Environmental Product Declaration

In accordance with ISO 14025 and EN 15804:2012+A2:2019/AC:2021 for:
Single product

Highline Loop and ReForm Calico tiles

From

ege®

Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
EPD registration number:	EPD-IES-0018111
Publication date:	2024-12-18
Valid until:	2029-12-18

An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com

General information

Programme information

Programme:	The International EPD® System
Address:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website:	www.environdec.com
E-mail:	info@environdec.com

Accountabilities for PCR, LCA and independent, third-party verification
Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): *PCR 2019:14 Construction products (EN 15804:A2)(1.3.3)* *c-PCR-004 Resilient, textile and laminate floor coverings (EN 16810) version: 2024-04-30*
PCR review was conducted by: The *Technical Committee of the International EPD System. See www.environdec.com for a list of members. Review Chair: Claudia A. Peña, University of Conceptción, Chile The review panel may be contacted via the Secretariat www.environdec.com/contact.*
Life Cycle Assessment (LCA)
LCA accountability: *Tyréns Sverige AB*
Third-party verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: ☒ EPD verification by individual verifier Third-party verifier: Marcus Wedin, Miljögiraff AB, verifier of the Pre-verified and integrated EPD tool: Tyréns EPD-generator 3.0.0 – Ege Carpets. Approved by: The International EPD® System
Procedure for follow-up of data during EPD validity involves third party verifier: ☒ Yes ☐ No

The EPD owner has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but registered in different EPD programs, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterization factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

Company information

Owner of the EPD:
Ege Carpets A/S
Industrivej nord 25, 7400 Herning
Denmark

Contact:
Camilla Aalbæk Jacobsen,
ESG Manager
Tel. direct: +45 97 11 74 86
E-mail : caja@egecarpets.com

Description of the organisation:
Ege Carpets is a leading Danish carpet manufacturer that supplies high-quality tufted and woven design carpets, carpet tiles, and rugs to the global market. The group consists of four Danish production units and a yarn spinning mill in Lithuania. For more than 25 years, sustainability has been a core element of the business.

Name and location of production site(s):
Ege Carpets Herning North; Industrivej nord 25, DK-7400 Herning, Denmark
Ege Carpets Gram; Industrivej 3, DK-6510 Gram, Denmark
Ege Carpets Røjle; Fabrikvej 5, DK-5500 Røjle, Denmark

Product information

Product name: Highline Loop and ReForm Calico tiles
Product identification: Carpet tile
Product description: Tufted carpet tile with regenerated PA6 pile material and ECT350 felt (PET) backing. Millitron dyeing method. Total thickness: approx. 8.0 mm. Surface pile mass 680 g/m2. Use classes according to CEN/TS 15398 : Class 33 – Commercial – Heavy. This EPD covers several products with identical material content. The products only vary in structure, design and available colorways. With the right installation and maintenance, the carpet will retain its appearance and its good qualities for many years. Depending on several factors such as the construction of the carpet and where it is installed, the technical lifetime may vary from 15 up to 30 years. For these carpet tiles, we recommend using a technical lifetime of 15-20 years when implementing the data presented in this EPD in building LCAs.

UN CPC code: 272

Geographical scope:
EPD is valid for the European market
Module A1 and A2 Material suppliers are Global
Module A3 production is located in Denmark
Module A4,A5, B, C and D scenarios are for Europe

LCA information

Functional unit / declared unit: 1 m^2 of installed floor covering

Conversion factor for the product is 3.1 kg per m^2

Reference service life: 1 year

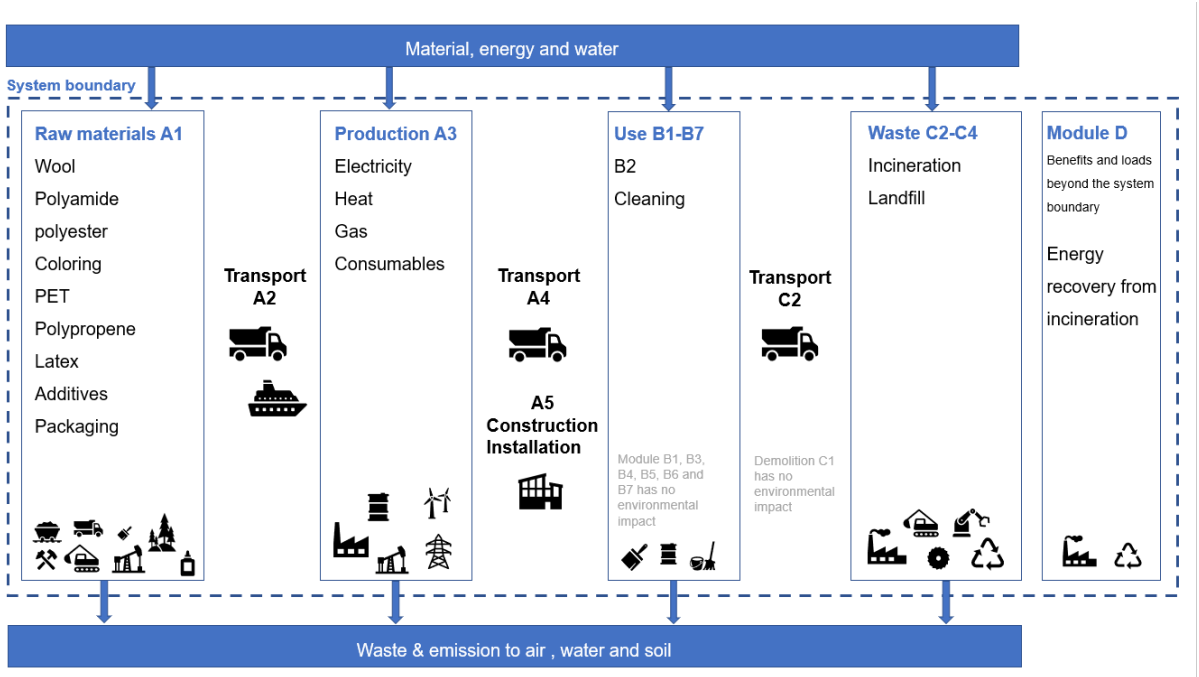
The LCA is based on production data from 05.2023-04.2024 but is deemed to be representative of an average year of production.

Database(s) and LCA software used: The LCA software is SimaPro Flow version 2.47 and the database is Ecoinvent 3.9.1. When modelling in Simapro, Ecoinvent data (updated November 2022) has been used for generic data.

Description of system boundaries:
This is a Cradle to Grave with modules A+B+C+D
(All results for B1 and B3-B7 are zero and therefore not shown in result tables)

Pre-verified and integrated EPD tool: This EPD is generated by Tyréns EPD-generator 3.0.0 – Ege Carpets. The tool is verified by Marcus Wendin, Miljögiraff AB

System diagram:



Production
The carpets and carpet tiles are manufactured through several stages. First, the carpets are either woven at Ege Carpets in Røjle or tufted in Herning North or Gram. The pile materials used in the weaving or tufting process include wool, a mixture of wool and virgin polyamide 6.6, virgin polyamide 6.6, virgin polyamide 6, recycled polyamide 6, or a mixture of virgin polyamide 6.6 and polyester.

Next, some of the carpets are dyed. During the dyeing process, acid dyes, alkaline dyes, and dye auxiliaries are applied.

Following this, they undergo the backing process. In this stage, materials such as PET, PP, polyester, and latex are added to the carpet, along with fillers and flame retardants.

Carpets designated to become carpet tiles are then cut in Herning. During tile cutting, latex and foaming agents are incorporated.

Carpets that are produced in multiple factories are allocated the impact from all the factories that they undergo any production stage in. All carpets are stored and distributed in Herning.

Maintenance
Once the carpet is installed, the use stage begins, requiring continuous cleaning throughout its service life (B2). In line with to EN16810 (2017) B1and B3-B7 are set to zero and the reference service life is one year. In result tables B1 and B3-B7 are zero and are therefore not shown.

More information:
This EPD is generated with a pre-verified EPD tool. All processes are fixed and variable input data for each product i.e constituent material/components (Items) is governed by a menu. The results of the EPD is checked for plausibility. The review of the EPD-generator its constituent processes and the fixed content of the EPD is accepted based on the verification of the tool and the first EPD verification by the tool. Identification name and version number of the EPD-generator: Tyréns EPD-generator 3.0.0 – Ege Carpets

EPD of floor covering products may not be comparable if they do not comply with EN16810:2017.

The infrastructure or capital goods used in the product system for underlying processes are included for upstream and downstream processes, as infrastructure or capital goods can NOT be excluded in SimaPro FLOW. Therefore results of the impact categories abiotic depletion of minerals and metals, land use, human toxicity (cancer), human toxicity, noncancer and ecotoxicity (freshwater) may be highly uncertain in LCAs that include capital goods/infrastructure in generic datasets, in case infrastructure/capital goods contribute greatly to the total results. This is because the LCI data of infrastructure/capital goods used to quantify these indicators in currently available generic datasets sometimes lack temporal, technological and geographical representativeness. Caution should be exercised when using the results of these indicators for decision-making purposes. For core module infrastructure or capital goods are excluded.

Results for the additional impact categories particulate matter, ionising radiation, ecotoxicity (freshwater), human toxicity (cancer), human toxicity (non-cancer) and land use is not declared.

EN 15804 reference package based on EF 3.1 has been used.

Electricity data

The electricity used comes from renewable sources. The energy mix consists of 100% wind power. The climate impact from the energy mix is 0.021 kg CO2eq. per kWh (GWP-GHG).

Estimates and assumptions

- Wooden pallets are assumed to be circulated 25 times, A1.
- Recycled Polyamide 6 without EPD is assumed to be from industry (pre-consumer), A1
- An average distribution between the dye auxiliaries has been used, A1
- An average transport distance is used for materials with multiple suppliers, A2
- For lubricants, the density of 0.8 kg / liter is assumed, A3
- The spillage is evenly distributed among all carpets produced in the factory, regardless of whether they go through one or multiple production stages, A3
- Transport to construction site is assumed to an average distance of 1000 km, A4
- Carpets and carpet tiles are assumed to be vacuumed 252 times per year and wet cleaned 1.5 times per year , B2
- The distance to the dismantling facility and the waste processing facility is assumed to be 50 km and transported by Euro 5 lorry, A5, C2.
-The product is assumed to be incinerated with energy recovery or landfilled, C3, C4
- Efficiency of the heating plant in module D is assumed to be 80 % and the proportion of energy converted to electricity 23% respectively heat 77%.

Background data

The data quality of the background data is considered good. The assessment considers all available data from the production process, including all raw materials and auxiliary materials used as well as the energy consumption in relation to available Ecoinvent 3.9.1 datasets and EPD’s.

Data quality

When modeling in Simapro, Ecoinvent data (updated December 2022) has been used for generic data. The database is considered to be of high quality. For some material supplier’s product specific and third party verified EPD’s has been used. The EPD’s used is of high quality.

Indata gathered from the actual manufacturing plant with product-specific processes, specific amounts, specific waste, and spillage %, specific energy mix, specific transportation distances and transportation type and EPD’s from some of the suppliers are specific data. Specific data are collected directly from supplier and production site.

The percentage specific data is estimated in this EPD for module A1-A3. Specific data are related to amount of energy, transportation and direct emission used throughout module A1-A3 and underlying EPD:s. The Reported share of specific data is associated with uncertainty, as one or several EPDs that are used as data sources lack information on the percentage of specific data used.

Modules declared, geographical scope, share of specific data (in GWP-GHG results) and data variation (in GWP-GHG results):

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	**A1**	**A2**	**A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Modules declared	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Geography	GLO	GLO	DK	EU	EU	EU	EU	EU	EU	EU	EU	EU	EU	EU	EU	EU	EU
Specific data used	65% *			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	0 %			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	0 %			-	-	-	-	-	-	-	-	-	-	-	-	-	-

** See chapter Data Quality for more information.*

Content information

Product components	Weight, kg	Post-consumer material, weight-%	Biogenic material, weight % and kg C/declared unit
Polyamide	0.68	100.00 %	0.00 %
Additive	1.08	0.00 %	0.00 %
Dye	<0.01	0.00 %	0.00 %
Polyester	0.35	100.00 %	0.00 %
Latex	0.82	0.00 %	0.00 %
PET	0.11	90.00 %	0.00 %
TOTAL	3.06	36.95 %	0.00 %
Packaging materials	**Weight, kg**	**Weight-% (versus the product)**	**Weight biogenic carbon, kg C/declared unit**
Wood	0.10	3.38 %	0.05
Cardboard & Paper	0.25	8.18 %	0.12
TOTAL	0.35	11.56 %	0.18

Dangerous substances from the candidate list of SVHC for Authorisation	EC No.	CAS No.	Weight-% per functional or declared unit
-	-	-	0.00

Environmental Information

Potential environmental impact – mandatory indicators according to EN 15804

Results per 1 m^2 of installed floor covering										
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B2**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-fossil	kg CO_2 eq.	5.64E+00	5.17E-01	1.93E-02	4.04E-01	0.00E+00	2.88E-02	2.65E+00	1.13E-02	-1.37E+00
GWP-biogenic	kg CO_2 eq.	4.42E-01	4.68E-04	3.45E-01	5.84E-03	0.00E+00	2.60E-05	3.31E-04	3.48E-05	0.00E+00
GWP-luluc	kg CO_2 eq.	1.13E-01	2.51E-04	4.92E-06	2.95E-03	0.00E+00	1.40E-05	5.45E-05	2.24E-06	-1.19E-03
GWP-total	kg CO_2 eq.	6.19E+00	5.18E-01	3.65E-01	4.13E-01	0.00E+00	2.88E-02	2.65E+00	1.13E-02	-1.37E+00
ODP	kg CFC 11 eq.	3.68E-07	1.12E-08	8.41E-10	7.05E-09	0.00E+00	6.26E-10	1.56E-08	3.97E-10	-1.42E-08
AP	mol H^+ eq.	2.40E-02	1.69E-03	3.64E-04	2.06E-03	0.00E+00	9.38E-05	6.69E-04	7.18E-05	-9.45E-03
EP-freshwater	kg P eq.	1.08E-03	3.62E-05	1.47E-06	3.56E-04	0.00E+00	2.01E-06	1.49E-05	5.32E-07	-7.62E-04
EP-marine	kg N eq.	8.23E-03	5.80E-04	2.54E-04	4.23E-04	0.00E+00	3.23E-05	3.44E-04	3.12E-05	-1.31E-03
EP-terrestrial	mol N eq.	6.62E-02	6.12E-03	1.92E-03	3.42E-03	0.00E+00	3.41E-04	3.08E-03	3.35E-04	-1.33E-02
POCP	kg NMVOC eq.	2.35E-02	2.52E-03	4.65E-04	1.12E-03	0.00E+00	1.40E-04	8.03E-04	1.34E-04	-4.14E-03
ADP-minerals&metals*	kg Sb eq.	9.29E-06	1.66E-06	3.32E-08	9.36E-07	0.00E+00	9.23E-08	2.75E-07	1.21E-08	-9.84E-07
ADP-fossil*	MJ	7.10E+01	7.33E+00	1.32E-01	9.27E+00	0.00E+00	4.08E-01	5.08E-01	2.91E-01	-1.87E+01
WDP*	m^3	4.44E+00	4.26E-02	1.13E-02	3.45E-01	0.00E+00	2.37E-03	5.14E-02	1.47E-02	-5.43E-01
Acronyms		GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption							

Disclaimer: The results of modules A1-A3 should not be used without considering the results of module C. The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks.

**Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.*

Potential environmental impact – additional mandatory and voluntary indicators

Results per 1 m² of installed floor covering										
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B2**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG[1]	kg CO_2 eq.	5.80E+00	5.17E-01	1.93E-02	4.09E-01	0.00E+00	2.88E-02	2.65E+00	1.13E-02	-1.37E+00

Disclaimer: The results of modules A1-A3 should not be used without considering the results of module C. The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks.

Use of resources

Results per 1 m² of installed floor covering										
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B2**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	4.49E+01	1.14E-01	3.98E-03	1.92E+00	0.00E+00	6.33E-03	4.97E-02	5.74E-03	-3.35E+00
PERM*	MJ	6.11E+00	0.00E+00	-5.94E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	5.10E+01	1.14E-01	-5.94E+00	1.92E+00	0.00E+00	6.33E-03	4.97E-02	5.74E-03	-3.35E+00
PENRE	MJ	7.87E+01	7.79E+00	1.43E-01	9.74E+00	0.00E+00	4.34E-01	5.43E-01	3.09E-01	-1.97E+01
PENRM*	MJ.	4.86E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.93E+01	-5.85E+01	0.00E+00
PENRT	MJ	1.27E+02	7.79E+00	1.43E-01	9.74E+00	0.00E+00	4.34E-01	-1.88E+01	-5.82E+01	-1.97E+01
SM	kg	1.57E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m^3	2.15E+00	1.68E-03	4.29E-04	1.37E-02	0.00E+00	9.32E-05	1.83E-03	3.69E-04	-1.52E-02
Acronyms		PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water								

Disclaimer: The results of modules A1-A3 should not be used without considering the results of module C.

**For the PERM and PENRM the new "GUIDANCE TO CALCULATING THE PRIMARY ENERGY USE INDICATORS" in Annex 3 of the PCR is followed and calculated according to option A.*

[1] The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus almost equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

Waste production and output flows

Waste production

Results per 1 m² of installed floor covering										
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B2**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	1.81E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Non-hazardous waste disposed	kg	4.63E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Radioactive waste disposed	kg	6.92E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Disclaimer: The results of modules A1-A3 should not be used without considering the results of module C

Output flows

Results per 1 m² of installed floor covering										
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B2**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for recycling	kg	5.03E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy, electricity	MJ	4.28E+00	0.00E+00	1.89E+00	0.00E+00	0.00E+00	0.00E+00	5.15E+00	0.00E+00	0.00E+00
Exported energy, thermal	MJ	6.12E+00	0.00E+00	6.31E+00	0.00E+00	0.00E+00	0.00E+00	1.72E+01	0.00E+00	0.00E+00

Disclaimer: The results of modules A1-A3 should not be used without considering the results of module C

Additional information

ID: EPD Calculation Ege carpets 17-12-2024 20:14

Information regarding how to safely and efficiently install, use and dispose the product can be found in the installation and maintenance guides available via Ege Carpets website.

Installation guide: https://www.egecarpets.com/technical-info/how-to-install-your-carpet
Maintenance guide: https://www.egecarpets.com/technical-info/how-to-maintain-your-carpet

References

Ecoinvent, < https://ecoinvent.org/the-ecoinvent-database/ >

General Programme Instructions of the International EPD® System. Version 4.0 and Version 5.0.

PCR 2019:14 Construction products (EN 15804:A2) (1.3.3)

c-PCR-004 Resilient, textile and laminate floor coverings (EN 16810). Version: 2024-04-30

SIS (2022). EN 16757:2022 “Sustainability of construction works – Environmental product declarations – Product Category Rules for concrete and concrete elements”. Svenska Institutet för Standarder

SIS (2021). EN 15804:2012+A2:2019, “Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products”. Svenska Institutet för Standarder

EPD®

www.environdec.com