DECLARACIÓN AMBIENTAL DE PRODUCTO
ENVIRONMENTAL PRODUCT DECLARATION

DAPcons®.NTe.103
According to ISO 14025
and UNE EN 15804 + A1

COL·LEGI D'APARELLADORS, ARQUITECTES TÈCNICS I ENGINYERS D'EDIFICACIÓ DE BARCELONA

Product

EPOTEX

Owner

ISOLTEX
sustainable insulation

Product description

Felt based on textile fibers joined with thermoplastic resins of thermoplastic origin (with different treatments). Usually made up of cotton fibers. This type of felt is used as a thermal and acoustic insulator in the construction sector and as a sound absorber in the automobile sector.

PCR Reference

UNE-EN 16783:2017 Thermal insulation products - Product category rules (PCR) for factory made and in-situ formed products

Production plant

PlusFelt
Calle de la Tordera s/n.
Polígono Industrial Gaserans.
17451 Sant Feliu de Buixalleu (GIRONA)

Validity

From: 28/10/2021 To: 28/10/2026

The validity of DAPcons®.NTe.103 is subject to the conditions of DAPcons® regulations.The relevant version of this DAPcons® is included in the register kept by the CAATEEB; for more information, consult the Program Operator website: www.csostenible.net

ENVIRONMENTAL PRODUCT DECLARATION
EPOTEX
EXECUTIVE SUMMARY

PROGRAMME OPERATOR DAPconstrucción®

Environmental product declarations of construction sector
www.csostenible.net

Administrator of Programme Operator

Col·legi d'Aparelladors, Arquitectes Tècnics de Barcelona i Enginyers de l'Edificació (CAATEEB)
Bon Pastor, 5 · 08021 Barcelona
www.apabcn.cat

Owner of the Declaration

ISOLTEX AISLANTE TEXTIL SL.

Declaration carried out by:

Marcel Gómez Consultoría Ambiental

Declaration Number

DAPcons®.NTe.103

Declared Product

EPOTEX

Product description

Felt based on textile fibers joined with thermoplastic resins of thermoplastic origin (with different treatments). Usually made up of cotton fibers. This type of felt is used as a thermal and acoustic insulator in the construction sector and as a sound absorber in the automobile sector.

Registration date

28/10/2021

Validity

This verified declaration authorises the owner to use the DAPcons® eco-label logo. The declaration is applicable exclusively to the product in question and for five years as of the date of registration.The responsible for the information contained in this declaration is:
ISOLTEX AISLANTE TEXTIL SL.

Endorsed by CAATEEB

Celesti Ventura Cisternas. President of CAATEEB.

36548201M CELESTINO VENTURA (R:Q0875009C)

Firmado digitalmente por 36548201M CELESTINO VENTURA (R:Q0875009C)
Fecha: 2021.11.17 16:10:45 +01'00'

Endorsed by authorised verifier

Ferran Pérez by ITeC. Verifier accredited by the Administrator of the DAPcons® Program.

ITeC
Institut de Tecnologia de la Construcció de Catalunya

This environmental product declaration complies with the ISO 14025 and UNE-EN 15804 + A1 standards and contains environmental information on the life cycle of EPOTEX manufactured by PlusFelt at its plant in Sant Feliu de Buixalleu (GIRONA). This declaration is based on the document UNE-EN 16783:2017 Thermal insulation products - Product category rules (PCR) for factory made and in-situ formed products. The environmental product declaration (DAPcons®) may not be comparable to another EPD if it is not based on the UNE-EN 15804 + A1 standard.

ENVIRONMENTAL PRODUCT DECLARATION

1. PRODUCT DESCRIPTION AND APPLICATION

This declaration covers this categories of insulation products: EPOTEX.

In both cases, they are made of felt based on cotton plant fibers. The fibers are agglomerated with a thermobonding resin, achieving a product with an elastic pattern much superior to other materials, which does not break when bending and has a high tensile strength.

This type of fillet is used as a thermal and acoustic insulator. This facilitates its installation in places with high construction demand and a high acoustic correction factor.

The difference with mineral solutions is that in the manufacturing process of our felts, the raw material is recycled and that is why it contains in itself a commitment to the sustainability of our environment.

Complete table of main product features is included.

2. LIFE CYCLE PHASES DESCRIPTION

2.1. Manufacture (A1, A2 and A3)

Raw materials (A1 and A2)

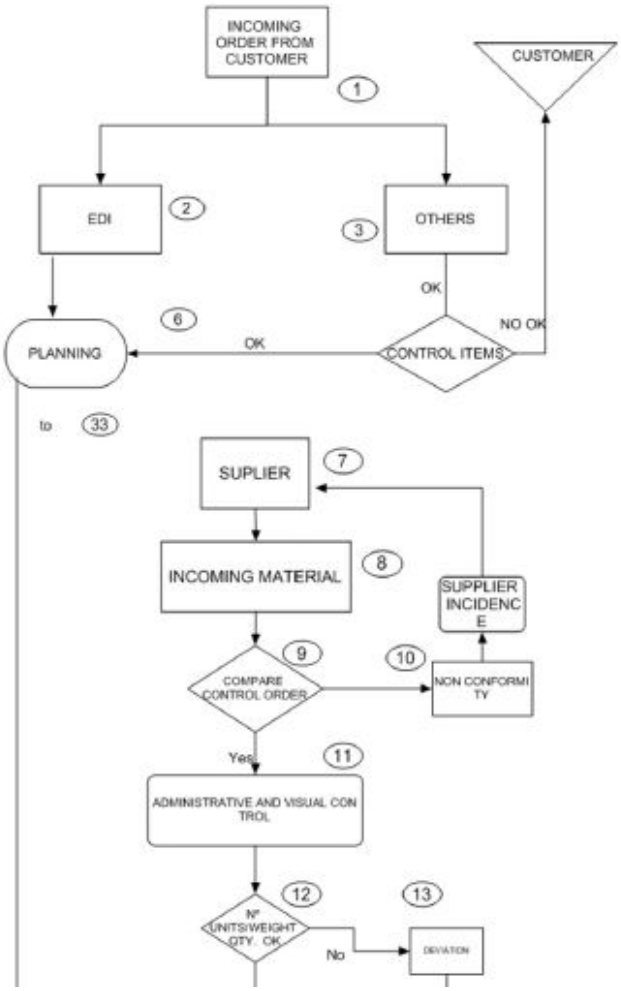
- A1: This module takes into account the extraction and processing of raw materials and energy that occurs prior to the manufacturing process under study. The product is made up of the following raw materials: cotton and acrylic resilin, both 100% recycled.

- A2: This module includes the transport of the different raw materials from the supplier to the factory. The transport of the raw materials to the factory is carried out by truck> 32 tn.

Manufacturing (A3)

This module includes the consumption of energy and packaging materials used during the manufacturing process, as well as the emissions from the factory not originating from the combustion of fossil fuels, as well as the transport and management of the waste produced in the factory.

It should be noted that no emissions are generated from the factory.



2.2. Construction (A4 and A5)

Product transport to the building site (A4)

This module includes transportation from the factory door to the site site where the product is installed.

For the calculation of transport, a weighted average has been made considering the kilometers to each autonomous community and country, and the percentage of sales over the total. The average number of kilometers has resulted in 460 km.

The following table shows the results for Spain.

Table 1. Transport scenarios of product to the building site

Destination	Type of transport	Percentage (%)	Average Km
Spain	Truck >32 Tons	100	460
Europe	N/A		
Rest of the world	N/A		
		Total 100%	

Construction and instalation process (A5)

This stage includes all the materials and energy used for the installation of the insulators. Likewise, the transport and management of the waste produced (packaging and wasted product) is also considered. It is considered that 2% of the product is wasted during installation.

Section 4.2 of this document includes the data mentioned per unit declared. The installation process does not require consumption.

2.3. Product use (B1-B7)

The benefits of the system allow a reference useful life of 50 years to be assumed, equivalent to the life of the building in which the product is installed.

Once installed, the insulation system does not require maintenance operations or energy or water inputs, so no environmental loads are attributed to this stage.

The energy and emission savings derived from the insulating properties of the system have not been accounted for in this DAP.

2.4. End-of-life (C1-C4)

- C1: Deconstruction / Demolition: the deconstruction and / or dismantling of EPOTEX is part of the entire demolition of the building. The part of the environmental impact associated with our system is very small, so it can be neglected compared to the overall demolition of the building.

- C2: Transportation: it is considered that 11% of the product goes to landfill and 89% to recycling plant. In this case, a 32-ton truck has been considered and a distance of 50 km to the management site.

- C3: Waste management for reuse, recovery and recycling: materials are not separated from other construction products during the end of the building's life, so the impact of this stage is considered to be zero. The product is 100% recyclable but based on European statistics (EUROSTAT, https://ec.europa.eu/eurostat/web/main/home) it has been considered that 89% is recycled.

- C4: Waste disposal: According to EUROSTAT statistics, it is considered that 89% of the product is recycled, and the remaining 11% is deposited in a controlled landfill.

2.5. Benefits and loads beyond the system boundary (D)

In this study, module D is considered to have a value of 0, because although according to the hypotheses considered, a good part of the product is destined for recycling at the end of its life, it is recycled material and, therefore, the flow net of displaced primary materials would be 0.

3. LIFE CYCLE ASSESSEMENT

This DAP is cradle to door with options, including all life cycle stages (A + B + C + D).
The present LCA study has been carried out using the LCA software SIMAPRO 9.0 together with the ECOINVENT 3.5 database. The impact methodology used corresponds to CML-IA (baseline) v3.05 and EDIP v1.07 (for the production of waste) and Cumulative Energy Demand v 1.11 (for the consumption of natural resources). The primary data (consumption of raw materials and energy, production of waste, transport from suppliers and transport of product) correspond to factory data from 2019. The polluter pays and modularity principles have been followed. Wherever it has been necessary, a load assignment has been made based on physical criteria. To represent the electricity consumption in the factory, the production mix in Spain has been used.

3.1. Functional unit

Fireproof thermal insulation of 1m2 for 50 years. The thermal resistance of the product with a thickness of 40 mm is 1.18 m3-k/W. The weight of 1m2 of EPOTEX insulation is 1.2 kg.

A table with the density-thickness relationship is attached as an annex for extrapolation of the results obtained in this report.

3.2. System boundary

Table 2. Declared modules

Product stage			Construction Process Stage		Use stage							End of life stage				Benefits and loads beyond the system boundaries
Raw materials supply	Transport	Manufacturing	Transport	Construction – Installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational Energy use	Operational water use	De-construction	Transport	Waste processing	Disposal	Reuse, recovery, recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

X = Included in LCA **MND** = Module Not Declared

3.3. Data analysis for the life cycle (ACV)

Table 3. Indicators of the environmental impact

Parameter	Manufacture	Construction		Use	End of Life				Module D	Total
	A1/A2/A3	A4 Transport	A5 Instalation	B1-B7 Use	C1 Demolition	C2 Transport	C3 Treatment	C4 Landfill		
Calentamiento global (Kg CO_2-eq)	6,66E-01	6,37E-02	1,48E-02	0,00E+00	0,00E+00	6,88E-03	0,00E+00	1,16E-03	0,00E+00	7,53E-01
Ozone Depletion potential (Kg CFC 11-eq)	9,46E-08	1,27E-08	2,18E-09	0,00E+00	0,00E+00	1,38E-09	0,00E+00	3,81E-10	0,00E+00	1,11E-07
Acidification potential (Kg SO_2-eq)	2,97E-03	1,70E-04	6,32E-05	0,00E+00	0,00E+00	1,82E-05	0,00E+00	7,61E-06	0,00E+00	3,22E-03
Eutrophication (Kg PO_4^{3-}eq)	6,29E-04	2,30E-05	1,31E-05	0,00E+00	0,00E+00	2,49E-06	0,00E+00	1,29E-06	0,00E+00	6,69E-04
Photochemical ozone formation, POCP (Kg etileno-eq)	1,51E-04	1,01E-05	3,25E-06	0,00E+00	0,00E+00	1,08E-06	0,00E+00	3,81E-07	0,00E+00	1,66E-04
Abiotic Resources Depletion Potential (elements) (Kg Sb-eq)	8,81E-07	1,24E-07	2,04E-08	0,00E+00	0,00E+00	1,35E-08	0,00E+00	1,49E-09	0,00E+00	1,04E-06
Abiotic Resources Depletion Potential (fossil fuels) (MJ)	9,55E+00	1,04E+00	2,15E-01	0,00E+00	0,00E+00	1,13E-01	0,00E+00	3,19E-02	0,00E+00	1,10E+01

A1. Raw materials suply
A2. Transport
A3 Manufacturing Product
A4. Transport
A5. Construction – Installation process

B1. Use
B2. Maintenance
B3. Repair
B4. Replacement
B5. Refurbisshment
B6. Operational Energy use
B7. Operational water use

C1. Decosntruction and demolition
C2. Transport
C3. Waste management for reuse, recovery and recycling.
C4. Disposal

MND. Module not declared

Table 4. Indicators of resources use

Parameter	Manufacture	Construction		Use	End of Life				Module D	Total
	A1/A2/A3	A4 Transport	A5 Instalation	B1-B7 Use	C1 Demolition	C2 Transport	C3 Treatment	C4 Landfill		
Use of renewable primary energy, exclouding the resources of non-renewable primary energy used as a raw material (MJ)	8,42E+00	1,06E-02	1,69E-01	0,00E+00	0,00E+00	1,22E-03	0,00E+00	2,74E-04	0,00E+00	8,60E+00
Use of renewable primary energy used as raw material (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	0,00E+00
Total use a renewable primary energy (primary energy and resources of renewable primary energy used as raw materials) (MJ)	8,42E+00	1,06E-02	1,69E-01	0,00E+00	0,00E+00	1,22E-03	0,00E+00	2,74E-04	0,00E+00	8,60E+00
Use of non-renewable primary energy, exclouding the resources of non-renewable primary energy used as a raw material (MJ)	1,40E+01	1,13E+00	3,06E-01	0,00E+00	0,00E+00	1,22E-01	0,00E+00	3,44E-02	0,00E+00	1,56E+01
Use of non-renewable primary energy used as raw material (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	0,00E+00
Total use of non-renewable primary energy (primary energy and resources of renewable primary energy used as raw materials) (MJ)	1,40E+01	1,13E+00	3,06E-01	0,00E+00	0,00E+00	1,22E-01	0,00E+00	3,44E-02	0,00E+00	1,56E+01
Use of secondary materials (kg)	1,60E+00	0,00E+00	3,20E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,63E+00
Use of renewable secondary fuels (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	0,00E+00
Use of non-renewable secondary fuels (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	0,00E+00
Net use of fresh water (m3)	1,91E-01	7,91E-03	4,02E-03	0,00E+00	0,00E+00	6,70E-04	0,00E+00	1,30E-03	0,00E+00	2,05E-01

Parameter	Manufacture	Construction		Use	End of Life				Module D	Total
	A1/A2/A3	A4 Transport	A5 Instalation	B1-B7 Use	C1 Demolition	C2 Transport	C3 Treatment	C4 Landfill		
Hazardous waste disposed (kg)	1,29E-05	6,14E-07	2,72E-07	0,00E+00	0,00E+00	6,66E-08	0,00E+00	2,13E-08	0,00E+00	1,39E-05
Non-hazardous waste disposed (kg)	1,86E-01	8,99E-02	9,25E-03	0,00E+00	0,00E+00	9,77E-03	0,00E+00	1,76E-01	0,00E+00	4,72E-01
Radioactive waste disposed (kg)	6,71E-05	7,16E-06	1,51E-06	0,00E+00	0,00E+00	7,82E-07	0,00E+00	2,15E-07	0,00E+00	7,68E-05
Components for its reutilisation (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	0,00E+00
Materials for the recycling (kg)	3,60E-02	0,00E+00	7,20E-04	0,00E+00	0,00E+00	0,00E+00	1,42E+00	0,00E+00	0,00E+00	1,46E+00
Materials for the energetic evaluation (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	0,00E+00

A1. Raw materials suply
A2. Transport
A3 Manufacturing Product
A4. Transport
A5. Construction – Installation process

B1. Use
B2. Maintenance
B3. Repair
B4. Replacement
B5. Refurbisshment
B6. Operational Energy use
B7. Operational water use

C1. Decosntruction and demolition
C2. Transport
C3. Waste management for reuse, recovery and recycling.
C4. Disposal

MND. Module not declared

3.4. Potential environmental benefits and impacts derived from activities of reuse, recovery and recycling

Table 5. Indicators of impact evolution. Reuse, recovery and recycling

Parameter	Unit expresed by functional unit or declared unit	D.
Potential depletion of abiotic resorces (ADP-elements)*	Kg Sb eq	0,00
Potential depletion of abiotic resorces (ADP-fossil fuels)*	MJ, net calorific value	0,00
Potential acidification of the ground and water resources, AP	Kg SO_2 eq	0,00
Ozone depletion potential, ODP	Kg CFC-11 eq	0,00
Global warming potential, GWP	Kg CO_2 eq	0,00
Eutrophication potential, EP	Kg $(PO4)_3$ eq	0,00
Photochemical ozone creation potential, POCP	Kg ethene eq	0,00

* ADP-elements: including all the non-renewable abiotic material resources
* ADP-fossil fuels: Incuding all the fossil resources

Table 6. Life cycle inventory data. Reuse, recovery and recycling

Parameter	Unit expresed by functional unit or declared unit	D.
Use of renewable primary energy, exclouding the resources of non-renewable primary energy used as a raw material	MJ	0,00
Use of renewable primary energy used as raw material	MJ	0,00
Total use a renewable primary energy (primary energy and resources of renewable primary energy used as raw materials)	MJ	0,00
Use of non-renewable primary energy, exclouding the resources of non-renewable primary energy used as a raw material	MJ	0,00
Use of non-renewable primary energy used as raw material	MJ	0,00
Total use of non-renewable primary energy (primary energy and resources of renewable primary energy used as raw materials)	MJ	0,00
Use of secondary materials	kg	0,00
Use of renewable secondary fuels	MJ	0,00
Use of non-renewable secondary fuels	MJ	0,00
Net use of fresh water	m^3	0,00
Hazardous waste disposed	kg	0,00
Non-hazardous waste disposed	kg	0,00
Radioactive waste disposed	kg	0,00
Components for its reutilization	kg	0,00
Materials to recycle	kg	0,00
Materials for the energetic valorization	kg	0,00
Exported energy	MJ	0,00

MJ, net calorific value

3.5. Recommendations of this DAP

The comparison of construction products must be done by applying the same functional unit and at the building level, that is, including the behavior of the product throughout its entire life cycle.
This EPD includes the EPOTEX products.

3.6. Cut-off rules

At least 99% of the total life cycle matter and energy have been included, and 95% of matter and energy per module. It has been excluded because its impact is considered negligible:
1) Manufacture of equipment used in production, buildings or any other capital good;
2) Transportation of personnel to the plant;

3.7. Additional environmental information

3.8. Other data

4. TECHNICAL INFORMATION AND SCENARIOS

4.1. Transport from the factory to the building site (A4)

Parameter	Parameter expresed by declared unit
Type and consumption of fuel or vehicle used	Truck> 32 Tn Euro 6
Distance	460 km
Utilization of the vehicle (including the empty return)	Percentage assimilated in the Ecoinvent database.
Density of the transported product	30 kg/m3
Factor of calculating the capacity of the volume used	1

4.2. Installation processes (A5)

Parameter	Parameter expresed by declared unit
Auxiliary materials for installation	Previous surface conditioning treatments have not been considered.
Water consumption	It is not required.
Consumption of other resources	It is not required.
Quantitive despription of the type of energy and consumption during the installation process	It is not required.
Waste in the construction site, generated by the installation of the product (specify types)	Estimated product losses of 2%. Packaging waste: 0.12 kg of wooden pallet; 0.015 kg of polyethylene film; 0.2 kg of cardboard.
Material output as a result of the waste management processes in the place of installation. For example: collection for recycling, for energetic recovery and final disposal	Reused pallets for a new reuse center: 0.12kg of pallet per m2 of product. 100% recycling. Product wasted: 2%. 100% landfill. Polyethylene film 0.015 kg / m2 product. 100% recycling. Cardboard boxes 0.2 kg / m2 product. 100% recycling.
Emisions to the air, ground or water	There is not.

4.3. Reference service life (B1)

Parameter	Parameter expresed by declared unit
Reference service life	The shelf life of the product is 50 years.
Properties and characteristics of the product	Thermal and acoustic insulation for the construction sector.
Requirements (maintenance frequency, ways of using, repair, etc.)	It is not required.

4.4. Maintenance (B2), repair (B3), replacement (B4) or refurbishement (B5)

Parameter	Parameter expresed by fdeclared unit
Maintenance, for example: cleaning agent, type of surfactant	It is not required.
Maintenance cycle	It is not required.
Auxiliar materials for the maintenance process	It is not required.
Energy imput for the maintenance process	It is not required.
Net consumption of fresh water during the maintenance or repair process	It is not required.
Inspection, maintenance or repair process	It is not required.
Inspection, maintenance or repair cycle	It is not required.
Auxiliary materials, e.g. lubricant	It is not required.
Changing of parts during the product life cycle	It is not required.
Energy input during the process of maintenance, type of energy, e.g. electricity and quantity	It is not required.
Energy input during the process of reparation, renovation, replacement, if it is applicable and significant	It is not required.
Loss of material during maintenance or repair	It is not required.
Service life of the product for inclusion as a basis to calculate the number of times a change is needed in the building	50 years.

4.5. Operational use of energy (B6) and water (B7)

Parameter	Parameter expresed by declared unit
Energy type, for example: electricity, natural gas, use of heat for a district	No power consumption required.
Output power potential of equipments	Does not apply.
Net consumption of fresh water	No water consumption required.
Characteristic representation (energy efficiency, emissions...)	Energy reduction in the building use stage.

4.6. End of life (C1-C4)

Process	Parameter expressed for declared unit of the components, products or materials
Collection processes	*
Recycling systems	89% of the product is recycled.
Disposal	11% to landfill.

5. ADDITIONAL INFORMATION

Density - thickness ratio for EPOTEX

PRODUCT	DENSITY (kg/m3)	THICKNESS (mm)
EPOTEX 30	30 kg/m3	40, 50, 60,80,100
EPOTEX 40	40 kg/m3	40, 50, 60,80,100
EPOTEX 50	50 kg/m3	40,50,60,70
EPOTEX 60	60 kg/m3	10,20,30,40,50

6. PCR AND VERIFICATION

This declaration is based on the Document

UNE-EN 16783:2017 Thermal insulation products - Product category rules (PCR) for factory made and in-situ formed products

Independent verification of the declaration and data according to ISO 14025 and UNE EN15804 + A1

☐ Internal ☑ External

Independent verifier appointed

ITeC.Ferran Pérez. Verifier accredited by the Administrator of the DAPcons® Program.

Oficina d'Acreditació d'Entitats Col·laboradores
Verificació VEDAP-001-10

ITeC

Verification date

14 / 10 / 2021

References

- General rules of the DAP®construction program.
- RCP 001 Version 2 - 06-18-2015 Thermal insulation products.
- RCP UNE-EN 16783:2017 Thermal insulation products.
- ISO 14040: 2006 Environmental management - Life cycle analysis - Principles and reference framework.
- ISO 14044: 2006 Environmental management - Life cycle analysis - Requirements and guidelines.
- UNE-EN 15804: 2012 + A1: 2014 Sustainability in construction. Environmental product declarations. Basic product category rules for construction products.
- ISO 14025: 2006 Environmental labels and declarations - Type III environmental declarations - Principles and procedures.
- Product life cycle modeled with SimaPro 9.0 software.

ADMINISTRATOR OF PROGRAMME OPERATOR

Col·legi d'Aparelladors, Arquitectes Tècnics i Enginyers de l'Edifcació de Barcelona (CAATEEB)
Bon Pastor 5, 08021 Barcelona

www.apabcn.cat

EMAS GESTIÓ AMBIENTAL VERIFICADA REG. No. 000142

CERTIFICAZIONE DI SISTEMA AMBIENTALE DNV·GL ISO 14001