

THE NEXT GENERATION OF MARMOLEUM THE MOST SUSTAINABLE FLOOR COVERING

The Next Generation of Marmoleum has
3 important pillars:



Authentic & versatile
The lowest cost of ownership



Sustainable and durable
The most sustainable resilient floor



Design & colour
A new design direction



Marmoleum is the most sustainable floor covering

Marmoleum is the brand for all linoleum collections of Forbo Flooring. With Marmoleum we contribute to creating value for the future built environment. But we also assure that we improve our own performance. In our environmental policy we have set ourselves a target to achieve a 25% reduction in our environmental footprint by 2015 (based on our 2009 figure). We measure this with the help of a Life Cycle Assessment (LCA).

As a pilot we have a certification for SA8000 in our factory in France, we will now adopt SA8000 across the organisation. SA8000 is an auditable certification standard which is based on the principles of international human rights norms with regard to child labour, forced labour, safety and remuneration.

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Marmoleum is (naturally) sustainable

- 97% natural
- 72% renewable
- 43% recycled

- Long lifespan

- Reduce waste by:
 - Optimizing the production process
 - Take back and reliable handling of:
 - sampling material
 - installation waste

- Worldwide certified with many environmental labels

- Use of 100% green electricity



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Our proof... EPD (Environmental Product Declaration)

At Forbo Flooring we believe an open, honest and transparent approach to demonstrate a sustainable attitude is the only way to demonstrate the credits we attribute to our products and processes. An EPD is the outcome of the LCA, which is published in a 3rd party verified report on a particular product.

An EPD is based on the outcome of the Life Cycle Assessment

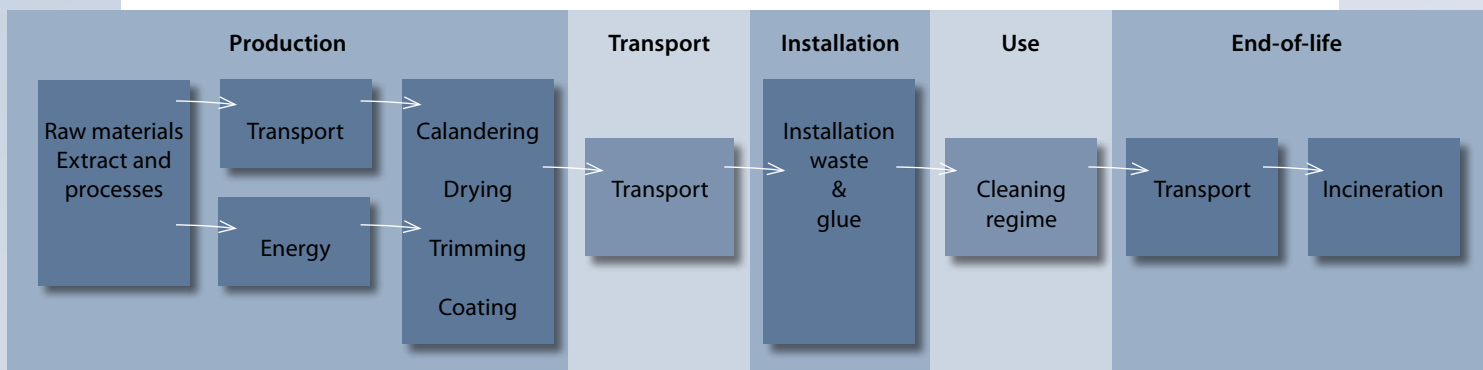
LCA	EPD
Measures the impact of a product in various defined impact categories during the total lifecycle of the product in various stages.	The outcome of a LCA calculation for one particular product(group), based on the agreed rules within the industry (category rules). These are verified by a 3rd party.
Used since 1993	Used since January 1st, 2013, externally available for Marmoleum (other Forbo Flooring categories will follow in the course of 2013). Published by UL-Environment (USA).
Products/product groups not comparable	Products/product groups comparable

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Which results can be found in an EPD?

The results with regard to the impact of the product in the 5 stages of its lifecycle (production, transport, installation, use, end-of-life).

The results per phase are divided in 7 impact categories)



Impact categories

- 1 Global warming potential (GWP)
- 2 Ozone depletion potential (ODP)
- 3 Photochemical Ozone Creation Potential (POCP)
- 4 Acidification Potential (AP)
- 5 Eutrophication Potential (EP)
- 6 Depletion of Abiotic Resources (Elements) (ADPE)
- 7 Depletion of Abiotic Resources (Fossil Fuels) (ADPF)

These impact categories can be found on the EPD which shows the results but also explains the production process, describes the raw materials, the stages of the Life Cycle and the impact categories.

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EPD Transparency Brief

COMPLIANCE NAME: Forbo Flooring System
PRODUCT TYPE: Resilient Linoleum Floor Covering
PRODUCT NAME: Marmoleum 2.5mm

PRODUCT DESCRIPTION: Marmoleum is a linoleum floor covering complying with all requirements of EN ISO 24011. Specifications for plain and decorative linoleum.

PRODUCT LIFE CYCLE FIELD (PCR): Flooring
PCR: Flooring
 Including Carpet, Resilient, Laminate, Ceramic, Wood (EN 15825)

CERTIFICATION BODY: November 12, 2012 - November 12, 2017
DECLARATION NUMBER: 12CA64879.101.1

LIFECYCLE IMPACT CATEGORIES
 The environmental impact has been assessed throughout the product's lifecycle - including raw material extraction, transportation, manufacturing, packaging, use, and disposal at end of life.

	ATMOSPHERE	WATER	EARTH
Global Warming Potential (GWP)	2.43E+08 kg CO2 eq	3.10E+03 kg CO2 eq	4.41E+02 kg CO2 eq
Acidification Potential (AP)	1.10E+02 kg SO2 eq	1.10E+02 kg SO2 eq	2.70E+01 kg SO2 eq
Eutrophication Potential (EP)	1.10E+02 kg PO4 eq	1.10E+02 kg PO4 eq	2.70E+01 kg PO4 eq
Depletion of Abiotic Resources (DAR)	2.70E+01 kg Sb eq	2.70E+01 kg Sb eq	2.70E+01 kg Sb eq
Depletion of Abiotic Resources (DAR)	2.70E+01 kg Sb eq	2.70E+01 kg Sb eq	2.70E+01 kg Sb eq
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ENVIRONMENTAL DATA
 The declared unit is one square meter of installed product and the use phase is considered for one year of service life.

UL Environment

The EPD transparency brief is a short version of the complete EPD. This extract merely displays the results.

An EPD is a third party verified LCA for a single product (group) set up according to the product category rules (PCR). Published by the program holder UL-Environment. This is the Transparency Brief.

This Transparency Brief contains the information on our Marmoleum 2,5mm. A separate brief is available for 2mm Marmoleum and Marmoleum tiles. As well as other product categories like acoustic vinyl, Flotex flocced flooring, Eternal General purpose vinyl, Step safety vinyl, Allura LVT and Flex Design loose lay vinyl tiles.

Marmoleum complies to the ISO norm and the category rules are applied for the mentioned floor covering. These floor coverings can be compared with each other based on the EPD.

Explanation of the 7 impact categories and the matching results. The results of the equivalents are converted, e.g. all gasses that have influence to the Global Warming Potential are being converted to kg CO2. The results are comparable with other product groups.

MATERIAL CONTENT
 Material content expressed in %

COMPONENT	MATERIAL	AVAILABILITY	MASS	ORIGIN
Binder	Linseed Oil	Bi-based Crop	18	N/A America-Europe
Binder	Gum Resin	Bi-based Crop	2	Indonesia-China
Binder	Talc Oil	Bi-based waste product from paper recycling	1	USA
Filler	Wood Flour	Bi-based waste product from wood processing	23	Germany
Filler	Calcium-carbonate	Abundant Mineral	24	Germany
Filler	Round Marbles	Round Mineral	10	Internal
Pigment	Titanium dioxide	Linked Mineral	3	Global
Pigment	Various other pigments	Linked Mineral	1	Global
Backings	Jute	Bi-based Crop	8	India/Bangladesh
Prints	Lacquer	Non-Renewable	1	Netherlands

ADDITIONAL ENVIRONMENTAL INFORMATION

RECYCLING OR REUSE
 30%: Marmoleum can be recycled or composted.
 0%: Check with your local Forbo business unit as it pertains to material take back or recollection program.

VOC EMISSIONS
 CHPS 13050

WATER CONSUMPTION
 62.2 cubic meters

ENERGY

RENEWABLE ENERGY	40%	55.91 MJ
NON-RENEWABLE ENERGY	51%	57.61 MJ

STANDARDS
 ASTM F2949
 EN ISO 24011
 EN 12852-1
 EN 13893
 EN 18153
 EN 12224
 ASTM F4669/PF 258
 A1118 (ISO/TC 109) PFA 258
 CAN ULC S102.2
 ISO 14001
 ISO 14001
 GRI 4001: 2001

CERTIFICATIONS

MANUFACTURER CONTACT INFO

NAME: Forbo Flooring Systems
PHONE: +31 756 477 477
EMAIL: contact@forbo.com
WEBSITE: www.forbo-flooring.nl

UL Environment

Ingredients of Marmoleum and the % of the total weight. Also the source is mentioned, like for instance linseed oil.

VOC emissions: Marmoleum complies to the standard CHPS 13050, which is used in the USA and is comparable with AgBB in Europe.

100% green electricity. This shows the energy use in the complete life cycle.