxiliary	-	kg
Electricity consumption	-	kWh
Other energy carriers	-	MJ
Material loss	-	kg

Repair (B3)
Not relevant

Name	Value	Unit
Information on the repair process	-	-
Information on the inspection process	-	-
Repair cycle	-	Number/ RSL
Water consumption	-	m^3
Auxiliary	-	kg
Other resources	-	kg
Electricity consumption	-	kWh
Other energy carriers	-	MJ
Material loss	-	kg

Replacement (B4) / Refurbishment (B5)
Not relevant

Name	Value	Unit

Replacement cycle	-	Number/ RSL
Electricity consumption	-	kWh
Replacement of worn parts	-	Number/ RSL

Reference service life

Not relevant

Name	Value	Unit
Reference service life	-	a

Operational energy (B6) and water consumption (B7)

Not relevant

Name	Value	Unit
Water consumption	-	m^3
Electricity consumption	-	kWh
Other energy carriers	-	MJ
Equipment output	-	kW

End of Life (C1-C4)

Not relevant

Name	Value	Unit
Collected separately	-	kg
Collected as mixed construction waste	-	kg
Reuse	-	kg
Recycling	-	kg
Energy recovery	-	kg
Landfilling	-	kg

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

Not relevant

Name	Value	Unit

5. LCA: Results

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 BOUNDARIES
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	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	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT: 1 m2 of Decor Vinyl Cork Flooring Floating

Parameter	Unit	A1-A3
Global warming potential	[kg CO_2-Eq.]	5.93E+0
Depletion potential of the stratospheric ozone layer	[kg CFC11-Eq.]	1.33E-6
Acidification potential of land and water	[kg SO_2-Eq.]	9.50E-2
Eutrophication potential	[kg $(PO_4)^{3-}$-Eq.]	2.77E-1
Formation potential of tropospheric ozone photochemical oxidants	[kg ethene-Eq.]	4.87E-3
Abiotic depletion potential for non-fossil resources	[kg Sb-Eq.]	2.82E-5
Abiotic depletion potential for fossil resources	[MJ]	2.32E+2

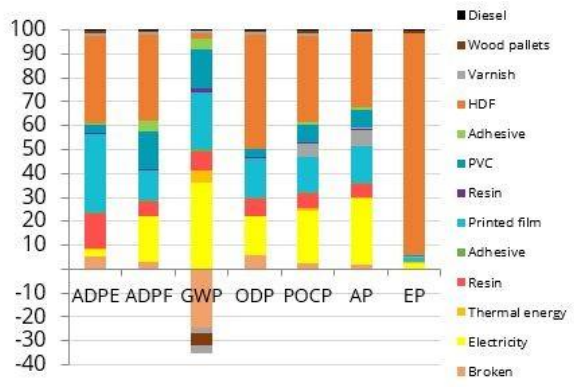
RESULTS OF THE LCA - RESOURCE USE: 1 m2 of Decor Vinyl Cork Flooring Floating

Parameter	Unit	A1-A3
Renewable primary energy as energy carrier	[MJ]	4.01E+0
Renewable primary energy resources as material utilization	[MJ]	1.14E+2
Total use of renewable primary energy resources	[MJ]	1.18E+2
Non-renewable primary energy as energy carrier	[MJ]	2.31E+2
Non-renewable primary energy as material utilization	[MJ]	1.44E+1
Total use of non-renewable primary energy resources	[MJ]	2.45E+2
Use of secondary material	[kg]	0.00E+0
Use of renewable secondary fuels	[MJ]	0.00E+0
Use of non-renewable secondary fuels	[MJ]	0.00E+0
Use of net fresh water	[m^3]	5.68E-3

RESULTS OF THE LCA – OUTPUT FLOWS AND WASTE CATEGORIES: 1 m2 of Decor Vinyl Cork Flooring Floating

Parameter	Unit	A1-A3
Hazardous waste disposed	[kg]	2.65E-4
Non-hazardous waste disposed	[kg]	1.19E+0
Radioactive waste disposed	[kg]	6.60E-4
Components for re-use	[kg]	0.00E+0
Materials for recycling	[kg]	2.00E-2
Materials for energy recovery	[kg]	4.00E-1
Exported electrical energy	[MJ]	0.00E+0
Exported thermal energy	[MJ]	0.00E+0

6. LCA: Interpretation



Abiotic Depletion (ADP)

As for ADP, the components with the highest impacts are the HDF layer and the printed PVC film, followed by the resin used to agglomerate the cork. The impacts regarding the HDF are associated to the urea formaldehyde resin in the dataset, necessary to agglomerate the wood fibers. The PVC impacts cannot be traced down, because the dataset used is like a "black box", which means that it is impossible to understand the processes responsible for the impacts. The impacts of the resin are linked to resources used to build the infrastructure where the components of the resin are synthesized.

Abiotic Depletion (fossil fuels)

The main contribution for impacts on ADP fossil fuels are also HDF, followed by the PVC layer (PVC

TRANS), electricity and the printed PVC film. Regarding the HDF, the impacts are linked to the use of energy resources to produce the resin and the urea. The impacts of PVC layer and printed PVC cannot be associated to a process, due to the nature of the dataset used. The electricity impacts are associated as well to the use of fossil fuels to produce energy.

Global Warming Potential (GWP)

This category is affected negatively by the use of electricity, the printed PVC film and PVC TRANS. Electricity impacts are linked to the emission of global warming gases into the atmosphere while burning fossil fuels. The other impacts cannot be identified, as we stated in the last paragraphs.

The positive impacts that we can see on the figure are linked to the use of cork and wood in HDF, as natural products which contribute to carbon dioxide fixation.

Ozone layer Depletion (ODP)

Ozone layer depletion is influenced mainly by the same components as the ADP fossil fuels category, but with different weights. HDF impacts are due to the release of pollutants during transport of natural gas used in the process. These pollutants are mainly halons and CFCs that are released in the combustion of the fuels. Electricity impacts are also associated to the release of these pollutants during the combustion process.

Photochemical Oxidation (POCP)

The components/processes with more significant impacts in this category are HDF, electricity, PVC printed film, PVC TRANS and the resin. The impacts linked to HDF are linked mainly to the release of sulfur dioxide, formaldehyde and carbon monoxide in urea formaldehyde resin process and in the combustion of wood chips in the production of HDF. The impacts of electricity are linked to the emission of sulfur dioxide, carbon monoxide and methane that are emitted during the combustion of fossil fuels. The impacts associated to the resin are also linked to emission of pollutants during the combustion of fossil fuels.

Acidification Potential (AP)

The components/processes with more impact on the acidification potential are HDF and electricity, almost in the same proportion. Here, the PVC printed film, PVC TRANS and the UV PVC varnish have also some significant impacts. The impacts of the first two are linked to the emission of pollutants such as ammonia, sulfur dioxide and sulfuric acid during combustion of fossil fuels. The impacts of the UV PVC varnish are linked to the acrylic binder and titanium oxide used, as well as the electricity used in the process.

Eutrophication Potential (EP)

EP impacts are due almost exclusively to the HDF layer. These impacts are linked to wastewater production, which contains high levels of nitrates that are released into the water streams.

7. Requisite evidence

French legislation

Decor Vinyl Cork Flooring Floating was subjected to tests in order to determine the quantities of VOCs, formaldehydes, acetaldehyde and other CMR (Carcinogenic, Mutagenic or Toxic to Reproduction) substances to obtain the classification of the product according to criteria established by the recent French legislation.

Name of the testing Institute	LQAI - Laboratório da Qualidade do ar interior
Number of test report	LQAI.MC.75/15
Testing methods	Tests in a room after 28 days of exposure according to ISO 16000-9 standards Analysis of results according to ISO 16000-6

Results

Concentration limits and correspondent classes according to French legislation after 28 days of exposure to specific surface emission rate of 0,5 m^3 h^{-1} m^{-2} are presented in the following table.

	Concentration (µg/m^3) Classes			
Substance	**C**	**B**	**A**	**A+**
Formaldehyde	>120	<120	<6	<10
Acetaldehyde	>400	<400	<300	<200
Toluene	>600	<600	<450	<300
Tetrachloroethylene	>500	<500	<350	<250
Xylene	>400	<400	<300	<200
1,2,4 - trimethylbenzene	>2000	<2000	<1500	<1000
1,4 - Dichlorobenzene	>120	<120	<90	<60
Ethylbenzene	>1500	<1500	<1000	<750
2 - Butoxyethanol	>2000	<2000	<1500	<1000
Styrene	>500	<500	<350	<250
COVT	>2000	<2000	<1500	<1000

Concentration limits of CMR and correspondent classes according to French legislation after 28 days of exposure to specific surface emission rate of 1,25 m^3 h^{-1} m^{-2} are presented in the following table.

Substance	**Limits (µg/m^3)**
Trichloethylene	<1
Benzene	<1
Phtalate de bis (2-ethylhexyle)	<1
Phtalate de dibutyle	<1

The material has achieved a Classification of A+ according to French legislation since the results have not exceeded the concentration limits correspondent to that class and are also below the concentration limits of CMR substances.

GREENGUARD Certification

This product has also been certified according to the GREENGUARD Certification Program.

Certification Program	GREENGUARD Certification
Number of test report	72889-410
Reference Standard	UL 2818 - 2013 Standard for Chemical Emissions for Building Materials, Finishes and Furnishings

Criteria: GREENGUARD Certification emissions limits were first used as purchasing specifications for the US EPA and the State of Washington for furniture and commercial building products. GREENGUARD Certification criteria have been the basis for the LEED credit for low emitting furniture since 2002. Office Furniture products that are GREENGUARD Certified are also compliant with the BIFMA X7.1 standard and BIFMA e3 credit 7.6.1.

Criteria	Maximum Allowable Predicted Concentration	Units
TVOC	≤ 0,5	mg/m³
Formaldehyde	61.3 (50 ppb)	µg/m³
Total Aldehydes	0.10	ppm
Particle Matter less than 10 µm	50	µg/m³
4-phenylcyclohexene	6.5	µg/m³
Individual VOCs	1/10th TLV	-

Results
GREENGUARD Certification affirms that representative samples of the products tested meet the criteria of the referenced standard and the requirements of the specific certification program.

GREENGUARD Gold
In addition to meeting the GREENGUARD Certification criteria, the product also complies with requirements of GREENGUARD Gold.

Certification Program	GREENGUARD Gold
Number of test report	72889-420
Reference Standard	UL 2818 -2013 Gold Standard for Chemical Emissions for Building Materials, Finishes and Furnishings

Criteria: This standard includes health based criteria for additional chemicals and also requires lower total VOC emissions levels to ensure that products are acceptable for use in environments such as schools and healthcare facilities. In addition to limiting emissions of more than 360 VOCs and total chemical emissions, GREENGUARD Gold Certified products must also comply with requirements of the State of California's Department of Public Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, Version 1.1 (2010)".

Criteria	Maximum Allowable Predicted Concentration	Units
TVOC	0.22	mg/m³
Formaldehyde	9 (7.3 ppb)	µg/m³
Total Aldehydes	0.043	ppm
4-Phenylcyclohexene	6.5	µg/m³
Particle Matter less than 10 µm	20	µg/m³
1-Methyl-2-pyrrolidinone	160	µg/m³
Individual VOCs	1/2 CREL or 1/100th TLV	-

Results
GREENGUARD Certification affirms that representative samples of the products tested meet the criteria of the referenced standards and the requirements of the specific certification program.

8. References

PCR 2015, Part A, version 1.4
Institut Bauen und Umwelt e.V., Berlin (pub.): Product Category Rules for Construction Products from the range of Environmental Product Declarations of Institut Bauen und Umwelt (IBU), Part A: Calculation Rules for the Life Cycle Assessment and Requirements on the Project ReportRequirements on the Background Report. September 2015 (www.bau-umwelt.de)

PCR 2015, Part B
Institut Bauen und Umwelt e.V., Berlin (pub.): PCR Guidance-Texts for Building-Related
Products and Services
From the range of Environmental Product Declarations of Institute Construction and Environment e.V. (IBU)
Part B: Requirements on the EPD for Floor coverings
June 2015
www.bau-umwelt.de

ANSI/BIFMA X7.1
ANSI/BIFMA X7.1 Standard for Formaldehyde and TVOC Emissions

ANSI/BIFMA e3
ANSI/BIFMA e3 Furniture Sustainability Standard and Tools

ISO 10874
ISO 10874:2009 - Resilient, textile and laminate floor coverings -- Classification

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

ISO 16000-9
ISO 16000-9:2006 - Indoor air - Part 9: Determination of the emission of volatile organic compounds from building products and furnishing -- Emission test chamber method

ISO 23997
ISO 23997:2007- Resilient floor coverings -- Determination of mass per unit area

ISO 24336
ISO 24336:2005 - Laminate floor coverings - Determination of thickness swelling after partial immersion in water

ISO 24342
ISO 24342:2007 - Resilient and textile floor-coverings - - Determination of side length, edge straightness and squareness of tiles

ISO 24343 – 1
ISO 24343-1:2007 - Resilient and laminate floor coverings -- Determination of indentation and residual indentation -- Part 1: Residual indentation

EN 13329
EN 13329:2000 - Laminate floor coverings. Specifications, requirements and test methods

EN 13501-1
EN13501-1:2007:Fire classification of construction products and building elements-Part1: Classification using data from reaction to fire tests

EN 13893
EN 13893:2002 - Resilient, laminate and textile floor coverings. Measurement of dynamic coefficient of friction on dry floor surfaces

EN 14041
EN 14041:2004 - Resilient, textile and laminate floor coverings – Essential characteristics

EN 14085
EN 14085:2010 - Resilient floor coverings - Specification for floor panels for loose laying

DIN EN 717-1
DIN EN 717-1:2005 - Wood-based panels - Determination of formaldehyde release - Part 1: Formaldehyde emission by the chamber method

ISO 105-B02:2013
ISO 105-B02:2013 - Textiles -- Tests for colour fastness -- Part B02: Colour fastness to artificial light: Xenon arc fading lamp test

ISO 4918:2009
ISO 4918:2009 - Resilient, textile and laminate floor coverings -- Castor chair test

ISO 16581:2014
ISO 16581:2014 - Resilient and laminate floor coverings -- Determination of the effect of simulated movement of a furniture leg

BS EN 12667:2001
BS EN 12667:2001 - Thermal performance of building materials and products. Determination of thermal resistance by means of guarded hot plate and heat flow meter methods. Products of high and medium thermal resistance

BS EN 14085:2010
BS EN 14085:2010 - Resilient floor coverings. Specification for floor panels for loose laying

BS EN 16449:2014
BS EN 16449:2014 - Wood and wood-based products. Calculation of the biogenic carbon content of wood and conversion to carbon dioxide

Ecoinvent version 2.0
Ecoinvent version 2.0, ecoinvent, 2007

Ecoinvent version 3.0
Ecoinvent version 3.0, ecoinvent, May 2013

European Waste Catalogue Directive
European Waste Catalogue (EWC) (Commission Decision 94/3/EC)

European List of Waste
European List of Waste (ELW) (Commission Decision 2000/532/EC)

European Waste Framework Directive
Waste Framework Directive (WFD) (2008/98/EC)

UL 2818 - 2013
UL 2818 - 2013 Standard for Chemical Emissions for Building Materials, Finishes and Furnishings

Institut Bauen und Umwelt
Institut Bauen und Umwelt e.V., Berlin(pub.): Generation of Environmental Product Declarations (EPDs);
www.ibu-epd.de

ISO 14025
DIN EN ISO 14025:2011-10: Environmental labels and declarations — Type III environmental declarations — Principles and procedures

EN 15804
EN 15804:2012-04+A1 2013: Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products

Publisher
Institut Bauen und Umwelt e.V.
Panoramastr. 1
10178 Berlin
Germany

Tel +49 (0)30 3087748- 0
Fax +49 (0)30 3087748- 29
Mail info@ibu-epd.com
Web **www.ibu-epd.com**

Programme holder
Institut Bauen und Umwelt e.V.
Panoramastr 1
10178 Berlin
Germany

Tel +49 (0)30 - 3087748- 0
Fax +49 (0)30 – 3087748 - 29
Mail info@ibu-epd.com
Web **www.ibu-epd.com**

Author of the Life Cycle Assessment
S+A Green Lab
Avenida Infante Santo, 69 a-c
1350- 177 Lisboa
Portugal

Tel +351 213 939 340/9
Fax +351 217 120 511
Mail mmatos@greenlab.com.pt
Web **www.saraivaeassociados.com/pt/green-lab/**

Owner of the Declaration
Amorim Revestimentos, S. A.
Rua do Ribeirinho, nº202, Apartado 13
4536 - 907 S. Paio de Oleiros
Portugal

Tel +351 227 475 600
Fax +351 227 475 601
Mail geral.ar@amorim.com
Web **www.wicanders.com**