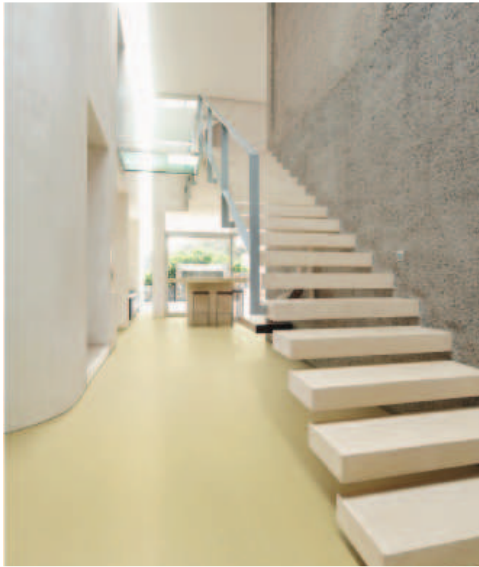




EPD Transparency Brief

| | |
|------------------------------------|--|
| COMPANY NAME | Forbo Flooring System |
| PRODUCT TYPE | Resilient Linoleum Floor Covering |
| PRODUCT NAME | Marmoleum 2.0mm |
| PRODUCT DEFINITION | Marmoleum is a linoleum floor covering complying with all requirements of EN-ISO 24011: Specification for plain and decorative linoleum. |
| PRODUCT CATEGORY RULE (PCR) | PCR- Flooring Including: Carpet, Resilient, Laminate, Ceramic, Wood (NSF 2012) |
| CERTIFICATION PERIOD | November 12, 2012 - November 12, 2017 |
| DECLARATION NUMBER | 12CA64879.101.1 |



LIFECYCLE IMPACT CATEGORIES

The environmental impacts listed below were 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 refers to long-term changes in global weather patterns – including temperature and precipitation – that are caused by increased concentrations of greenhouse gases in the atmosphere. | Ozone Depletion Potential is the destruction of the stratospheric ozone layer, which shields the earth from ultraviolet radiation that's harmful to life, caused by human-made air pollution. | Photochemical Ozone Creation Potential happens when sunlight reacts with hydrocarbons, nitrogen oxides, and volatile organic compounds, to produce a type of air pollution known as smog. | Acidification Potential is the result of human-made emissions and refers to the decrease in pH and increase in acidity of oceans, lakes, rivers, and streams – a phenomenon that pollutes groundwater and harms aquatic life. | Eutrophication Potential occurs when excessive nutrients cause increased algae growth in lakes, blocking the underwater penetration of sunlight needed to produce oxygen and resulting in the loss of aquatic life. | Depletion of Abiotic Resources (Elements) refers to the reduction of available non-renewable resources, such as metals and gases, that are found on the periodic table of elements, due to human activity. | Depletion of Abiotic Resources (Fossil Fuels) refers to the decreasing availability of non-renewable carbon-based compounds, such as oil and coal, due to human activity. |
| TRACI | | | | | | | |
| CML | 5.45 kg CO2 eq | 2.59E-08 kg CFC-11 eq | 1.82E-03 kg C2H4 | 3.93E-02 kg SO2 eq | 9.29E-03 kg PO4 eq | 2.87E-06 kg Sb-Equiv. | 52.19 MJ |

FUNCTIONAL UNIT The functional unit is one square meter of installed product and the use stage is considered for one year of service life.





MATERIAL CONTENT

Material content measured to 1%.

| COMPONENT | MATERIAL | AVAILABILITY | MASS% | ORIGIN |
|-----------|------------------------|--|-------|-------------------|
| Binder | Linseed Oil | Bio-based Crop | 19 | N. America/Europe |
| Binder | Gum Rosin | Bio-based Crop | 2 | Indonesia/China |
| Binder | Tall Oil | Bio-based waste product from paper industry | 11 | USA |
| Filler | Wood Flour | Bio-based waste product from wood processing | 22 | Germany |
| Filler | Calcium carbonate | Abundant Mineral | 24 | Germany |
| Filler | Reused Marmoleum | Reused Material | 10 | Internal |
| Pigment | Titanium dioxide | Limited Mineral | 2 | Global |
| Pigment | Various other pigments | Limited Mineral | 1 | Global |
| Backing | Jute | Bio-based Crop | 8 | India/Bangladesh |
| Finish | Lacquer | Non-renewable | 1 | Netherlands |
| | | | | |
| | | | | |

ADDITIONAL ENVIRONMENTAL INFORMATION

| | |
|--------------------------------|------------|
| PRE-CONSUMER RECYCLED CONTENT | 43 % |
| POST-CONSUMER RECYCLED CONTENT | 0 % |
| VOC EMISSIONS | CHPS 13050 |
| WATER CONSUMPTION | |

ENERGY

| | | |
|----------------------|------|----------|
| RENEWABLE ENERGY | 49 % | 55.91 MJ |
| NON-RENEWABLE ENERGY | 51 % | 57.61 MJ |

MANUFACTURER CONTACT INFO

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

RECYCLING OR REUSE

Marmoleum can be recycled or composted.

Check with your local Forbo business unit as it pertains to material take back or reclamation program.

STANDARDS

ASTM F2043
 EN-ISO 24011
 EN 13501-1
 EN 13893
 EN 1815
 EN 12524
 ASTM E648/NFPA 258
 ASTM E662/NFPA 258
 CAN ULC S102.2
 ISO 9001
 ISO 14001
 OHSAS 18001

CERTIFICATIONS

