Environmental Product Declaration

In accordance with ISO 14025 and EN 15804:2012+A2:2019 for:

Decork Design, Decork Façade, Decork Alfareflex, Decorkrete, C.W.C. Stop Condense, Acrilid Protect Coating, Plasterpaint Coloured, Limepaint, Argacem Coloured

From ***DIASEN SRL***

Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
EPD registration number:	S-P-06875
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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

CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product category rules (PCR): *PCR 2019:14 Construction products, Version 1.1*
PCR review was conducted by: *<name and organisation of the review chair, and information on how to contact the chair through the programme operator>*
Independent third-party verification of the declaration and data, according to ISO 14025:2006: ☐ EPD process certification ☑ EPD verification
Third party verifier: Certiquality S.r.l. Via Gaetano Giardino, 4 20123 - Milano Tel. +39 02 806 9171 www.certiquality.it *Accredited by: Accredia* *Approved by:* Il sistema internazionale EPD®
Procedure for follow-up of data during EPD validity involves third party verifier: ☐ Yes ☑ No

DIASEN ITALIA, as EPD owner, has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but from different programmes may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804. For further information about comparability, see EN 15804 and ISO 14025.

Company information

Owner of the EPD: Diasen Srl

Contact: Davide Tomassoni

Description of the organisation:
Diasen is an Italian company operating in the ecological building sector, which oriented its production target towards innovative, low environmental impact, high technological content and quality products. For the purpose, the company provides high performance and green solutions in terms of thermal and acoustic insulating systems, waterproofing systems, coatings and coverings for the public, private and sport building sector. The respect of the legislation, regulations and prescriptions applicable to the environmental protection, as well as to the reduction and control of environmental impacts, are the basic principles that characterize each single project. Since 2007 Diasen has carried out a certified Environmental Management System in compliance with the standard EN ISO 14001. Moreover, **LEED mapping** for 14 key products has been pursued. Specific attention is paid to the reduction of waste production through a careful and effective activity of monitoring and control, by favouring, when possible, the production of recoverable waste. Research and Development activity, is focused on the possibility of using raw materials deriving from manufacturing waste or from recoverable waste. The planning phases is oriented to thermo-insulating products to reduce the energy use and consumption inside the house.

Product-related or management system-related certifications: ISO 9001:2015 - EN ISO 14001:2015;

Name and location of production site(s): DIASEN SRL - Zona Ind. Berbentina, 5 - 60041 Sassoferrato (AN) - Italy

Manufacturing

The manufacturing process starts from raw materials storage as received from suppliers. At this purpose, some raw material arrives in plastic and metal buckets, some other in kraft paper and plastic bags or without any packages. The latter ones are stored inside specific silos. These materials are automatically or by hand fed in the (liquid) production mixer. Materials arriving in their package (as mentioned) and are stored in the warehouse. Subsequently are sent to the mixer by mean of an electric forklift or fed to the mixer. About the products containing cork, this raw material is worked in a milling section and sent to the final production stage. The production is a discontinuous process, in which all the components are mechanically mixed in batches. The product is then packaged in buckets, put on wooden pallets, protected by a hooding polymer film and stored in the Finished Products' warehouse. The quality of final product is controlled during the production phase and also before the sale. This manufacturing process involves the use of water and it is almost a close-loop process, without scraps. Water (from aqueduct) is used to clean the mixer between the production of different kinds of materials and it is dismantled as wastewater.

Product information

1. Product name: Decork Design
   Product identification: see table 1
   Product description: Decorative coating based on cork and water-based resins, performing good resistance to atmospheric agents and fire, breathability and thermal insulation;
   UN CPC code: 54730 – painting services of building exteriors (principally for protection);
   DIASEN PRODUCT CODE: 21172701;

2. Product name: Decork Façade
Product identification: see table 2
Product description: Coloured finishing coating based on cork and water-based resins, performing good resistance to atmospheric agents and fire, breathability and thermal insulation;
UN CPC code: 54730 - painting services of building exteriors (principally for protection);
DIASEN PRODUCT CODE: 21010711;

3. Product name: Decork Alfareflex
Product identification: see table 3
Product description: White, highly reflective coating formulated with cork and water-based resins for exteriors, performing high resistance to atmospheric agents and to erosive action of salt;
UN CPC code: 54730 - painting services of building exteriors (principally for protection);
DIASEN PRODUCT CODE: 20512302;

***Table 1**: Decork Design.*

Property	Value	Test methodology
Water permeability	Class W2	UNI EN 1062-1
Elongation at break (%)	60	ISO 527-1
Crack Bridging ability	2,50	-
Thermal Conductivity (W/mK)	0,086	UNI EN 12667
Accelerated weathering test (hours(years)	1680 hr (10 yr)	UNI EN ISO 11507
Permeability to Water vapour	15	UNI EN ISO 7783
Hazardous substances	Isoproturon; Iodopropynyl-butyl-carbamate; 1,2-benzisothiazol-3(2H)-one	CE Regulation 1272/2008

***Table 2**: Decork Façade.*

Property	Value	Test methodology
Elongation at break (%)	195	ISO 527-1
Crack Bridging ability	2,50	-
Thermal Conductivity (W/mK)	0,086	UNI EN 12667
Accelerated weathering test (hours(years)	1680 hr (10 yr)	UNI EN ISO 11507
Adhesion test on concrete – Tensile mode (N/mm^2)	0,78 Failure typology A/B	UNI EN ISO 4624
Permeability to Water vapour	15	UNI EN ISO 7783
Hazardous substances	1,2-benzisothiazol-3(2H)-one	CE Regulation 1272/2008

***Table 3**: Decork Alfareflex.*

Property	Value	Test methodology
Impermeability to water	Class W2	UNI EN 1062-1
Thermal Conductivity (W/mK)	327 166 after accelerated weathering	UNI EN 12667
Adhesion test on concrete – Tensile mode (N/mm^2)	*1,17* *0,67 after freeze and Thaw cycles* *(On concrete UNI EN 1542)*	UNI EN ISO 4624
Accelerated weathering test (hours/years)	1680 hr (10 yr)	*UNI EN ISO 11507*
*Viscosity at 23 °C (mPa*s)*	50000 – 65000 Brookfiled DV-E	UNI EN ISO 2555
Fire reaction	Classe B S2, d0	UNI EN 13501-1
Hazardous substances	Zinc Oxyde; Isoproturon; Iodopropynyl-butyl-carbamate; 1,2-benzisothiazol-3(2H)-one	CE Regulation 1272/2008

***Table 4**: Decorkrete.*

Property	Value	Test methodology
Thermal Conductivity (W/mK)	*336 ± 67*	UNI EN 12667
Tensile Strength (MPa)	*0,10 – 1 gg* *2,66 – 7 gg* *6,35 – 28 gg*	*UNI EN 13813*
Compression Strength (MPa)	*1,58 – 1 gg* *8,97 – 7 gg* *24,59 – 28 gg*	*UNI EN 13813*
Hazardous substances	Quartz; Portland Cement;	CE Regulation 1272/2008

4. Product name: Decorkrete
   Product identification: see table 4
   Product description: Microcement base coating containing special powdery resins and innovative additives, performing a good weather resistance;
   UN CPC code: 54730 – painting services of building exteriors (principally for protection);
   DIASEN PRODUCT CODE: 20511802;

***Table 5**: C.W.C: Stop Condense.*

Property	Value	Test methodology
Permeability to Water vapour	8	UNI EN ISO 7783
Hazardous substances	1,2-benzisothiazol-3(2H)-one	CE Regulation 1272/2008

5. Product name: C.W.C Stop Condense
   Product identification: see table 5
   Product description: White interior coating based on latex and special mineral powders, effective in avoiding the formation of condensation, yeasts, etc.;
   UN CPC code: 54730 – painting services of building exteriors (principally for protection);
   DIASEN PRODUCT CODE: 2022283;

6. Product name: Acrilid Protect Coating
   Product identification: see table 6
   Product description: Coloured, water-repellent and breathable, washable, coating, used as a protective finish for external facades and internal walls, as well as a finishing for thermal-acoustic coatings plasters;
   UN CPC code: 54730 – painting services of building exteriors (principally for protection);
   DIASEN PRODUCT CODE: 20313011;

***Table 6**: Acrilid Protect Coating.*

Property	Value	Test methodology
Accelerated weathering strength (hr/yr)	*1680 (>10 years)*	UNI EN ISO 11507
Permeability to Water Vapour	*88*	*UNI EN ISO 7783*
Solid content (%)	*65*	*UNI EN 13813*

***Table 7**: Plaster Paint Coloured.*

Property	Value	Test methodology
Accelerated weathering strength (hr/yr)	*1680 (>10 years)*	UNI EN ISO 11507
Permeability to Water Vapour	*7*	*UNI EN ISO 7783*
Strength to direct UV exposition (hr/yr)	*1680 (>5 years)*	*UNI EN ISO 11507*
Solid content (%)	*65*	*UNI EN 13813*

7. Product name: Plasterpaint Coloured
Product identification: see table 7
Product description: Coloured, breathable, water-repellent, stucco to be used as a plaster-like finish on external plasters. Ideal as a finish for thermal-acoustic external coatings;
UN CPC code: 54730 – painting services of building exteriors (principally for protection);
DIASEN PRODUCT CODE: 21490713;

8. Product name: Limepaint
Product identification: see table 8
Product description: Highly opaque and breathable liquid coating, based on lime, used as a finish for interior walls and ceilings. It is used to finish thermo-acoustic plasters;
UN CPC code: 54730 – painting services of building exteriors (principally for protection);
DIASEN PRODUCT CODE: 2031308;

***Table 8**: Limepaint.*

Property	Value	Test methodology
Accelerated weathering strength (hr/yr)	*1000 (>5 years)*	UNI EN ISO 11507

***Table 9**: Argacem Coloured.*

Property	Value	Test methodology
Accelerated weathering strength (hr/yr)	*1680 (>10 years)*	UNI EN ISO 11507
Permeability to Water Vapour	*7*	*UNI EN ISO 7783*
Flammability	*No flammable*	-

9. Product name: Argacem Coloured
Product identification: see table 9
Product description: Coloured, breathable, water-repellent stucco, to be used as a plaster-like finish on external plasters. Ideal as a finish for thermal-acoustic external coatings;
UN CPC code: 54730 – painting services of building exteriors (principally for protection);
DIASEN PRODUCT CODE: 21490713;

Properties summarized in tables from 1 to 9 can be collected from TDS (Technical Data Sheet) related to each product. These can be downloaded directly in the Diasen website: www.diasen.com
Characterisation tests have been carried out both in external laboratories and in Diasen's in-house laboratory, all in accordance with Regulation 305/11.

The products *Decork Design*, *Decork Façade* and *Decork Alfareflex*, are supplied in plastic buckets containing an amount of product of 18 kg. Product *Decorkrete* is supplied in plastic buckets containing an amount of product of 10 kg, while *C.W.C. Stop Condense* is supplied in plastic buckets of 14 L. The products *Acrilid Protect Coating* and *Limepaint* are supplied in plastic buckets containing an amount of product of 20 kg. Finally, the products *Argacem Coloured* and *Plasterpaint Coloured* are supplied in plastic buckets containing an amount of product of 25 kg.

Content information

***Table 10:** Content declaration and substances list for the system Decork Design.*

Components	Weight (%)	EC No.	CAS No.	Recycled material (%)	Renewable material (%)
Water	15,00 ÷ 25,00	-	-	0	-
Quartz	11,00 ÷ 15,00	238-878-4	14808-60-7	0	-
Acrylic Resin	46,00 ÷ 52,00	-	9063-87-0	0	-
Cork	15,00 ÷ 20,00	-	61789-98-8	85,00 (post Industrial)	100
Organic Additives	1,50 ÷ 2,00	284-660-7	84691-70-6	0	-
Inorganic Additives	0,10 ÷ 0,45	13463-67-7	236-675-5	0	-

Table 11: *Content declaration and substances list for the system Decork Façade.*

Components	Weight (%)	EC No.	CAS No.	Recycled material (%)	Renewable material (%)
Water	15,00 ÷ 25,00	-	-	0	-
Quartz	11,00 ÷ 15,00	238-878-4	14808-60-7	0	-
Acrylic Resin	40,00 ÷ 50,00	-	9063-87-0	0	-
Cork	17,00 ÷ 23,00	-	61789-98-8	85,00 (post Industrial)	100
Organic Additives	1,50 ÷ 2,00	284-660-7	84691-70-6	0	-
Inorganic Additives	0,10 ÷ 0,45	13463-67-7	236-675-5	0	-

Table 12: *Content declaration and substances list for the system Decork Alfareflex.*

Components	Weight (%)	EC No.	CAS No.	Recycled material (%)	Renewable material (%)
Water	14,00 ÷ 22,00	-	-	0	-
Quartz	12,00 ÷ 18,00	238-878-4	14808-60-7	0	-
Acrylic Resin	42,00 ÷ 50,00	-	9063-87-0	0	-
Cork	14,00 ÷ 24,00	-	61789-98-8	85,00 (post Industrial)	100
Organic Additives	1,25 ÷ 1,85	284-660-7	84691-70-6	0	-
Inorganic Additives	0,30 ÷ 0,75	13463-67-7	236-675-5	0	-

Table 13: *Content declaration and substances list for the system Decorkrete.*

Components	Weight (%)	EC No.	CAS No.	Recycled material (%)	Renewable material (%)
Quartz	47,00 ÷ 53,00	238-878-4	14808-60-7	0	-
Portland Cement	44,00 ÷ 54,00	266-043-4	65997-15-1	0	-
Inorganic Additives	0,70 ÷ 1,30	13463-67-7	236-675-5	0	-

Table 14: *Content declaration and substances list for the system C.W.C. Stop Condense.*

Components	Weight (%)	EC No.	CAS No.	Recycled material (%)	Renewable material (%)
Water	10,00 ÷ 18,00	-	-	0	-
Quartz	20,00 ÷ 26,00	238-878-4	14808-60-7	0	-
Talc	14,00 ÷ 20,00	238-877-9	14807-96-6	0	-
Inorganic Additives	1,00 ÷ 3,00	13463-67-7	236-675-5	0	-
Acrylic Resin	40,00 ÷ 48,00	-	9063-87-0	0	-

Table 15: *Content declaration and substances list for the system Acrilid Protect Coating.*

Components	Weight (%)	EC No.	CAS No.	Recycled material (%)	Renewable material (%)
Water	16,00 ÷ 22,00	-	-	0	-
Quartz	30,00 ÷ 38,00	238-878-4	14808-60-7	0	-
Talc	13,00 ÷ 17,00	238-877-9	14807-96-6	0	-
Organic Additives	0,8 ÷ 1,10	284-660-7	84691-70-6	0	-
Inorganic Additives	0,02 ÷ 0,08	13463-67-7	236-675-5	0	-
Acrylic Resin	28,00 ÷ 34,00	-	9063-87-0	0	-

Table 16: *Content declaration and substances list for the system Argacem Coloured.*

Components	Weight (%)	EC No.	CAS No.	Recycled material (%)	Renewable material (%)
Water	12,00 ÷ 20,00	-	-	0	-
Quartz	30,00 ÷ 40,00	238-878-4	14808-60-7	0	-
Talc	12,00 ÷ 20,00	238-877-9	14807-96-6	0	-
Organic Additives	0,8 ÷ 1,10	13463-67-7	236-675-5	-	-
Inorganic Additives	0,01 ÷ 0,09	13463-67-7	236-675-5	0	-
Acrylic Resin	29,00 ÷ 35,00	-	9063-87-0	0	-

Table 17: *Content declaration and substances list for the system Limepaint.*

Components	Weight (%)	EC No.	CAS No.	Recycled material (%)	Renewable material (%)
Water	6,00 ÷ 10,00	-	-	0	-
Quartz	30,00 ÷ 40,00	238-878-4	14808-60-7	0	-
Talc	12,00 ÷ 16,00	238-877-9	14807-96-6	0	-
Organic Additives	0,8 ÷ 1,10	13463-67-7	236-675-5	-	-
Inorganic Additives	0,01 ÷ 0,09	13463-67-7	236-675-5	0	-
Acrylic Resin	38,00 ÷ 46,00	-	9063-87-0	0	-

Table 18: *Content declaration and substances list for the system Plasterpaint Coloured.*

Components	Weight (%)	EC No.	CAS No.	Recycled material (%)	Renewable material (%)
Water	12,00 ÷ 22,00	-	-	0	-
Quartz	30,00 ÷ 40,00	238-878-4	14808-60-7	0	-
Talc	12,00 ÷ 16,00	238-877-9	14807-96-6	0	-
Organic Additives	0,8 ÷ 1,10	13463-67-7	236-675-5	-	-
Inorganic Additives	0,01 ÷ 0,09	13463-67-7	236-675-5	0	-
Acrylic Resin	30,00 ÷ 34,00	-	9063-87-0	0	-

The product dealt with in this document are not classified as hazardous or dangerous for the environment in accordance with Directives 67/548/EEC and 1999/45/EC. There are not substances included in the Authorisation List (Attachment XIV) or the Candidate List of Substances of Very High Concern for Authorisation issued by the European Chemicals Agency, nor do they contain such substances.

Table 19*: Raw materials used in the family of Finishes and Decorative products.*

Material	Hazard Phrase	Function
Water	-	Solvent
Quartz	-	Filler
Talc	-	Filler
Cork	-	Thermal Insulation
Acrylic Resin	H210; H208	Binder
Organic Additives	-	Antifoaming and working-ability
Inorganic Additives	H210; H208	Pigment

Under normal storage and use conditions, these products can be handled with no particular precautions or special protective equipment.

LCA information

Product environmental performance was assessed using the Life Cycle Assessment (LCA) method, in accordance with the EN ISO 14044:2006 standard, and the Life Cycle Impact assessment (LCIA) method, in accordance with standard UNI EN 15804:2014 + A2:2019, served as the core PCR. On this regards**,** Product Category Rules (PCR) - Construction Products PCR 2019:14 - Version 1.11 have been taken into account as reference document for building construction products. The results of the estimated environmental impacts are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks. The field of application of the different products is quite the same, despite the related properties are different. Any products could perform several functionalities inside a building component (also different performances), thus the definition of a single and specific functionality for each product is quite difficult. For this reason, a declared unit has been taken into account instead of a functional unit, as recommended by the used standardisation. It can be introduced that for any products considered for the EPD the declared unit deals with the 1,00 kg of product, ready to be sold and transported towards the end user (builder), together with the related packaging (buckets), already covered with related quote part of plastic film and laid out over the euro pallet it is transported by (also in this case the related quote part).

It has to be pointed out that the production of the investigated systems takes place inside the Diasen Manufacturing Plant in Sassoferrato (AN) – Italy.

Declared unit and Reference service life:
The Declared Unit (DU) is 1 kg of product (product mix). The environmental impact of 1 kg of product (packaging included) for each products involved is described. According to the system boundary of this EPD, a Reference Service Life has not been provided.

Time representativeness: Data are referred to the production carried out in 2020 and have been provided by Diasen Srl. Moreover, data regarding the geographic origin of any raw materials, packaging materials etc. have been provided, as well as the transportation media.

Database and LCA software used: Ecoinvent 3.8 used as a database and SimaPrò. Version 9.3.0 as a software.

Description of system boundaries:
Cradle to gate (A1–A3).
In the declared modules the following activities have been considered:

- Phase A1: raw materials together with the related packaging, in some cases PP fibres (plastic bags) and cork, additives, inert (talc and quartz) powders (inside kraft paper bags), or with no packages if returned to the producers have been considered. Also, energies of production (cork milling, powder mixing) and related to the company utilities (mainly compressed air) have been included in this module;

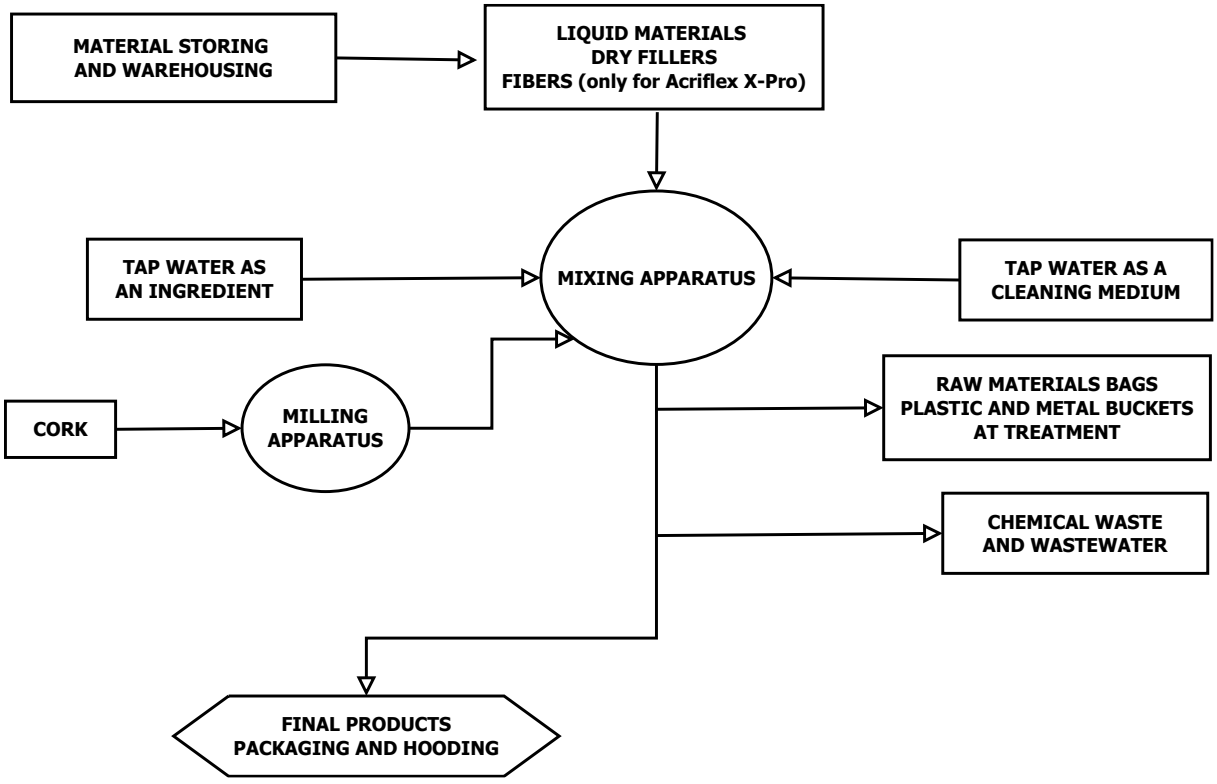
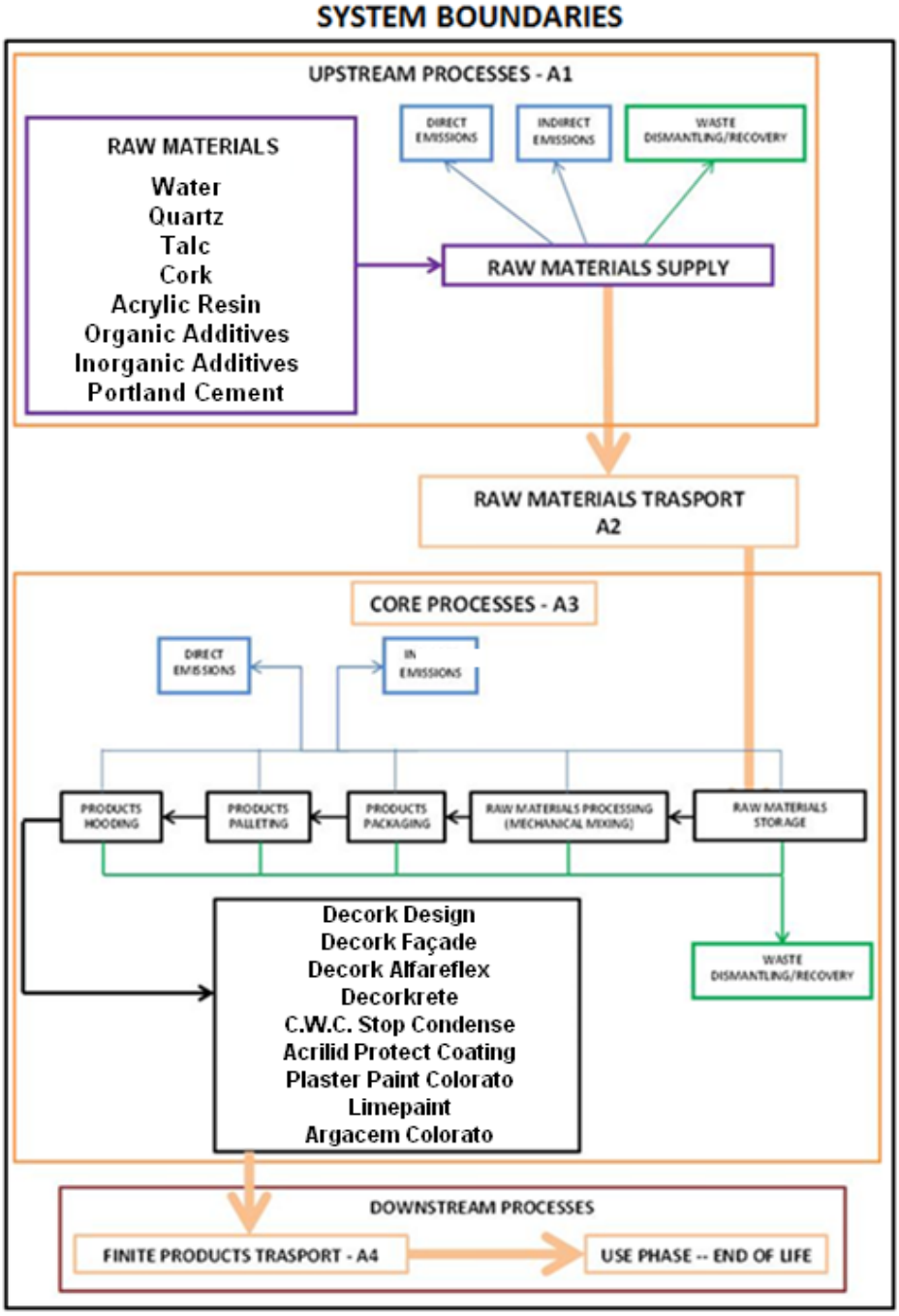


***Figure 1**: Preliminary scheme of the finishing and decorative products manufacturing phase.*

- Phase A2: Transports of raw materials (and packages if existing) and packages used to purchase the investigated products. Also produced waste transport to treatment plants has been included;
- Phase A3: emissions (powder collected by scrubbers and abatement systems), wastes related to auxiliary packages the used raw materials are provided with. The latter kinds have been considered being sent to the appropriate collecting systems;

System diagram:



More information:

Name and contact information of the organisation carrying out the underlying LCA study: University of Perugia – Strada di Pentima, 4 – 05100 –Terni (Italy)

Table 20: *Reporting table for Finishes and Decorative products.*

	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	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Geography	IT	IT	IT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Specific data						-	-	-	-	-	-	-	-	-	-	-	-
Variation - Products						-	-	-	-	-	-	-	-	-	-	-	-
Variation - Sites						-	-	-	-	-	-	-	-	-	-	-	-

Assumption and Estimation:

In accordance with the General Programme Instructions for the International EPD® System (2015) and the reference PCR.

For secondary materials following approach has to be adopted:

- The environmental impacts related to the “previous life cycle” have not been considered;
- Secondary materials do not need to be processed before the new use;
- Transports to the factory gate have been considered;

Table 21*: Recycled materials used in the production process of Diasen Product.*

Material	**Weight fraction in Diasen products (%)**	**Recycled content (%)**	**Definition**
Cork	15 ÷ 22	85	PRE-consumer recycled content is defined as materials that are diverted from the manufacturing waste stream and used to make a new product. Normally, the materials are purchased from companies that collect discarded waste from other manufacturers. To qualify, the materials must be considered a waste product and not normally reused by industry within the original manufacturing process. Paper product scraps that must be re pulped can be considered PRE-consumer content

Product	**Recycled Cork (%)**
Decork Façade	17,00
Decork Design	14,45
Decork Alfareflex	16,15

About the used additives both the organic and the inorganic counterpart, the related composition has been modelled according to information contained in the related technical and safety data sheet, provided by the related provider, but also by mean of information collected from literature references[11-18] (patents, databases, reports, etc.). Raw materials and packaging transports to Diasen Processing plant have been carried out by mean EURO4 lorries. This data represents the Italian road Transport system average framework.

Data regarding the energy exploitation have been provided in aggregate manner by the producer and are concerned with the whole processing cycle of any products dealt with in this document: (Italy Residual Mix or German one in the case of raw material specifically produced by German suppliers). Those energy consumption data have been periodically measured by the company. About the packaging, it is strongly connected with the product and it has been summarized in table 22:

***Table 22**: Packages for Finishes and Decorative products series.*

Product	Decork Façade	Decork Design	Decork Alfareflex	Decorkrete	C.W.C. Stop Condense	Acrilid Protective Coating	Argacem Coloured	Limepaint	Plasterpaint Coloured
Weight (kg/bucket)	18,00	18,00	18,00	10,00	15,40 (14,00 L)	20,00	25,00	20,00	25,00
Buckets/Pallet (n°)	32,00	32,00	32,00	48,00	48,00	48,00	36,00	48,00	48,00
Bucket (kg/kg product)	$6,08*10^{-2}$	$6,08*10^{-2}$	$6,08*10^{-2}$	$8,48*10^{-2}$	$5,51*10^{-2}$	$4,24*10^{-2}$	$3,39*10^{-2}$	$4,24*10^{-2}$	$3,39*10^{-2}$
Film PE (kg/kg product)	$6,94*10^{-4}$	$6,94*10^{-4}$	$6,94*10^{-4}$	$8,33*10^{-4}$	$5,41*10^{-4}$	$4,17*10^{-4}$	$4,44*10^{-4}$	$4,17*10^{-4}$	$3,33*10^{-4}$
Europallet (unit/kg product)	$1,74*10^{-3}$	$1,74*10^{-3}$	$1,74*10^{-3}$	$2,08*10^{-3}$	$1,35*10^{-3}$	$1,04*10^{-3}$	$1,11*10^{-3}$	$1,04*10^{-3}$	$8,33*10^{-4}$
Cardboard (kg/kg product)	ND	ND	ND	ND	ND	ND	ND	ND	ND

Cut-off criteria:
The consumption of raw materials and energy related to ordinary and extraordinary maintenance operations was not included, as it has been verified their very low relevance to environmental impact.

Allocation criteria:
Any product is subjected to batch model production (not continuous production) also at regime, thus, at the end of each single production stage only one product is produced inside the manufacturing facility. After a simple cleaning stage, a completely different material con be processed in the same device. For this reason, data collected from Ecoinvent the allocation criteria used by this database has been taken into account.

Data quality:
As introduced, the background data used in this EPD were retrieved from the Ecoinvent 3.8 databank. For inventory modelling, SimaPro 9.3 software was used. The geographical reference was Italy, or, to the greatest extent, Central, while the time period spanned the last 5 years. Data collection included the analysis of internal production and environmental data from Diasen S.r.l. production site, the acquisition of relevant data (site specific data) for all the production processes included in the LCA (Use of Italian Residual Mix[8]). About the raw materials, the most relevant data are European or specific from supplier. Finally, the reference time period for the LCA (product composition, transport, production rates, etc.) are referred to 2021.

Data comparability:
All the data and results related to these products were collected and obtained based on the EN 15804 standard, in the context of their final use in the building manufacturing system. Thus, the environmental impacts associated with the investigated products are comparable with the environmental impacts of other similar products calculated according to the same UNI EN 15804 standard.

Environmental Information

In this section environmental profiles of the products covered by this EPD using the LCA method have been reported. As introduced, a “Cradle-to-gate” approach has been carried out and, phases A1-A3 have been included within the system boundaries. Different calculation tools have been used, as recommended by the EPD regulation.

Potential environmental impact – mandatory indicators according to EN 15804

- **Global Warming Potential (GWP):** It is directly linked to Climate Change**,** as a measure of greenhouse gas emissions, such as carbon dioxide and methane. These emissions increase absorption of radiation emitted by the earth, intensifying the natural greenhouse effect;
- **Abiotic Depletion Potential (ADP):** It directly regards the consumption of resources in relation to the corresponding source current availability. The exploitation of non-renewable resources leads to a decrease in the future availability of the related performed functions. This impact category can be shared in depletion of mineral resource elements (ADPE) and non-renewable fossil energy resources (ADPF). In the report these are reported separately;
- **Ozone Depletion Potential (ODP):** This indicator directly regards the increase in the tropospheric zone hole. It is another measure of the emissions of greenhouses gasses, as they increase the absorption of radiation emitted by the earth, which increases also the natural greenhouse effect;
- **Photochemical Ozone Creation Potential (POCP):** Photochemical Smog**.** It is a measure of precursors emissions contributing to ground level smog formation (mainly ozone O_3), produced by the reaction of volatile organic compounds (VOCs) and carbon monoxide in the presence of nitrogen oxides under the influence of UV light. Ground level ozone can be harmful for human and ecosystem health and may also damage agriculture;
- **Acidifcation Potential (AP):** It is related to the Acid Rains. It is a measure of emissions leading to acidifying effects on the environment. From a technical base point, the involved indicator is a measure of the capacity of a given molecule or chemical species to increase the hydrogen ion (H+) concentration in the water (lakes, rivers, etc.), thus decreasing the related pH value. Moreover, potential effects include forest and building materials deterioration;
- **Eutrophication Potential (EP):** It regards the Algal Blooms. It is a measure of nutrient enrichment that can lead to an undesirable shift in species composition and elevated biomass production in terrestrial and aquatic ecosystems. It includes potential impacts of excessively high levels of nitrogen and phosphorus macronutrients;

Table 23: *Impact indicators for the system Decork Façade.*

Results per Declared Unit – 1,00 kg					
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total**
Global Warming Potential – GWP Total	kg_CO_2_eq.	0,726	$3,83*10^{-2}$	0,32	1,08
Global Warming Potential – GWP fossil	kg_CO_2_eq.	0,696	$3,80*10^{-2}$	0,308	1,04
Global Warming Potential – GWP biogenic	kg_CO_2_eq.	$3,03*10^{-2}$	$2,80*10^{-4}$	$1,19*10^{-2}$	$4,24*10^{-2}$
Global Warming Potential – GWP Luluc	kg_CO_2_eq.	$1,46*10^{-4}$	$1,51*10^{-5}$	$3,71*10^{-4}$	$5,32*10^{-4}$
Ozone Depletion Potential - ODP	kg_CFC-11_eq.	$1,05*10^{-7}$	$7,09*10^{-9}$	$1,28*10^{-8}$	$1,25*10^{-7}$
Acidification Potential - AP	mol H+_eq.	$2,32*10^{-3}$	$1,94*10^{-4}$	$1,38*10^{-3}$	$3,89*10^{-3}$
	Kg_SO_2_eq	$2,05*10^{-3}$	$1,72*10^{-4}$	$1,19*10^{-3}$	$3,41*10^{-3}$
Eutrophication Aquatic Freshwater	kg_ P_eq.	$2,23*10^{-4}$	$2,60*10^{-6}$	$6,18*10^{-5}$	$2,87*10^{-4}$
	kg_ PO_4_eq.	$8,47*10^{-4}$	$2,88*10^{-6}$	$8,55*10^{-5}$	$9,35*10^{-4}$
Eutrophication Aquatic Marine	kg_ N_eq.	$1,45*10^{-5}$	$2,28*10^{-7}$	$8,56*10^{-5}$	$2,33*10^{-5}$
Eutrophication Terrestrial	mole N_eq.	$5,58*10^{-3}$	$7,31*10^{-4}$	$2,80*10^{-3}$	$9,11*10^{-3}$
Photoch. Ozone Formation Potential - PCOF	kg_NMVOC	$1,50*10^{-3}$	$2,06*10^{-4}$	$1,02*10^{-3}$	$2,73*10^{-3}$
Abiotic Resources Depletion Potential Minerals and Metals – ADPE (*)	kg_ Sb_eq.	$4,80*10^{-6}$	$1,31*10^{-7}$	$1,64*10^{-6}$	$6,57*10^{-6}$
Abiotic Resources Depletion Potential – Fossil – ADPF (*)	MJ_eq.	4,24	0,572	7,51	12,30
Water Use (*)	m^3world eq.	0,103	$1,74*10^{-3}$	0,124	0,229
GWP - GHG	kg_CO_2_eq.	0,695	$3,80*10^{-2}$	0,309	1,04

Table 24: *Impact indicators for the system Decork Design.*

Results per Declared Unit – 1,00 kg					
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total**
Global Warming Potential – GWP Total	kg_CO_2_eq.	1,18	$4,07*10^{-2}$	0,239	1,46
Global Warming Potential – GWP fossil	kg_CO_2_eq.	1,15	$4,04*10^{-2}$	0,229	1,42
Global Warming Potential – GWP biogenic	kg_CO_2_eq.	$2,97*10^{-2}$	$2,79*10^{-4}$	$9,96*10^{-3}$	$3,99*10^{-2}$
Global Warming Potential – GWP Luluc	kg_CO_2_eq.	$4,96*10^{-4}$	$1,57*10^{-5}$	$2,56*10^{-4}$	$7,68*10^{-4}$

Ozone Depletion Potential - ODP	kg_CFC-11_eq.	$1{,}04*10^{-7}$	$7{,}62*10^{-9}$	$1{,}01*10^{-8}$	$1{,}22*10^{-7}$
Acidification Potential - AP	mol H+_eq.	$4{,}66*10^{-3}$	$2{,}18*10^{-4}$	$1{,}03*10^{-3}$	$5{,}91*10^{-3}$
	$Kg\_SO_2\_eq$	$3{,}93*10^{-3}$	$1{,}93*10^{-4}$	$9{,}92*10^{-4}$	$5{,}02*10^{-3}$
Eutrophication Aquatic Freshwater	kg_ P_eq.	$2{,}35*10^{-4}$	$2{,}59*10^{-6}$	$6{,}17*10^{-5}$	$2{,}99*10^{-4}$
	kg_ PO_4_eq.	$7{,}21*10^{-4}$	$7{,}95*10^{-6}$	$1{,}90*10^{-4}$	$9{,}19*10^{-4}$
Eutrophication Aquatic Marine	kg_ N_eq.	$1{,}96*10^{-5}$	$2{,}35*10^{-7}$	$5{,}71*10^{-6}$	$2{,}55*10^{-5}$
Eutrophication Terrestrial	mole N_eq.	$5{,}58*10^{-3}$	$8{,}07*10^{-4}$	$2{,}12*10^{-3}$	$1{,}12*10^{-2}$
Photoch. Ozone Formation Potential - PCOF	kg_NMVOC	$3{,}40*10^{-3}$	$2{,}31*10^{-4}$	$7{,}87*10^{-4}$	$4{,}42*10^{-3}$
Abiotic Resources Depletion Potential Minerals and Metals – ADPE (*)	kg_ Sb_eq.	$6{,}64*10^{-6}$	$1{,}19*10^{-7}$	$1{,}16*10^{-6}$	$7{,}92*10^{-6}$
Abiotic Resources Depletion Potential – Fossil – ADPF *(*)*	MJ_eq.	24,70	0,616	5,61	30,90
Water Use (*)	m^3world eq.	0,461	$1{,}98*10^{-3}$	0,101	0,564
GWP - GHG	$kg\_CO_2\_eq.$	1,15	$4{,}04*10^{-2}$	0,23	1,42

***Table 25**: Impact indicators for the system Decork Alfareflex.*

Results per Declared Unit – 1,00 kg					
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total**
Global Warming Potential – GWP Total	$kg\_CO_2\_eq.$	1,16	$4{,}22*10^{-2}$	0,234	1,44
Global Warming Potential – GWP fossil	$kg\_CO_2\_eq.$	1,13	$4{,}19*10^{-2}$	0,224	1,40
Global Warming Potential – GWP biogenic	$kg\_CO_2\_eq.$	$3{,}06*10^{-2}$	$2{,}89*10^{-4}$	$9{,}78*10^{-3}$	$4{,}07*10^{-2}$
Global Warming Potential – GWP Luluc	$kg\_CO_2\_eq.$	$5{,}03*10^{-4}$	$1{,}63*10^{-5}$	$2{,}69*10^{-4}$	$7{,}88*10^{-4}$
Ozone Depletion Potential - ODP	kg_CFC-11_eq.	$1{,}21*10^{-7}$	$7{,}88*10^{-9}$	$9{,}40*10^{-8}$	$1{,}38*10^{-7}$
Acidification Potential - AP	mol H+_eq.	$4{,}70*10^{-3}$	$2{,}27*10^{-4}$	$1{,}00*10^{-3}$	$5{,}93*10^{-3}$
	$Kg\_SO_2\_eq$	$3{,}99*10^{-3}$	$2{,}01*10^{-4}$	$8{,}71*10^{-4}$	$5{,}06*10^{-3}$
Eutrophication Aquatic Freshwater	kg_ P_eq.	$2{,}34*10^{-4}$	$2{,}68*10^{-6}$	$6{,}17*10^{-5}$	$2{,}98*10^{-4}$
	kg_ PO_4_eq.	$7{,}18*10^{-4}$	$8{,}24*10^{-6}$	$1{,}90*10^{-4}$	$9{,}16*10^{-4}$
Eutrophication Aquatic Marine	kg_ N_eq.	$2{,}15*10^{-5}$	$2{,}44*10^{-7}$	$5{,}95*10^{-6}$	$2{,}77*10^{-5}$
Eutrophication Terrestrial	mole N_eq.	$8{,}22*10^{-3}$	$8{,}38*10^{-4}$	$2{,}05*10^{-3}$	$1{,}11*10^{-2}$
Photoch. Ozone Formation Potential - PCOF	kg_NMVOC	$3{,}35*10^{-3}$	$2{,}39*10^{-4}$	$7{,}49*10^{-4}$	$4{,}34*10^{-3}$
Abiotic Resources Depletion Potential Minerals and Metals – ADPE (*)	kg_ Sb_eq.	$7{,}45*10^{-6}$	$1{,}25*10^{-7}$	$1{,}18*10^{-6}$	$8{,}76*10^{-6}$
Abiotic Resources Depletion Potential – Fossil – ADPF *(*)*	MJ_eq.	23,90	0,637	5,49	30,00
Water Use (*)	m^3world eq.	0,452	$2{,}03*10^{-3}$	$9{,}31*10^{-2}$	0,547
GWP - GHG	$kg\_CO_2\_eq.$	1,13	$4{,}19*10^{-2}$	0,225	1,40

***Table 26:** Impact indicators for the system Decorkrete.*

Results per Declared Unit – 1,00 kg					
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total**
Global Warming Potential – GWP Total	$kg\_CO_2\_eq.$	0,726	$3{,}83*10^{-2}$	0,32	1,08
Global Warming Potential – GWP fossil	$kg\_CO_2\_eq.$	0,693	$3{,}80*10^{-2}$	0,31	1,04
Global Warming Potential – GWP biogenic	$kg\_CO_2\_eq.$	$3{,}24*10^{-2}$	$2{,}80*10^{-4}$	$1{,}19*10^{-2}$	$4{,}45*10^{-2}$
Global Warming Potential – GWP Luluc	$kg\_CO_2\_eq.$	$1{,}46*10^{-4}$	$1{,}51*10^{-5}$	$3{,}71*10^{-4}$	$5{,}32*10^{-4}$
Ozone Depletion Potential - ODP	kg_CFC-11_eq.	$1{,}05*10^{-7}$	$7{,}09*10^{-9}$	$1{,}28*10^{-8}$	$1{,}25*10^{-7}$
Acidification Potential - AP	mol H+_eq.	$4{,}39*10^{-3}$	$1{,}94*10^{-4}$	$1{,}38*10^{-3}$	$3{,}89*10^{-3}$
	$Kg\_SO_2\_eq$	$2{,}05*10^{-3}$	$1{,}72*10^{-4}$	$1{,}19*10^{-3}$	$3{,}41*10^{-3}$
Eutrophication Aquatic Freshwater	kg_ P_eq.	$8{,}47*10^{-5}$	$2{,}48*10^{-6}$	$8{,}55*10^{-5}$	$1{,}73*10^{-4}$
	kg_ PO_4_eq.	$2{,}60*10^{-4}$	$7{,}61*10^{-6}$	$2{,}63*10^{-4}$	$5{,}31*10^{-4}$
Eutrophication Aquatic Marine	kg_ N_eq.	$1{,}45*10^{-5}$	$2{,}28*10^{-7}$	$5{,}56*10^{-6}$	$2{,}33*10^{-5}$
Eutrophication Terrestrial	mole N_eq.	$5{,}58*10^{-3}$	$7{,}31*10^{-4}$	$2{,}80*10^{-3}$	$9{,}11*10^{-3}$
Photoch. Ozone Formation Potential - PCOF	kg_NMVOC	$1{,}50*10^{-3}$	$2{,}06*10^{-4}$	$1{,}02*10^{-3}$	$2{,}73*10^{-3}$
Abiotic Resources Depletion Potential Minerals and Metals – ADPE (*)	kg_ Sb_eq.	$4{,}80*10^{-6}$	$1{,}31*10^{-7}$	$1{,}31*10^{-7}$	$6{,}57*10^{-6}$
Abiotic Resources Depletion Potential – Fossil – ADPF *(*)*	MJ_eq.	4,24	0,572	7,51	12,30

Water Use (*)	m^3world eq.	0,103	$1,74*10^{-3}$	0,124	0,229
GWP - GHG	kg_CO_2_eq.	0,695	$3,80*10^{-2}$	0,311	1,04

***Table 27**: Impact indicators for the system C.W.C. Stop Condense.*

Results per Declared Unit – 1,00 kg					
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total**
Global Warming Potential – GWP Total	kg_CO_2_eq.	1,08	$4,65*10^{-2}$	0,208	1,33
Global Warming Potential – GWP fossil	kg_CO_2_eq.	1,04	$4,62*10^{-2}$	0,20	1,29
Global Warming Potential – GWP biogenic	kg_CO_2_eq.	$4,00*10^{-2}$	$3,24*10^{-4}$	$7,58*10^{-3}$	$4,79*10^{-2}$
Global Warming Potential – GWP Luluc	kg_CO_2_eq.	$4,44*10^{-4}$	$1,79*10^{-5}$	$2,41*10^{-4}$	$7,03*10^{-4}$
Ozone Depletion Potential - ODP	kg_CFC-11_eq.	$9,29*10^{-8}$	$8,70*10^{-9}$	$8,28*10^{-9}$	$1,10*10^{-7}$
Acidification Potential - AP	mol H+_eq.	$4,29*10^{-3}$	$2,36*10^{-4}$	$8,94*10^{-4}$	$5,42*10^{-3}$
	Kg_SO_2_eq	$3,61*10^{-3}$	$2,09*10^{-4}$	$7,75*10^{-4}$	$4,60*10^{-3}$
Eutrophication Aquatic Freshwater	kg_ P_eq.	$2,24*10^{-4}$	$2,98*10^{-6}$	$5,56*10^{-6}$	$2,83*10^{-4}$
	kg_ PO_4_eq.	$6,87*10^{-4}$	$9,15*10^{-6}$	$1,71*10^{-4}$	$8,67*10^{-4}$
Eutrophication Aquatic Marine	kg_ N_eq.	$1,85*10^{-5}$	$2,71*10^{-7}$	$5,70*10^{-6}$	$2,45*10^{-5}$
Eutrophication Terrestrial	mole N_eq.	$7,74*10^{-3}$	$8,87*10^{-4}$	$1,82*10^{-3}$	$1,04*10^{-2}$
Photoch. Ozone Formation Potential - PCOF	kg_NMVOC	$3,16*10^{-3}$	$2,54*10^{-4}$	$6,64*10^{-4}$	$4,08*10^{-3}$
Abiotic Resources Depletion Potential Minerals and Metals – ADPE (*)	kg_ Sb_eq.	$5,91*10^{-6}$	$1,41*10^{-7}$	$1,06*10^{-6}$	$7,11*10^{-6}$
Abiotic Resources Depletion Potential – Fossil – ADPF *(*)*	MJ_eq.	22,50	0,702	4,89	28,10
Water Use (*)	m^3world eq.	0,419	$2,23*10^{-3}$	$8,13*10^{-2}$	0,503
GWP - GHG	kg_CO_2_eq.	1,04	$4,62*10^{-2}$	0,203	1,29

***Table 28**: Impact indicators for the system Acrilid Protect Coating.*

Results per Declared Unit – 1,00 kg					
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total**
Global Warming Potential – GWP Total	kg_CO_2_eq.	0,80	$5,71*10^{-2}$	0,159	1,02
Global Warming Potential – GWP fossil	kg_CO_2_eq.	0,77	$5,67*10^{-2}$	0,154	0,98
Global Warming Potential – GWP biogenic	kg_CO_2_eq.	$3,48*10^{-2}$	$4,19*10^{-4}$	$5,28*10^{-3}$	$4,05*10^{-2}$
Global Warming Potential – GWP Luluc	kg_CO_2_eq.	$3,19*10^{-4}$	$2,27*10^{-5}$	$1,84*10^{-4}$	$5,26*10^{-4}$
Ozone Depletion Potential - ODP	kg_CFC-11_eq.	$6,51*10^{-8}$	$1,05*10^{-8}$	$6,35*10^{-9}$	$8,19*10^{-8}$
Acidification Potential - AP	mol H+_eq.	$3,11*10^{-3}$	$2,89*10^{-4}$	$6,86*10^{-4}$	$4,09*10^{-3}$
	Kg_SO_2_eq	$2,63*10^{-3}$	$2,57*10^{-4}$	$5,95*10^{-4}$	$3,48*10^{-3}$
Eutrophication Aquatic Freshwater	kg_ P_eq.	$1,59*10^{-4}$	$3,73*10^{-6}$	$4,27*10^{-5}$	$2,06*10^{-4}$
	kg_ PO_4_eq.	$4,89*10^{-4}$	$1,15*10^{-5}$	$1,31*10^{-4}$	$6,32*10^{-4}$
Eutrophication Aquatic Marine	kg_ N_eq.	$1,30*10^{-5}$	$3,43*10^{-7}$	$4,55*10^{-6}$	$1,79*10^{-5}$
Eutrophication Terrestrial	mole N_eq.	$5,86*10^{-3}$	$1,09*10^{-3}$	$1,39*10^{-3}$	$8,34*10^{-3}$
Photoch. Ozone Formation Potential - PCOF	kg_NMVOC	$2,34*10^{-3}$	$3,05*10^{-4}$	$5,10*10^{-4}$	$3,16*10^{-3}$
Abiotic Resources Depletion Potential Minerals and Metals – ADPE (*)	kg_ Sb_eq.	$3,91*10^{-6}$	$2,00*10^{-7}$	$8,17*10^{-7}$	$4,93*10^{-6}$
Abiotic Resources Depletion Potential – Fossil – ADPF *(*)*	MJ_eq.	16,30	0,85	3,76	20,90
Water Use (*)	m^3world eq.	0,312	$2,57*10^{-3}$	$6,24*10^{-2}$	0,377
GWP - GHG	kg_CO_2_eq.	0,765	$5,66*10^{-2}$	0,157	0,979

***Table 29**: Impact indicators for the system Plasterpaint Coloured.*

Results per Declared Unit – 1,00 kg					
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total**
Global Warming Potential – GWP Total	kg_CO_2_eq.	0,859	$5,78*10^{-2}$	0,127	1,04
Global Warming Potential – GWP fossil	kg_CO_2_eq.	0,823	$5,73*10^{-2}$	0,123	1,00
Global Warming Potential – GWP biogenic	kg_CO_2_eq.	$3,59*10^{-2}$	$4,27*10^{-4}$	$3,99*10^{-3}$	$4,03*10^{-3}$
Global Warming Potential – GWP Luluc	kg_CO_2_eq.	$3,38*10^{-4}$	$2,29*10^{-5}$	$1,47*10^{-4}$	$5,08*10^{-4}$
Ozone Depletion Potential - ODP	kg_CFC-11_eq.	$8,53*10^{-8}$	$1,07*10^{-8}$	$5,06*10^{-9}$	$1,01*10^{-7}$
Acidification Potential - AP	mol H+_eq.	$3,33*10^{-3}$	$2,93*10^{-4}$	$5,48*10^{-4}$	$4,17*10^{-3}$
	Kg_SO_2_eq	$2,81*10^{-3}$	$2,60*10^{-4}$	$4,75*10^{-4}$	$3,55*10^{-3}$

Eutrophication Aquatic Freshwater	kg_ P_eq.	$1,70*10^{-4}$	$3,75*10^{-6}$	$3,41*10^{-5}$	$2,08*10^{-4}$
	kg_ PO_4_eq.	$5,22*10^{-4}$	$1,15*10^{-5}$	$1,05*10^{-4}$	$6,39*10^{-4}$
Eutrophication Aquatic Marine	kg_ N_eq.	$1,38*10^{-5}$	$3,46*10^{-7}$	$3,74*10^{-6}$	$1,79*10^{-5}$
Eutrophication Terrestrial	mole N_eq.	$6,25*10^{-3}$	$1,10*10^{-3}$	$1,11*10^{-3}$	$8,46*10^{-3}$
Photoch. Ozone Formation Potential - PCOF	kg_NMVOC	$2,50*10^{-3}$	$3,10*10^{-4}$	$4,07*10^{-4}$	$3,22*10^{-3}$
Abiotic Resources Depletion Potential Minerals and Metals – ADPE (*)	kg_ Sb_eq.	$4,16*10^{-6}$	$2,03*10^{-7}$	$6,52*10^{-7}$	$5,02*10^{-6}$
Abiotic Resources Depletion Potential – Fossil – ADPF *(*)*	MJ_eq.	17,40	0,86	3,01	21,30
Water Use (*)	m^3world eq.	0,330	$2,59*10^{-3}$	$5,07*10^{-2}$	0,383
GWP - GHG	kg_CO_2_eq.	0,823	$5,74*10^{-2}$	0,126	1,01

***Table 30**: Impact indicators for the system Limepaint.*

Results per Declared Unit – 1,00 kg					
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total**
Global Warming Potential – GWP Total	kg_CO_2_eq.	1,02	$5,10*10^{-2}$	0,16	1,23
Global Warming Potential – GWP fossil	kg_CO_2_eq.	0,98	$5,06*10^{-2}$	0,154	1,18
Global Warming Potential – GWP biogenic	kg_CO_2_eq.	$3,95*10^{-2}$	$3,59*10^{-4}$	$5,29*10^{-3}$	$4,51*10^{-2}$
Global Warming Potential – GWP Luluc	kg_CO_2_eq.	$4,14*10^{-4}$	$1,97*10^{-5}$	$1,84*10^{-4}$	$6,18*10^{-4}$
Ozone Depletion Potential - ODP	kg_CFC-11_eq.	$8,18*10^{-8}$	$9,53*10^{-9}$	$6,53*10^{-9}$	$9,79*10^{-8}$
Acidification Potential - AP	mol H+_eq.	$4,03*10^{-3}$	$2,59*10^{-4}$	$6,86*10^{-4}$	$4,98*10^{-3}$
	Kg_SO_2_eq	$3,39*10^{-3}$	$2,30*10^{-4}$	$5,95*10^{-4}$	$4,22*10^{-3}$
Eutrophication Aquatic Freshwater	kg_ P_eq.	$2,07*10^{-4}$	$3,28*10^{-6}$	$4,27*10^{-5}$	$2,53*10^{-4}$
	kg_ PO_4_eq.	$6,35*10^{-4}$	$1,01*10^{-5}$	$1,31*10^{-4}$	$7,76*10^{-4}$
Eutrophication Aquatic Marine	kg_ N_eq.	$1,65*10^{-5}$	$2,99*10^{-7}$	$4,55*10^{-6}$	$2,13*10^{-5}$
Eutrophication Terrestrial	mole N_eq.	$7,47*10^{-3}$	$9,74*10^{-4}$	$1,39*10^{-3}$	$9,83*10^{-3}$
Photoch. Ozone Formation Potential - PCOF	kg_NMVOC	$3,03*10^{-3}$	$2,78*10^{-4}$	$5,10*10^{-4}$	$3,82*10^{-3}$
Abiotic Resources Depletion Potential Minerals and Metals – ADPE (*)	kg_ Sb_eq.	$5,16*10^{-6}$	$1,59*10^{-7}$	$8,17*10^{-7}$	$6,14*10^{-6}$
Abiotic Resources Depletion Potential – Fossil – ADPF *(*)*	MJ_eq.	21,40	0,77	3,76	25,90
Water Use (*)	m^3world eq.	0,401	$2,43*10^{-3}$	$6,36*10^{-2}$	0,467
GWP - GHG	kg_CO_2_eq.	0,98	$5,07*10^{-2}$	0,157	1,19

***Table 31**: Impact indicators for the system Argacem Coloured*

Results per Declared Unit – 1,00 kg					
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total**
Global Warming Potential – GWP Total	kg_CO_2_eq.	0,84	$5,85*10^{-2}$	0,13	1,03
Global Warming Potential – GWP fossil	kg_CO_2_eq.	0,803	$5,80*10^{-2}$	0,125	0,99
Global Warming Potential – GWP biogenic	kg_CO_2_eq.	$3,68*10^{-2}$	$4,33*10^{-4}$	$4,80*10^{-3}$	$4,20*10^{-2}$
Global Warming Potential – GWP Luluc	kg_CO_2_eq.	$3,29*10^{-4}$	$2,32*10^{-5}$	$1,56*10^{-4}$	$5,08*10^{-4}$
Ozone Depletion Potential - ODP	kg_CFC-11_eq.	$6,82*10^{-8}$	$1,08*10^{-8}$	$5,30*10^{-9}$	$8,43*10^{-8}$
Acidification Potential - AP	mol H+_eq.	$3,20*10^{-3}$	$2,96*10^{-4}$	$5,60*10^{-4}$	$4,06*10^{-3}$
	Kg_SO_2_eq	$2,72*10^{-3}$	$2,63*10^{-4}$	$4,86*10^{-4}$	$3,45*10^{-3}$
Eutrophication Aquatic Freshwater	kg_ P_eq.	$1,67*10^{-4}$	$3,80*10^{-6}$	$3,48*10^{-5}$	$2,06*10^{-4}$
	kg_ PO_4_eq.	$5,12*10^{-4}$	$1,17*10^{-5}$	$1,07*10^{-4}$	$6,31*10^{-4}$
Eutrophication Aquatic Marine	kg_ N_eq.	$1,36*10^{-5}$	$3,50*10^{-7}$	$3,86*10^{-6}$	$1,78*10^{-5}$
Eutrophication Terrestrial	mole N_eq.	$6,06*10^{-3}$	$1,12*10^{-3}$	$1,15*10^{-3}$	$8,33*10^{-3}$
Photoch. Ozone Formation Potential - PCOF	kg_NMVOC	$2,40*10^{-3}$	$3,13*10^{-4}$	$4,20*10^{-4}$	$3,13*10^{-3}$
Abiotic Resources Depletion Potential Minerals and Metals – ADPE (*)	kg_ Sb_eq.	$4,00*10^{-6}$	$2,05*10^{-7}$	$6,69*10^{-7}$	$4,87*10^{-6}$
Abiotic Resources Depletion Potential – Fossil – ADPF *(*)*	MJ_eq.	16,50	0,872	3,04	20,40
Water Use (*)	m^3world eq.	0,309	$2,62*10^{-3}$	$5,18*10^{-2}$	0,363
GWP - GHG	kg_CO_2_eq.	0,80	$5,80*10^{-2}$	0,128	0,99

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

Use of resources

Table 32: *Use of resources for the system Decork Façade.*

Results per Declared Unit – 1,00 kg					
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total**
Use of renewable primary energy resources – No raw materials	MJ	2,11	$8,18*10^{-3}$	1,32	3,44
Use of renewable primary energy resources – Raw materials	MJ	0,201	$1,38*10^{-3}$	0,935	1,14
Total use of renewable primary energy	**MJ**	2,31	$9,56*10^{-3}$	2,25	4,57
Use of non-renewable primary energy resources - No raw materials	MJ	4,95	0,62	8,57	14,15
Use of non-renewable primary energy resources - Raw materials	MJ	$1,18*10^{-5}$	0	$3,42*10^{-3}$	$3,43*10^{-3}$
Total use of non-renewable primary energy	**MJ**	4,95	0,62	8,57	14,15
Use of secondary materials	kg	0,20	0	0	0,20
Use of renewable secondary fuels	MJ	2,11	$8,18*10^{-3}$	1,32	3,44
Use of Non-renewable secondary fuels	MJ	$2,10*10^{-4}$	$2,44*10^{-5}$	$4,72*10^{-4}$	$7,06*10^{-4}$
Use of net fresh water	m^3	$2,63*10^{-3}$	$6,11*10^{-6}$	$3,11*10^{-3}$	$5,75*10^{-3}$

Table 33*: Use of resources for the system Decork Design.*

Results per Declared Unit – 1,00 kg					
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total**
Use of renewable primary energy resources – No raw materials	MJ	3,63	$8,41*10^{-3}$	1,12	4,76
Use of renewable primary energy resources – Raw materials	MJ	1,36	$1,35*10^{-3}$	0,814	2,18
Total use of renewable primary energy	**MJ**	4,99	$9,76*10^{-3}$	1,94	6,94
Use of non-renewable primary energy resources - No raw materials	MJ	28,17	0,67	6,42	35,26
Use of non-renewable primary energy resources - Raw materials	MJ	$2,95*10^{-6}$	0	$2,50*10^{-3}$	$2,50*10^{-3}$
Total use of non-renewable primary energy	**MJ**	28,17	0,67	6,42	35,26
Use of secondary materials	kg	0,17	0	0	0,17
Use of renewable secondary fuels	MJ	3,63	$8,41*10^{-3}$	1,12	4,76
Use of Non-renewable secondary fuels	MJ	$9,36*10^{-4}$	$2,80*10^{-5}$	$3,09*10^{-3}$	$4,05*10^{-3}$
Use of net fresh water	m^3	$1,20*10^{-2}$	$6,70*10^{-5}$	$2,50*10^{-3}$	$1,45*10^{-2}$

Table 34: *Use of resources for the system Decork Alfareflex.*

Results per Declared Unit – 1,00 kg					
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total**
Use of renewable primary energy resources – No raw materials	MJ	3,99	$8,72*10^{-3}$	1,11	5,11
Use of renewable primary energy resources – Raw materials	MJ	1,51	$1,41*10^{-3}$	0,809	2,32
Total use of renewable primary energy	**MJ**	5,50	$1,01*10^{-2}$	1,92	7,43
Use of non-renewable primary energy resources - No raw materials	MJ	27,33	0,69	6,27	34,28
Use of non-renewable primary energy resources - Raw materials	MJ	$5,09*10^{-6}$	0	$2,50*10^{-3}$	$2,50*10^{-3}$
Total use of non-renewable primary energy	**MJ**	27,33	0,69	6,27	34,28
Use of secondary materials	kg	0,19	0	0	0,19
Use of renewable secondary fuels	MJ	3,99	$8,72*10^{-3}$	1,11	5,11
Use of Non-renewable secondary fuels	MJ	$9,34*10^{-4}$	$2,88*10^{-5}$	$3,39*10^{-4}$	$1,30*10^{-3}$
Use of net fresh water	m^3	$1,17*10^{-2}$	$6,34*10^{-5}$	$7,49*10^{-4}$	$1,25*10^{-2}$

Table 35: *Use of resources for the system Decorkrete*

Results per Declared Unit – 1,00 kg					
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total**
Use of renewable primary energy resources – No raw materials	MJ	0,38	$8,18*10^{-3}$	1,32	1,70
Use of renewable primary energy resources –	MJ	0,20	$1,38*10^{-3}$	0,94	1,14

Raw materials					
Total use of renewable primary energy	**MJ**	0,58	$9,56*10^{-3}$	2,26	2,84
Use of non-renewable primary energy resources - No raw materials	MJ	11,80	0,62	8,56	14,14
Use of non-renewable primary energy resources - Raw materials	MJ	$1,18*10^{-5}$	0	$3,42*10^{-3}$	$3,43*10^{-3}$
Total use of non-renewable primary energy	**MJ**	4,95	0,62	8,57	14,14
Use of secondary materials	kg	0	0	0	0
Use of renewable secondary fuels	MJ	0,38	$8,13*10^{-3}$	1,32	1,70
Use of Non-renewable secondary fuels	MJ	$7,06*10^{-4}$	$2,44*10^{-5}$	$4,72*10^{-5}$	$7,78*10^{-4}$
Use of net fresh water	m^3	$5,81*10^{-3}$	$6,11*10^{-5}$	$3,11*10^{-3}$	$8,98*10^{-3}$

***Table 36**: Use of resources for the system C.W.C. Stop Condense.*

Results per Declared Unit – 1,00 kg					
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total**
Use of renewable primary energy resources – No raw materials	MJ	0,788	$9,71*10^{-3}$	0,832	1,63
Use of renewable primary energy resources – Raw materials	MJ	0,305	$1,58*10^{-3}$	0,591	0,90
Total use of renewable primary energy	**MJ**	1,09	$1,13*10^{-2}$	1,42	2,53
Use of non-renewable primary energy resources - No raw materials	MJ	25,63	0,76	5,58	31,97
Use of non-renewable primary energy resources - Raw materials	MJ	$1,77*10^{-6}$	0	$2,23*10^{-3}$	$2,23*10^{-3}$
Total use of non-renewable primary energy	**MJ**	25,63	0,76	5,58	31,97
Use of secondary materials	kg	0	0	0	0
Use of renewable secondary fuels	MJ	0,788	$9,71*10^{-3}$	0,832	1,63
Use of Non-renewable secondary fuels	MJ	$8,39*10^{-4}$	$3,14*10^{-5}$	$3,06*10^{-4}$	$1,18*10^{-3}$
Use of net fresh water	m^3	$1,09*10^{-3}$	$7,64*10^{-5}$	$2,03*10^{-3}$	$1,30*10^{-2}$

***Table 37**: Use of resources for the system Acrilid Protect Coating.*

Results per Declared Unit – 1,00 kg					
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total**
Use of renewable primary energy resources – No raw materials	MJ	0,648	$1,21*10^{-2}$	0,609	1,27
Use of renewable primary energy resources – Raw materials	MJ	0,29	$2,07*10^{-3}$	0,43	1,99
Total use of renewable primary energy	**MJ**	0,94	$1,42*10^{-2}$	1,04	1,23
Use of non-renewable primary energy resources - No raw materials	MJ	18,52	0,922	4,92	23,73
Use of non-renewable primary energy resources - Raw materials	MJ	$4,72*10^{-8}$	0	$1,71*10^{-3}$	$1,71*10^{-3}$
Total use of non-renewable primary energy	**MJ**	18,52	0,922	4,92	23,73
Use of secondary materials	kg	0	0	0	0
Use of renewable secondary fuels	MJ	0,648	$1,21*10^{-2}$	0,609	1,27
Use of Non-renewable secondary fuels	MJ	$6,02*10^{-4}$	$3,61*10^{-5}$	$2,34*10^{-4}$	$8,72*10^{-4}$
Use of net fresh water	m^3	$8,11*10^{-3}$	$9,04*10^{-5}$	$1,56*10^{-3}$	$9,76*10^{-3}$

***Table 38**: Use of resources for the system Plasterpaint Coloured.*

Results per Declared Unit – 1,00 kg					
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total**
Use of renewable primary energy resources – No raw materials	MJ	0,675	$1,24*10^{-2}$	0,47	1,15
Use of renewable primary energy resources – Raw materials	MJ	0,293	$2,11*10^{-3}$	0,33	0,63
Total use of renewable primary energy	**MJ**	0,97	$1,45*10^{-2}$	0,80	1,78
Use of non-renewable primary energy resources - No raw materials	MJ	19,79	0,935	3,43	24,17
Use of non-renewable primary energy resources - Raw materials	MJ	$4,72*10^{-8}$	0	$1,37*10^{-3}$	$1,37*10^{-3}$
Total use of non-renewable primary energy	**MJ**	19,79	0,935	3,43	24,17
Use of secondary materials	kg	0	0	0	0

Use of renewable secondary fuels	MJ	0,675	$1,24*10^{-2}$	0,47	1,15
Use of Non-renewable secondary fuels	MJ	$6,39*10^{-4}$	$3,65*10^{-5}$	$1,87*10^{-4}$	$8,63*10^{-4}$
Use of net fresh water	m^3	$9,94*10^{-3}$	$9,18*10^{-5}$	$1,27*10^{-3}$	$1,13*10^{-2}$

***Table 39**: Use of resources for the system Limepaint.*

Results per Declared Unit – 1,00 kg					
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total**
Use of renewable primary energy resources – No raw materials	MJ	0,762	$1,07*10^{-2}$	0,611	1,38
Use of renewable primary energy resources – Raw materials	MJ	0,31	$1,75*10^{-3}$	0,43	0,74
Total use of renewable primary energy	**MJ**	1,07	$1,25*10^{-2}$	1,04	2,13
Use of non-renewable primary energy resources - No raw materials	MJ	24,32	0,83	4,29	29,45
Use of non-renewable primary energy resources - Raw materials	MJ	$4,78*10^{-8}$	0	$1,71*10^{-3}$	$1,71*10^{-3}$
Total use of non-renewable primary energy	**MJ**	24,32	0,83	4,29	29,45
Use of secondary materials	kg	0	0	0	0
Use of renewable secondary fuels	MJ	0,762	$1,07*10^{-2}$	0,611	1,38
Use of Non-renewable secondary fuels	MJ	$7,90*10^{-4}$	$3,41*10^{-5}$	$2,34*10^{-4}$	$1,06*10^{-3}$
Use of net fresh water	m^3	$1,04*10^{-2}$	$8,34*10^{-5}$	$1,59*10^{-3}$	$1,21*10^{-2}$

***Table 40**: Use of resources for the system Argacem Coloured.*

Results per Declared Unit – 1,00 kg					
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total**
Use of renewable primary energy resources – No raw materials	MJ	0,685	$1,26*10^{-2}$	0,613	1,31
Use of renewable primary energy resources – Raw materials	MJ	0,306	$2,13*10^{-3}$	0,45	0,76
Total use of renewable primary energy	**MJ**	0,99	$1,47*10^{-2}$	1,06	2,07
Use of non-renewable primary energy resources - No raw materials	MJ	18,80	0,946	3,48	23,30
Use of non-renewable primary energy resources - Raw materials	MJ	$4,72*10^{-8}$	0	$1,37*10^{-3}$	$1,37*10^{-3}$
Total use of non-renewable primary energy	**MJ**	18,80	0,946	3,48	23,30
Use of secondary materials	kg	0	0	0	0
Use of renewable secondary fuels	MJ	0,685	$1,26*10^{-2}$	0,613	1,31
Use of Non-renewable secondary fuels	MJ	$6,18*10^{-4}$	$3,69*10^{-5}$	$1,97*10^{-4}$	$8,52*10^{-4}$
Use of net fresh water	m^3	$8,05*10^{-2}$	$9,28*10^{-5}$	$1,30*10^{-3}$	$9,44*10^{-3}$

Additional Impact Indicators

***Table 41**: Additional indicators for the system Decork Façade.*

Results per Declared Unit – 1,00 kg					
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total**
Particulate matter emission	kg_PM2.5_eq.	$1,80*10^{-4}$	$1,69*10^{-5}$	$1,81*10^{-4}$	$3,78*10^{-4}$
Ionizing radiation, human health (*)	kBq_U235_eq.	$3,63*10^{-2}$	$3,00*10^{-3}$	$2,32*10^{-2}$	$6,25*10^{-2}$
Eco-toxicity (freshwater) (**)	CTUe	3,17	0,291	3,18	6,64
Human Toxicity, carcinogenic effects (**)	CTUh	$2,48*10^{-8}$	$2,19*10^{-9}$	$4,75*10^{-8}$	$7,45*10^{-8}$
Human Toxicity, non-carcinogenic effects (**)	CTUh	$7,92*10^{-8}$	$8,27*10^{-9}$	$5,30*10^{-8}$	$1,40*10^{-7}$
Land Use (**)	Kg_C_Deficit	1,04	0,104	0,69	1,88

***Table 42**: Additional indicators for the system Decork Design.*

Results per Declared Unit – 1,00 kg					
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total**
Particulate matter emission	kg_PM2.5_eq.	$5,88*10^{-4}$	$2,03*10^{-5}$	$1,31*10^{-4}$	$7,39*10^{-4}$
Ionizing radiation, human health (*)	kBq_U235_eq.	$7,49*10^{-2}$	$3,31*10^{-3}$	$1,70*10^{-2}$	$9,52*10^{-2}$
Eco-toxicity (freshwater) (**)	CTUe	8,20	0,313	2,22	10,70

Human Toxicity, carcinogenic effects (**)	CTUh	$8{,}45*10^{-8}$	$2{,}29*10^{-9}$	$3{,}02*10^{-8}$	$1{,}17*10^{-7}$
Human Toxicity, non-carcinogenic effects (**)	CTUh	$1{,}59*10^{-7}$	$9{,}24*10^{-9}$	$3{,}81*10^{-8}$	$2{,}06*10^{-7}$
Land Use (**)	Kg_C_Deficit	1,81	0,181	0,565	2,60

***Table 43**: Additional indicators for the system Decork Alfareflex.*

Results per Declared Unit – 1,00 kg					
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total**
Particulate matter emission	kg_PM2.5_eq.	$5{,}87*10^{-4}$	$1{,}88*10^{-5}$	$3{,}91*10^{-5}$	$6{,}45*10^{-4}$
Ionizing radiation, human health (*)	kBq_U235_eq.	$7{,}35*10^{-2}$	$3{,}03*10^{-3}$	$1{,}07*10^{-2}$	$8{,}72*10^{-2}$
Eco-toxicity (freshwater) (**)	CTUe	8,18	0,285	1,02	9,49
Human Toxicity, carcinogenic effects (**)	CTUh	$5{,}43*10^{-8}$	$2{,}07*10^{-9}$	$7{,}46*10^{-9}$	$6{,}38*10^{-8}$
Human Toxicity, non-carcinogenic effects (**)	CTUh	$1{,}59*10^{-7}$	$8{,}46*10^{-9}$	$1{,}74*10^{-8}$	$1{,}85*10^{-7}$
Land Use (**)	Kg_C_Deficit	1,84	0,167	0,484	2,49

***Table 44**: Additional indicators for the system Decorkrete.*

Results per Declared Unit – 1,00 kg					
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total**
Particulate matter emission	kg_PM2.5_eq.	$1{,}80*10^{-4}$	$1{,}69*10^{-5}$	$1{,}84*10^{-4}$	$3{,}78*10^{-4}$
Ionizing radiation, human health (*)	kBq_U235_eq.	$3{,}63*10^{-2}$	$3{,}00*10^{-3}$	$2{,}32*10^{-2}$	$6{,}25*10^{-2}$
Eco-toxicity (freshwater) (**)	CTUe	3,17	0,291	3,18	6,64
Human Toxicity, carcinogenic effects (**)	CTUh	$2{,}48*10^{-8}$	$2{,}19*10^{-9}$	$4{,}75*10^{-8}$	$7{,}45*10^{-8}$
Human Toxicity, non-carcinogenic effects (**)	CTUh	$7{,}92*10^{-8}$	$8{,}27*10^{-9}$	$5{,}30*10^{-8}$	$1{,}40*10^{-7}$
Land Use (**)	Kg_C_Deficit	1,04	0,148	0,69	1,88

***Table 45:** Additional indicators for the system C.W.C. Stop Condense.*

Results per Declared Unit – 1,00 kg					
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total**
Particulate matter emission	kg_PM2.5_eq.	$5{,}47*10^{-4}$	$2{,}19*10^{-5}$	$1{,}17*10^{-4}$	$6{,}86*10^{-4}$
Ionizing radiation, human health (*)	kBq_U235_eq.	$6{,}84*10^{-2}$	$3{,}66*10^{-3}$	$1{,}51*10^{-2}$	$8{,}72*10^{-2}$
Eco-toxicity (freshwater) (**)	CTUe	7,47	0,348	2,06	9,88
Human Toxicity, carcinogenic effects (**)	CTUh	$4{,}95*10^{-8}$	$2{,}53*10^{-9}$	$3{,}09*10^{-9}$	$5{,}51*10^{-8}$
Human Toxicity, non-carcinogenic effects (**)	CTUh	$1{,}47*10^{-7}$	$1{,}02*10^{-8}$	$3{,}44*10^{-8}$	$1{,}92*10^{-7}$
Land Use (**)	Kg_C_Deficit	1,00	0,198	0,44	1,64

***Table 46:** Additional indicators for the system Acrilid Protect Coating.*

Results per Declared Unit – 1,00 kg					
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total**
Particulate matter emission	kg_PM2.5_eq.	$3{,}92*10^{-4}$	$2{,}49*10^{-5}$	$9{,}01*10^{-5}$	$6{,}86*10^{-4}$
Ionizing radiation, human health (*)	kBq_U235_eq.	$6{,}84*10^{-2}$	$4{,}44*10^{-3}$	$1{,}16*10^{-2}$	$8{,}72*10^{-2}$
Eco-toxicity (freshwater) (**)	CTUe	7,47	0,435	1,59	9,88
Human Toxicity, carcinogenic effects (**)	CTUh	$4{,}95*10^{-8}$	$3{,}29*10^{-9}$	$2{,}38*10^{-8}$	$5{,}51*10^{-8}$
Human Toxicity, non-carcinogenic effects (**)	CTUh	$1{,}47*10^{-7}$	$1{,}23*10^{-8}$	$3{,}44*10^{-8}$	$1{,}92*10^{-7}$
Land Use (**)	Kg_C_Deficit	1,00	0,216	0,44	1,64

***Table 47:** Additional indicators for the system Plasterpaint Coloured.*

Results per Declared Unit – 1,00 kg					
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total**
Particulate matter emission	kg_PM2.5_eq.	$4{,}18*10^{-4}$	$2{,}51*10^{-5}$	$7{,}19*10^{-5}$	$5{,}15*10^{-4}$
Ionizing radiation, human health (*)	kBq_U235_eq.	$5{,}52*10^{-2}$	$4{,}53*10^{-3}$	$9{,}26*10^{-3}$	$6{,}90*10^{-2}$
Eco-toxicity (freshwater) (**)	CTUe	5,60	0,442	1,27	6,90
Human Toxicity, carcinogenic effects (**)	CTUh	$3{,}76*10^{-8}$	$3{,}34*10^{-9}$	$1{,}90*10^{-8}$	$5{,}99*10^{-8}$
Human Toxicity, non-carcinogenic effects (**)	CTUh	$1{,}13*10^{-7}$	$1{,}24*10^{-8}$	$2{,}12*10^{-8}$	$1{,}47*10^{-7}$
Land Use (**)	Kg_C_Deficit	0,966	0,219	1,27	1,44

Table 48: *Additional indicators for the system Limepaint.*

Results per Declared Unit – 1,00 kg					
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total**
Particulate matter emission	kg_PM2.5_eq.	$5{,}14*10^{-4}$	$2{,}38*10^{-5}$	$9{,}01*10^{-5}$	$6{,}28*10^{-4}$
Ionizing radiation, human health (*)	kBq_U235_eq.	$6{,}34*10^{-2}$	$4{,}02*10^{-3}$	$1{,}16*10^{-2}$	$7{,}90*10^{-2}$
Eco-toxicity (freshwater) (**)	CTUe	6,90	0,383	1,59	8,87
Human Toxicity, carcinogenic effects (**)	CTUh	$4{,}58*10^{-8}$	$2{,}80*10^{-9}$	$2{,}38*10^{-8}$	$7{,}24*10^{-8}$
Human Toxicity, non-carcinogenic effects (**)	CTUh	$1{,}38*10^{-7}$	$1{,}12*10^{-8}$	$2{,}65*10^{-8}$	$1{,}76*10^{-7}$
Land Use (**)	Kg_C_Deficit	1,06	0,214	0,325	1,60

Table 49: *Additional indicators for the system Argacem Coloured.*

Results per Declared Unit – 1,00 kg					
Indicator	**Unit**	**A1**	**A2**	**A3**	**Total**
Particulate matter emission	kg_PM2.5_eq.	$4{,}02*10^{-4}$	$2{,}54*10^{-5}$	$7{,}32*10^{-5}$	$5{,}01*10^{-4}$
Ionizing radiation, human health (*)	kBq_U235_eq.	$5{,}59*10^{-2}$	$4{,}58*10^{-3}$	$9{,}50*10^{-3}$	$7{,}00*10^{-2}$
Eco-toxicity (freshwater) (**)	CTUe	5,41	0,447	1,30	7,16
Human Toxicity, carcinogenic effects (**)	CTUh	$3{,}64*10^{-8}$	$3{,}38*10^{-9}$	$1{,}94*10^{-8}$	$5{,}92*10^{-8}$
Human Toxicity, non-carcinogenic effects (**)	CTUh	$1{,}10*10^{-7}$	$1{,}26*10^{-8}$	$2{,}18*10^{-8}$	$1{,}44*10^{-7}$
Land Use (**)	Kg_C_Deficit	0,969	0,222	0,313	1,50

(*) Disclaimer: This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

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

Waste production and output flows

Waste production

Table 50*: Flows in final products for the finishes and decorative products.*

Results per Declared Unit – 1,00 kg										
Indicator	**Unit**	**Decork Façade**	**Decork Design**	**Decork Alfareflex**	**Decork rete**	**C.W.C. Stop Condense**	**Acrilid Protect Coating**	**Plasterpaint Coloured**	**Limepaint**	**Argacem Coloured**
Non-Hazardous waste disposed	Kg/DU	$3{,}63*10^{-4}$	$4{,}67*10^{-4}$	$6{,}04*10^{-4}$	$1{,}87*10^{-3}$	$1{,}45*10^{-3}$	$1{,}60*10^{-3}$	$1{,}67*10^{-3}$	$1{,}59*10^{-3}$	$1{,}59*10^{-3}$
Radioactive waste disposed	Kg/DU	$3{,}16*10^{-5}$	$3{,}95*10^{-5}$	$3{,}95*10^{-5}$	$3{,}16*10^{-5}$	$3{,}78*10^{-5}$	$3{,}14*10^{-5}$	$3{,}23*10^{-5}$	$3{,}61*10^{-5}$	$3{,}21*10^{-5}$
Hazardous waste disposed	Kg/DU	0	0	0	0	0	0	0	0	0

Output flows

Table 51: *Use of resources for the finishes and decorative systems.*

Results per Declared Unit – 1,00 kg										
Indicator	**Unit**	**Decork Façade**	**Decork Design**	**Decork Alfareflex**	**Decorkrete**	**C.W.C. Stop Condense**	**Acrilid Protect Coating**	**Plasterpaint Coloured**	**Limepaint**	**Argacem Coloured**
Component for Reuse	Kg/DU	0	0	0	0	0	0	0	0	0
Material for Energy recovery	Kg/DU	0	0	0	0	0	0	0	0	0
Material for Recycling	Kg/DU	0	0	0	0	0	0	0	0	0
Exported energy	kWh/DU	0	0	0	0	0	0	0	0	0

NOTE: It has to be specified that Diasen claimed: at the end of the service life of any product dealt with in this document, the products themselves can potentially recycled as inert materials;

Information on biogenic carbon content

Table 52: *Biogenic carbon content for the finishes and decorative systems.*

Results per Declared Unit – 1,00 kg										
Biogenic carbon	**Unit**	**Decork Façade**	**Decork Design**	**Decork Alfareflex**	**Decork rete**	**C.W.C. Stop Condense**	**Acrilid Protect Coating**	**Plasterpaint Coloured**	**Limepaint**	**Argacem Coloured**
In the final product	KgC	0	$2,44*10^{-3}$	$2,72*10^{-3}$	0	0	0	0	0	0
In the packaging	KgC	$1,40*10^{-2}$	$4,86*10^{-2}$	$5,04*10^{-2}$	$5,06*10^{-2}$	$6,99*10^{-2}$	$7,02*10^{-2}$	$7,98*10^{-2}$	$6,99*10^{-2}$	$6,99*10^{-2}$
NOTE: 1 kg of biogenic carbon is equivalent to 44/12 of a kg of CO_2										

Additional information

- The company Diasen is certificated ISO 9001, ISO 14001. Moreover, a wide amount of its product obtained other specific certification, as Avis Technique (French lab CSTB) and ITF for Sport Flooring system. It is associated to A.N.I.T (*Associazione Nazionale Isolamento Termo-Acustico*), to the Green Building Council Italia and N.R.C.A - National Roofing Contractors Association.

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