iQ Natural, iQ Megalit, iQ Eminent, iQ Granit, iQ Granit Micro, iQ Optima, iQ Optima Essence

Generic EPD developed by ERFMI based on EN ISO 14025 and EN 15804 applicable for the above Tarkett products



ENVIRONMENTAL PRODUCT DECLARATION

as per EN ISO 14025 and EN 15804

Owner of the Declaration	ERFMI vzw, European Resilient Flooring Manufacturers' Institute
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-ERF-2013111-E
Issue date	01.04.2013
Valid to	31.03.2018

Homogeneous polyvinyl chloride floor coverings according to EN 649 and ISO 10581 ERFMI European Resilient Flooring Manufacturers' Institute



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



General Information

ERFMI - European Resilient Flooring Manufacturers' Institute

Programme holder

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

Declaration number

EPD-ERF-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

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

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

Product

Product description

Resilient floor coverings are an entire product family of flexible flooring solutions available in sheet, tiles and planks. It is classified in heterogeneous or homogeneous composition based on vinyl, linoleum, cork or rubber. Resilient floor coverings can provide different functionalities (acoustic, static control, slip resistance, easy maintenance etc.) to match a wide range of domestic, commercial and industrial applications. It is available in an enormous range of patterns and colours fitting with inspiration and decorative needs.

Homogeneous polyvinyl chloride floor coverings have one or more layers of the same composition and colour patterned throughout its thickness.

Application

According to EN ISO 10874 (EN 685) the area of application for resilient floor coverings is indicated by use classes. The declared product group covers the use classes 23, 34, 43.

Technical Data

Technical construction data for the product group:

Homogeneous polyvinyl chloride floor coverings

Owner of the Declaration

ERFMI vzw, European Resilient Flooring Manufacturers' Institute 71, Avenue de Cortenbergh

B-1000 Brussels

Declared product / Declared unit

1m² homogeneous polyvinyl chloride floor covering, installed

Scope:

In this EPD homogeneous polyvinyl chloride floor coverings according to ISO 10581 floor coverings are declared. The application of this EPD is restricted to homogeneous polyvinyl chloride floor coverings produced by the members of the European Resilient Flooring Manufacturers' Institute (ERFMI). Data are based upon production during 2011 in Europe. Data have been provided by 6 companies of ERFMI which represents 100% of ERFMI members. 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 EN ISO 14025 internally x externally

Prof. Dr. Firo Grah

(Independent tester appointed by SVA)

Constructional data	Value	Unit	Test standard		
Product thickness *	1.5-2.5 (av. 1.9)	mm	EN ISO 24346		
Surface weight *	3.2	kg/m ²	EN ISO 23997		
Product Form		sł	neet		
* weighted average					

Base materials/ Ancillary materials

Babe materials, Anomary mater	laio	
The product group has the follow	ing compos	sition:
Component	Value	Unit
Additives	1.6	%
Filler	34.6	%
Flame Retardant (Aluminium bydroxide)	0.1	%

(Aluminium hydroxide)	•••	, -
Plasticizer	12.6	%
Pigments	2.3	%
Polymers (PVC)	33.0	%
Lacquer	0.5	%
Flooring Recyclate (PVC)	15.4	%

The declared recipes were checked with the REACH candidate list from June 18th, 2012 and did not contain listed REACH substances.

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Reference service life

This EPD does not indicate RSL. Only module B2 (maintenance) is declared and the use stage scenario is independent on the life time of the product. The declared modules in the table of results (chapter 5) refer to one life cycle of the floor covering with B2 (cleaning) being declared for a time period of one year. For the calculation of the impact of B2 for a

LCA: Calculation rules

Declared Unit

1m² of installed floor covering.

Name	Value	Unit
Declared unit	1	m²
Conversion factor to 1 kg	1/3.2	-
The declaration refers to an avera	age produc	t from 8

The declaration refers to an average product from 8 production sites of ERFMI members. The data have been weighted according to the annual square meters produced by each site. The life cycle impact assessment is conducted based on the vertical average.

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 offcuts and packaging material. different time period the values for B2 have to be multiplied by the estimated service life in years. ERFMI provides an online tool for this calculation on the ERFMI home page (www.erfmi.com) for the enduser.

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 deconstruction of the flooring.

Module C2 includes transportation of the postconsumer waste to waste processing.

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.

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.

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	0,0051	l/m²*100km
Transport distance	2000	km
Capacity utilisation (including empty runs)	85	%

Installation in the building (A5)

Name	Value	Unit
Auxiliary (adhesive)	0.3	kg
Material loss (installation waste)	6.0	%

Maintenance (B2)

Name	Value	Unit
Maintenance cycle (vacuum cleaning & wet cleaning)	156	number/a
Water consumption	0.003	m ³
Auxiliary (detergent)	0.04	kg
Electricity consumption	0.55	kWh

End of Life (C1-C4)

Name	Value	Unit
Incineration	3.2	kg
Recycling	3.2	kg
Landfilling	3.2	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.

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. ERFMI provides an online tool for this calculation on the ERFMI home page (www.erfmi.com) for the end-user.

DESC	RIP	ΓΙΟΝ Ο	F THE	SYST	EM B	BOUNE	DARY (X = IN	CLUDE	D IN	LCA	: 1	/IND =	MOD		OT DE	ECLA	(KED)
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			STA	GE									SYSTEM BOUNDAR					
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ADPF		[MJ]							2E-01 2,		0	0	0 3,5E					-2,7E+00
GWP = Global warming potential; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential of land and water; EP Caption = 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																		
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Paramet PERE PERM PERN PENRI PENRI SM RSF NRSF FW Captic RESU Paramet HWD NHWD RWD CRU CRU CRU	LTS (kg)	A1 - A3 1,4E+01 1,0E+00 1,5E+01 1,2E+02 4,1E+01 1,6E+02 6,6E-01 - 5,2E+01 PERE = enewable of non re- renewables of secco OF TH A1 - A3 8,6E-03 4,2E-01 6,7E-03 -	A4 	- RES 11 1,7E 00 1,2E 00 1,	SOUR	n fossil re CE US B2 - - - - - - - - - - - - -	sources; 5E: 1m C1 - 4,2E-02 - - 2,5E-01 0 - 2,5E-01 0 - - 2,5E-01 0 - - - 2,5E-01 0 - - - - - - - - - - - - -	ADPF = 2 insta 2 insta 2 insta 1,7E-0 4,2E-0 0 1,8E-0 ing rene aterials; enewable materials; enewable D WAS C2 0 5,5E-05	Abiotic de Iled C3/ C3/ 2 1,2E+ 0 - 1 2,6E+ 0 - 2 1,6E+ wable pri PERT = e primary s; PENR ary fuels; fresh w. STE CA C3/ 1,6E-0 0 - - - - - - - - - - - - -	pletion I C3/ - - 00 0 - - 01 0 - - 01 0 - - 01 0 Total u energy Total u energy T Total u NRSF ater TEGI 3 00 0	potenti C3/R - - - - 0 - 0 - - 0 0 - - 0 0 - - 0 0 0 0 0 0 0 0 0	ial f C4/ - - 0 - 0 - 0 - 0 - 0 - - 0 0 - - 0 0 - - - 0 0 - - - 0 0 - - - 0 0 - - - - 0 0 - - - - - 0 - - - - - - - - - - - - -	C4/L - - 1,6E-01 - - 3,5E+00 0 -	Source C4/R - - - 0 0 - - 0 0 0 0 - 0 0 0 0 0 0 0 0 0 0 0 0 0 0	D/I	D) 	AL =-01 =-01 =-04 =-04 =-04	D/R -1,9E-01 -1,9E-01 -2,7E+00 0
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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.

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Institut Bauen und Umwelt e.V.	Publisher Institut Bauen und Umwelt e.V. Rheinufer 108 53639 Königswinter Germany	Tel Fax Mail Web	+49 (0)2223 29 66 79- 0 +49 (0)2223 29 66 79- 0 info@bau-umwelt.com www.bau-umwelt.com
Institut Bauen und Umwelt e.V.	Programme holder Institut Bauen und Umwelt e.V. Rheinufer 108 53639 Königswinter Germany	Tel Fax Mail Web	+49 (0)2223 29 66 79- 0 +49 (0)2223 29 66 79- 0 info@bau-umwelt.com www.bau-umwelt.com
ERFMI EUROPEAN RESILIENT FLOORING MANUFACTURERS' INSTITUTE	Owner of the Declaration ERFMI vzw, European Resilient Flooring Manufacturers' Institute 71, Avenue de Cortenbergh B-1000 Brussels Belgium	Tel Fax Mail Web	+32 (0) 2 7 39 63 87 +32 (0) 2 7 34 08 75 info@erfmi.com www.erfmi.com
PE INTERNATIONAL SUSTAINABILITY PERFORMANCE	Author of the Life Cycle Assessment PE INTERNATIONAL Hauptstraße 111-113 70771 Leinfelden-Echterdingen Germany	Tel Fax Mail Web	+49 (0)711 341817-0 +49 (0)711 341817-25 info@pe-international.com www.pe-international.com