ENVIRONMENTAL PRODUCT DECLARATION

as per /ISO 14025/ and /EN 15804/

Owner of the Declaration	Amorim Revestimentos
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-AMO-20170165-IAD1-EN
Issue date	28/06/2018
Valid to	27/06/2023

Vinyl on Cork Flooring Floating

Amorim Revestimentos S. A.

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

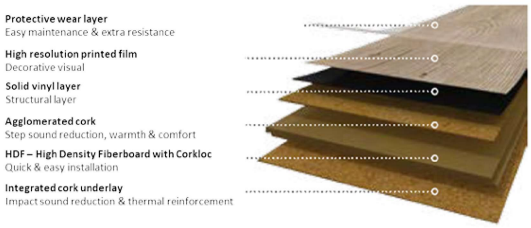
1. General Information

Amorim Revestimentos S. A.	Vinyl on 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-20170165-IAD1-EN	**Declared product / Declared unit** 1 m2 of Vinyl on 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 Vinyl on Cork Flooring Floating taking place in both industrial units of Amorim Revestimentos (Oleiros and Lourosa). The data used is from both industrial units and is referred to the year of 2016. 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 28/06/2018	**Verification** The CEN Norm /EN 15804/ serves as the core PCR Independent verification of the declaration according to /ISO 14025/ ☐ internally ☒ externally
Valid to 27/06/2023	
Prof. Dr.-Ing. Horst J. Bossenmayer (President of Institut Bauen und Umwelt e.V.)	
Dipl. Ing. Hans Peters (Managing Director IBU)	Patricia Wolf (Independent verifier appointed by SVR)

2. Product

2.1 Product description / Product definition

Vinyl on Cork Flooring Floating is a type of resilient floor covering and has been especially developed for areas with heavy traffic, such as commercial, business or general public areas. This floor has a unique multilayer structure, which integrates a prime quality core layer of cork, which provides comfort, noise reduction and warmth. An integrated cork underlay reinforces thermal and acoustic properties, resulting in a silent environment and energy cost savings, vinyl designs, providing comfort and durability.



For the placing on the market of the product in the EU/EFTA (with the exception of Switzerland) Regulation (EU) No. 305/2011 (CPR) applies. The product needs a Declaration of Performance taking into consideration /EN 14041: 2004/AC:2006 Resilient, textile and laminate floor coverings - Essential characteristics/ and the CE-marking. For the application and use the respective national provisions apply.

2.2 Application

Vinyl on Cork Flooring Floating has a high-performance surface layer and has been specially developed for areas with heavy traffic, such as commercial, business or general public areas. This flooring product meets the requirements of the usage classes 33 for commercial use and 23 for domestic use according to /ISO 10874/ standard. Class 33 products are suitable for commercial areas with heavy traffic.

2.3 Technical Data

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

Name	Value	Unit
Product thickness	nominal +/- 0,25	mm
Abrasion Class	NA	-
Product Form	1220 x 185 x 10,5 mm	-
Type of manufacture	NA	-
Yarn type	NA	-
Pile fibre composition	-	%
Total carpet weight	NA	g/m²

Surface pile thickness	NA	mm
Number of tufts or loops	NA	pce/dm^2
Surface pile weight	NA	g/m^2
Secondary backing	NA	-
Thickness of the element	NA	mm
Length of the surface layer	NA	mm
Width of the surface layer	NA	mm
Length and width of squared elements	-	mm
Density	-	kg/m^3
Layer thickness (Top layer)	>= 0,55	mm
Squareness /ISO 24346/	≤ 0,50	mm
Straightness measured at the surface layer /ISO 24342/	≤ 0,30	
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	%
Openings between panels /EN 14085/ Annex B	< 0,20	mm
Height difference between panels /EN 14085/ Annex B	< 0,20	mm
Dimensional stability (humidity) /EN 669/ Annex C	≤ 5	%
Mass per unit area /ISO 23997/	Nominal value (10150) - 10 % + 13%	g/m^2
Wearing Group /EN 660-2/	Wear group T	Fv (mm^3)
Thickness of wear layer (Wear group T) /ISO 24340/	≥ 0,55	mm (Nominal value)
Castor chair /EN 425/	No disturbance to the surface other than a slight change in appearance and no delamination shall occur	Visual effect after 25.000 cycles
Simulated movement of a furniture leg /EN 424/	No damage shall be visible after testing with a type 2 foot	Visual effect
Residual indentation /ISO 24343-1/	≤ 0,15	mm

The Performance data of the product is in accordance with the Declaration of Performance with respect to its Essential Characteristics according to /EN 14041: 2004/AC:2006 Resilient, textile and laminate floor coverings - Essential characteristics/.

2.4 Delivery status

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

Dimensions of panels (ISO 24342)	Component
Dimensions	1220 x 185 x 10,5 mm ± 0,10% with:
Variation width	max. 0,5 mm
Variation length	max. 2,0 mm

The layers composing Vinyl on Cork Flooring Floating are shown in the following table.

Components	Component	Thickness (mm)
Vinyl on Cork Flooring Floating	PVC	0,2 / 0,3 / 0,55
	Decorative layer	-
	Solid vinyl layer	1,2
	Agglomerated cork layer (IN 1,3)	1,5
	HDF	6
	Backing cork layer (BL 1,2)	1,2

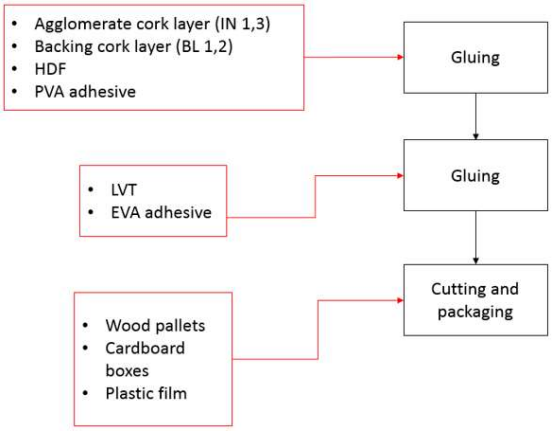
2.5 Base materials / Ancillary materials

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

Components	Percentage (in weight)
Backing cork layer	3,03%
Agglomerate cork layer	6,63%
Adhesive	3,66%
HDF	56,09%
LVT (Vinyl)	30,59%

2.6 Manufacture

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



The manufacturing process of the flooring product begins by assembling the layers of agglomerate cork layer, backing cork layer and HDF, using a cold-melt adhesive. Then these components are blended with LVT, using a hot-melt adhesive. The resulting board is then cut into the defined dimensions and is now ready for packaging and storage.

2.7 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.

2.8 Product processing/Installation

In order to install the product, a mohair roller, pressure roller, tape measure, craft knife, pencil, straight edge, chalk line, cloth and a rubber hammer are needed. More information on installing the flooring product can be found on the manufacturer's website.

2.9 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.

2.10 Condition of use

Vinyl on Cork Flooring Floating products contain a significant amount of natural renewable raw materials, meaning that they have stored about 10,88 kg CO2/m² of product resulting from photosynthesis.

2.11 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	B_{fl-s1}
Slip Classification	EN 13893	Class	DS
Formaldehyde emission	EN 717-1	Class	E1
Electrical behaviour	EN 1815	KV	Antistatic
Content pentachlorophenol (PCP)	CEN/TR 14823 (ihd-W 409)	mg/kg	PCP Free

2.12 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

Influences on ageing when applied in accordance with the rules of technology
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2.13 Extraordinary effects

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

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

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

2.14 Re-use phase

The product is mainly composed by cork, HDF (wood) and luxury vinyl tiles (LVT). LVT layers are made of polyvinylchloride (PVC) and limestone. They can be shredded, granulated or powdered and then re-melted to make a secondary input material. Cork can also be suitable for composting. Waste from this flooring product can be reused in the process as replacement of some of the raw materials. This type of flooring product can also be reused, although its service life is expected to be less than the original warranty from the manufacturer. Regarding energy recovery, cork and PVC can be incinerated in order to produce thermal energy or electricity. However, incineration of PVC generates emissions of chlorine in waste streams, contaminated ash residue and possibly emission of dioxins.

2.15 Disposal

According to the /European Waste Catalogue Directive/ 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/.

2.16 Further information

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

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	m²
Conversion factor to 1 kg	0.0985	-

The EPD is representative of just one product, which can have different thicknesses of the wear layer. For this study, the data on the product with maximum thickness of the wear layer (0,55mm) was used.

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, the transport of these materials

from the suppliers to the industrial unit and the production stage of Vinyl on Cork Flooring Floating.

3.3 Estimates and assumptions

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 the average production of 2016. For processes which the producer has no influence or specific information on, 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 refers to the production of 2016. Data sets of processes from /Ecoinvent/ database are less than 8 years old. 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, the most approximate data set was used. Considering these aspects, the data used in this study is of high quality.

3.7 Period under review

The specific data collected from the manufacturer refer to the year of 2016.

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.

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. The data sets used are from /Ecoinvent 2.0/ and /Ecoinvent 3.0/. .

4. LCA: Scenarios and additional technical information

Not applicable

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	MNR	MNR	MNR	MND	MND	MND	MND	MND	MND	MND

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

Parameter	Unit	A1-A3
Global warming potential	[kg CO_2-Eq.]	3.30E+1
Depletion potential of the stratospheric ozone layer	[kg CFC11-Eq.]	2.69E-6
Acidification potential of land and water	[kg SO_2-Eq.]	2.89E-1
Eutrophication potential	[kg $(PO_4)^{3-}$-Eq.]	3.69E-2
Formation potential of tropospheric ozone photochemical oxidants	[kg ethene-Eq.]	1.23E-2
Abiotic depletion potential for non-fossil resources	[kg Sb-Eq.]	2.14E-5
Abiotic depletion potential for fossil resources	[MJ]	5.87E+2

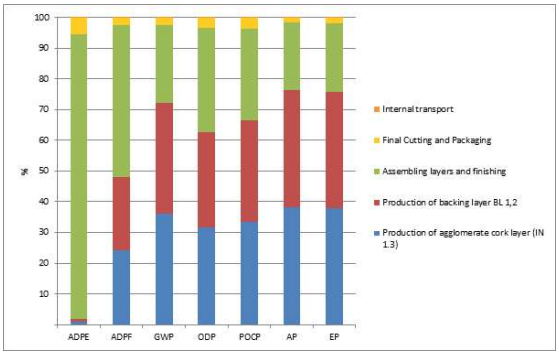
RESULTS OF THE LCA - RESOURCE USE: 1 m2 of Vinyl on Cork Flooring Floating

Parameter	Unit	A1-A3
Renewable primary energy as energy carrier	[MJ]	3.58E+2
Renewable primary energy resources as material utilization	[MJ]	1.78E+2
Total use of renewable primary energy resources	[MJ]	5.36E+2
Non-renewable primary energy as energy carrier	[MJ]	4.64E+2
Non-renewable primary energy as material utilization	[MJ]	1.50E+2
Total use of non-renewable primary energy resources	[MJ]	6.14E+2
Use of secondary material	[kg]	1.77E-1
Use of renewable secondary fuels	[MJ]	8.62E+0
Use of non-renewable secondary fuels	[MJ]	0.00E+0
Use of net fresh water	[m^3]	1.05E-1

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

Parameter	Unit	A1-A3
Hazardous waste disposed	[kg]	9.22E-1
Non-hazardous waste disposed	[kg]	4.19E-1
Radioactive waste disposed	[kg]	2.03E+0
Components for re-use	[kg]	0.00E+0
Materials for recycling	[kg]	9.17E-2
Materials for energy recovery	[kg]	0.00E+0
Exported electrical energy	[MJ]	1.80E-3
Exported thermal energy	[MJ]	2.06E-2

6. LCA: Interpretation



In the production of **Vinyl on Cork Flooring Floating**, the processes with the highest impacts are the production of the agglomerate cork layer, production of backing layer and assembling.

Abiotic Depletion (ADP)

As for ADP, the component with the highest impacts is the HDF followed by the paper used in packaging. The impacts regarding the HDF are associated to the urea formaldehyde resin in the dataset, necessary to agglomerate the wood fibers, which is linked to the consumption of molybdenite. The impacts related to the kraft paper are linked to the use of zinc in its production.

Abiotic Depletion (fossil fuels)

The main contribution to ADP fossil fuels are also HDF (associated to assembling stage), followed by the electricity used to produce the backing cork layer and

the agglomerate cork layer. Regarding the HDF, the impacts are linked to the use of energy resources to produce the resin and the urea. 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 mainly by the production of the base layer, backing layer and assembling. This is associated to electricity use and also a bit related to thermal energy used. Electricity impacts are linked to the emission of global warming gases into the atmosphere while burning fossil fuels.

Ozone layer Depletion (ODP)

Ozone layer depletion is influenced mainly by the same components as the ADP fossil fuels category. Impacts of assembling the layers is related to HDF, due to the release of pollutants during transport of natural gas used in the process. Also, the transport of LVT by boat has a significant impact, due to the amount of petroleum burned as fuel. These pollutants are mainly halons and CFCs that are released in the combustion of the fuels. Regarding the base and backing layer, the impacts are associated to electricity, whose production results in emissions of these pollutants during the combustion process.

Photochemical Oxidation (POCP)

The components/processes with more significant impacts in this category are HDF and electricity in production of base and backing layers. The impacts linked to HDF are linked mainly to the release of Sulphur 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.

Acidification Potential (AP)

The components/processes with more impact in acidification potential are HDF, electricity in base and backing layer production, and direct emissions from the boiler, namely NOx. The impacts from electricity are linked to the emission of pollutants such as ammonia, sulfur dioxide and sulfuric acid during combustion of fossil fuels. The impacts of HDF are linked to the use of urea in the production process.

Eutrophication Potential (EP)

EP impacts are due to the direct emissions of pollutants during combustion of cork powder in the boiler and also the HDF and electricity. Regarding the HDF, the impacts are related to the use of melamine and urea. The impacts of electricity are linked to the combustion of hard coal.

7. Requisite evidence

This product has been certified according to the GREENGUARD Gold Certification Criteria for Building Products and Interior Finishes.

Certification Program:	GREENGUARD Gold Certification Criteria for Building Products and Interior Finishes
Number of test report:	68263-420
Reference Standard:	UL 2818 - 2013 Standard for Chemical Emissions for Building Materials, Finishes and Furnishings

Criteria	CAS Number	Maximum Allowable Predicted Concentration Units	Units
TVOC(A)	-	0.22	mg/m³
Formaldehyde	50-00-0	9 (7.3ppb)	µg/m³
Total Aldehydes (B)	-	0.043	ppm
4-Phenylcyclohexene	4994-16-5	6.5	µg/m³
Particle Matter less than 10 µm (C)	-	20	µg/m³
1-Methyl-2-pyrrolidinone (D)	872-50-4	160	µg/m³
Individual VOCs (D)	-	1/10th TLV	-

(A) Defined to be the total response of measured VOCs falling within the C6 – C16 range, with responses calibrated to a toluene surrogate. Maximum allowable predicted TVOC concentrations for GREENGUARD Gold (0.22 mg/m³) fall in the range of 0.5 mg/m³ or less, as specified in CDPH Standard Method v1.1.

(B) The sum of all measured normal aldehydes from formaldehyde through nonanal, plus benzaldehyde, individually calibrated to a compound specific standard. Heptanal through nonanal are measured via TD/GC/MS analysis and the remaining aldehydes are measured using HPLC/UV analysis.

(C) Particle emission requirement only applicable to HVAC Duct Products with exposed surface area in air streams (a forced air test with specific test method) and for wood finishing (sanding) systems.

(D) Based on the CA Prop 65 Maximum Allowable Dose Level for inhalation of 3,200 microgram/day and an inhalation rate of 20 m³/day

(E) Allowable levels for chemicals not listed are derived from the lower of 1/2 the California Office of Environmental Health Hazard Assessment (OEHHA) Chronic Reference Exposure Level (CREL) as required per the CDPH/EHLB/Standard Method v1.1 and BIFMA level credit 7.6.2 and 1/100th of the Threshold Limit Value (TLV) industrial work place standard (Reference: American Conference of Government Industrial Hygienists, 6500 Glenway, Building D-7, and Cincinnati, OH 45211-4438).

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.

8. References

The literature referred to in the Environmental Product Declaration must be quoted in full from the following sources. Standards and standards relating to evidence and/or technical features already fully quoted in the EPD do not need to be listed here. Part B of the PCR document on which they are based must be referred to.

Institut Bauen und Umwelt

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

General Principles
for the EPD range of Institut Bauen und Umwelt e.V. (IBU), 2013/04
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

PCR 2015, Part A, version 1.4
Institut Bauen und Umwelt e.V., Königswinter (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., Königswinter (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

Regulation (EU) No 305/2011
Regulation (EU) No 305/2011 - Construction Products Regulation (CPR) - lays down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC Text with EEA relevance

CEN/TR 14823
CEN/TR 14823 - Durability of wood and wood-based products - Quantitative determination of pentachlorophenol in wood - Gas chromatographic method

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

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

ISO 24340
ISO 24340:2006 - Resilient floor coverings -- Determination of thickness of layers

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

ISO 24346
ISO 24346:2006 - Resilient floor coverings -- Determination of overall thickness

BS EN 424
BS EN 424:1993 - Resilient floor coverings. Determination of the effect of the simulated movement of a furniture leg

EN 425:2002
EN 425:2002 - resilient and laminate floor coverings. Castor chair test

EN 660-2:1999
EN 660-2:1999 - Resilient floor coverings. Determination of wear resistance. Frick-Taber test

EN 669
EN 669:1998 - Resilient floor coverings. Determination of dimensional stability of linoleum tiles caused by changes in atmospheric humidity

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

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

EN 1815
EN 1815:1998 - Resilient and textile floor coverings. Assessment of static electrical propensity

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

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 Waste Framework Directive


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

Pré-Consultants
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