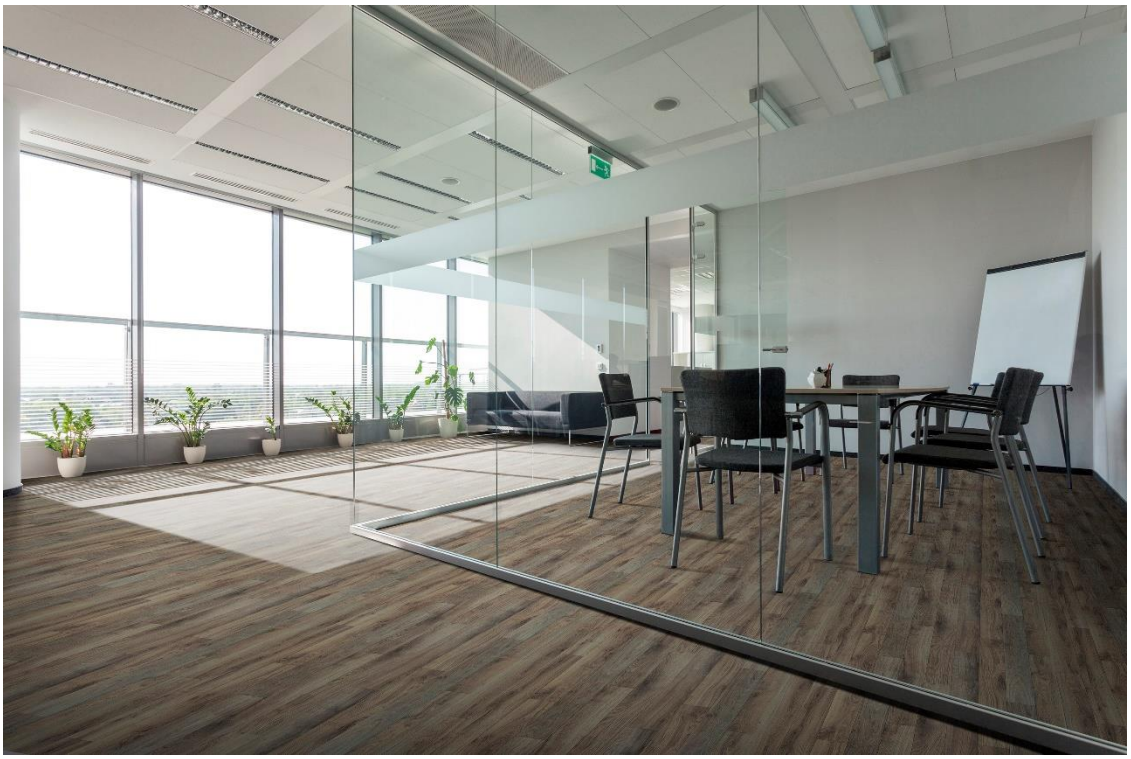
ENVIRONMENTAL AND HEALTH PRODUCT DECLARATION

Graboplast Heterogeneous PVC Floor Covering

Environmental product declaration in accordance with standards NF EN ISO 14025, NF EN 15804+A1 and its national complement NF EN 15804/CN



May 2019

Registration number: 4-182:2019

REALISATION:
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Warning notice

The information contained in this declaration is provided under the responsibility of Graboplast (producer of the FDES) in accordance with NF EN 15804+A1, its national supplement NF EN 15804/CN and NF EN 16810.

Any use, in whole or in part, of the information provided in this document must at least be accompanied by a complete reference to the original FDES and to its producer, who may submit a complete copy.

It is recalled that the results of the study are based only on facts, circumstances and assumptions that were submitted during the study. If these facts, circumstances and assumptions differ, the results may change.
In addition, the results of the study as a whole should be considered in the light of the hypotheses, and not in isolation.

CEN standard EN 15804+A1 and NF EN 16810 serves as the Product Category Definition Rules (PCR).

Reading guide

The display of inventory data complies with the requirements of NF EN 15804+A1.
In the following tables 2.53E-06 should be read: 2.53x10 -6 (scientific writing).

The units used are specified before each flow, they are:
- the kilogram « kg »,
- the cubic meter « cub»,
- the kilowatt-hour « kWh »,
- the mega joule « MJ »,
- square meter « sqm ».

Abbreviations:
- ACV: Life Cycle Analysis
- « FDES »: Fiche de Déclaration Environnementale et Sanitaire
- EPD: Environmental Product Declaration
- PCR: Product Category Rules
- RSL: Reference Service Life
- FU: Functional Unit
- LCV: Lower Calorific Value

Precautionary use of the FDES for product comparison

The DEP of construction products may not be comparable if they do not comply with the NF EN 15804+A1 standard and NF EN 16810.

The standard NF EN 15804+A1 defines in § 5.3 Comparability of DEPs for construction products, the conditions under which construction products can be compared, based on the information provided by the DEP: *" A comparison of the environmental performance of construction products using EPD information should be based on the use of the products and their impacts on the building and should consider the entire life cycle (all information modules). "*

SUMMARY

1 INTRODUCTION

The framework used for the presentation of the product environmental statement is based on the national complement NF EN 15804/CN and INIES program.

The information contained in this declaration is provided under the responsibility of Graboplast.

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2 GENERAL INFORMATION

1. Name and address of declarant:
   GRABOPLAST Zrt
   Hungary, Győr, Fehérvári street 16/b, 9023

2. The sites, manufacturer or group of manufacturers or their representatives for whom the FDES is representative:
   - Manufacturing plant Graboplast of Győr, Hungary
     Address: Hungary, Győr, Fehérvári street 16/b, 9023
   - Manufacturing plant of Graboplast of Tatabánya, Hungary
     Address: Hungary, Tatabánya, Vigadó street 1, 2800

3. Type of FDES: « from cradle to grave »

4. Type of FDES: Individual

5. Date of publication: May 2019
6. Validation end date: May 2024

7. The commercial references / Product identification:

Type	Produit	Epaisseur totale (mm)	Epaisseur couche d'usure (mm)	Masse surfacique (kg/m²)	Forme du produit
Heterogeneous Compact	Silver Knight Diamond tech	2,0	0,7	2,80	Rolls 2x20m
	Diamond Standard + Grabo Diamond	2,0	0,7	2,20	Rolls 2,4x20m
	GraboSafe Silver Knight + 20 JSK+ Ecosafe	2,0	0,7 – 0,9 – 0,7	2,60 - 2,60 - 2,70	Rolls 2x20m
Heterogeneous Acoustic	Acoustic range	3,2	0,55 ou 0,7	2,50 - 2,60	Rolls 2x20-25m
Heterogeneous Light commercial	Astral + Aura + Chips Astral	2,0	0,4	1,80	Rolls 2/3/4x18-27m
	TOP	2,4	0,55	2,00	Rolls 2/3/4x18-27m
	SoundTex 5.0	3,2	0,5	2,20	Rolls 2/3/4x25m
Heterogeneous LVT	PlankIT	2,5	0,55	3,80	Plank 185x1220cm
	DOMINO	2,3	0,3	3,40	Plank 185x1220cm Tiles 305x610cm

8. FDES verified

The norm EN 15804 of CEN and EN 16810 are used as RCP[a].
Independent verification of the declaration, in accordance with EN ISO 14025:2010 ☐ internal ■ external
Auditor's name: *Etienne Lees-Perasso* *Verification program: FDES-INIES Program* *Address: Association HQE. 4, avenue du Recteur Poincaré - 75016 Paris.* *Web site: http://www.inies.fr/accueil/*
a) Rules for defining product categories *b) Optional for communication between companies, mandatory for communication between a company and its clients (see EN ISO 14025:2010, 9.4).*

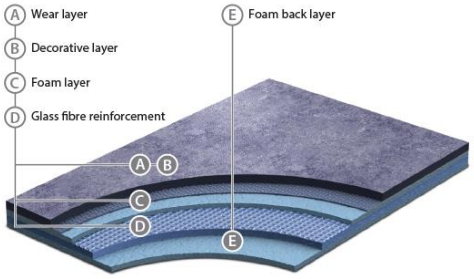
3 PRODUCT DESCRIPTION AND FONCTIONAL UNIT

9. Functional unit description (or declared unit):

« Cover 1 m² of floor covering with heterogenous PVC floorings, a reference life service of 15 years for specified characteristics application and use areas according to EN 10582[1] et EN ISO 10874[2]»

10. Data information: The data in this FDES correspond to the industrial company's production in 2017. The cut-off rule has been used and complies with that defined in standard NF EN 15804+A1

11. Product description: The products are heterogenous PVC floor covering in rolls or tiles, to be glued. The figure below shown typical heterogeneous PVC flooring product (Astral):



12. Description of product use (application field): The product meets the practical requirements according to the areas of use and intensity of use specified in standards NF EN ISO 10874 and EN 685.

13. Other technical characteristics not included in the functional unit: The classes of product use according to ISO 10874 are 31 (moderate) to 34 (very heavy) for commercial classification and 41 (moderate) to 43 (heavy) for industrial classification, depending on the classes. The service life is the same for all use.

14. Description of the main components and/or materials of the product:

Parameter	Unit	Amount
Product quantity	kg/sqm	2.60E+00
Main components	/	The product is mainly composed of PVC. plasticizers and mineral filler.
PVC	kg/sqm	1.21E+00
Plasticizers	kg/sqm	6.27E-01
Calcium Carbonate	kg/sqm	5.95E-01
Other	kg/sqm	1.67E-01
Distribution packaging	kg/sqm	The product packaging for rolls consists of a paper tube with plastic discs and closing caps at the ends, and all wrapped in plastic film. For the products in tiles. product is placed in carton boxes on wood pallet.
Wood Pallet	kg/sqm	1.04E-01
PELD	kg/sqm	1.17E-02
PP	kg/sqm	2.02E-03
Cardboard	kg/sqm	2.10E-02
Paper	kg/sqm	8.55E-02
Tape	kg/sqm	2.72E-03

[1] ISO 10582 :2010 Resilient floor coverings -- Heterogeneous poly(vinyl chloride) floor coverings – Specification
[2] EN ISO 10874:2009 Resilient, textile and laminate floor coverings -- Classification

Loss rate during production	%	14
Loss rate during installation	%	4.56
Loss rate during maintenance	%	not concerned
Justification of provided information	-	The information is provided by Graboplast.

15. Specify whether the product contains substances on the candidate list according to REACH regulation (if higher than 0.1% by mass).

At the date of publication of the FDES. no substance in the product is included in the "candidate list of substances with very high concern subject to authorization".

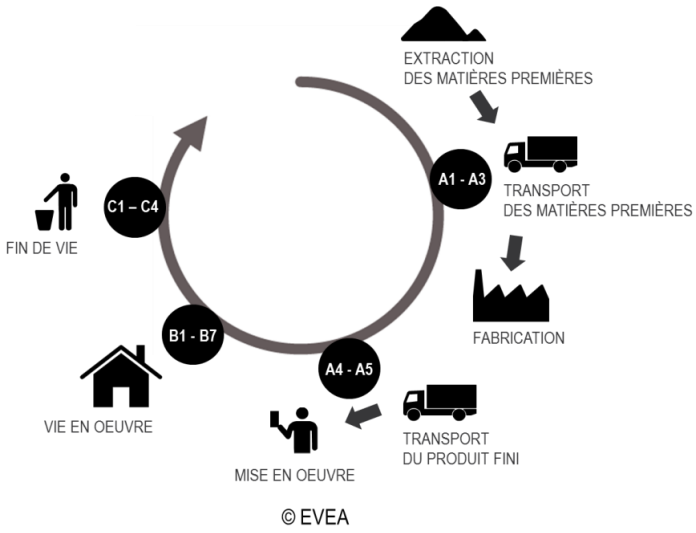
NOTE The technical data sheet for this floor covering can be consulted at the following address: www.graboplast.com.

16. Description of the reference service life (si applicable et conformément aux §7.2.2 de la NF EN 15804+A1)

Parameter	Unit	Value
Reference service life	Years	15
Declared properties of the product at the factory exit	-	The product is in conformity with the norm NF EN 14041
Theoretical application parameters	Appropriate units/or appropriate indications	-
Presumed quality of the work	-	The quality of the work is presumed to be in accordance with the manufacturer's recommendations
Exterior environment	-	-
Interior environment	-	Volatile pollutant emissions details of products covered by the FDES are given in paragraph 7
Use conditions	-	The product use is supposed to be in accordance with the recommendations in the product's technical data sheet
Maintenance	-	Maintenance scenario has been defined according to the manufacturers' recommendations

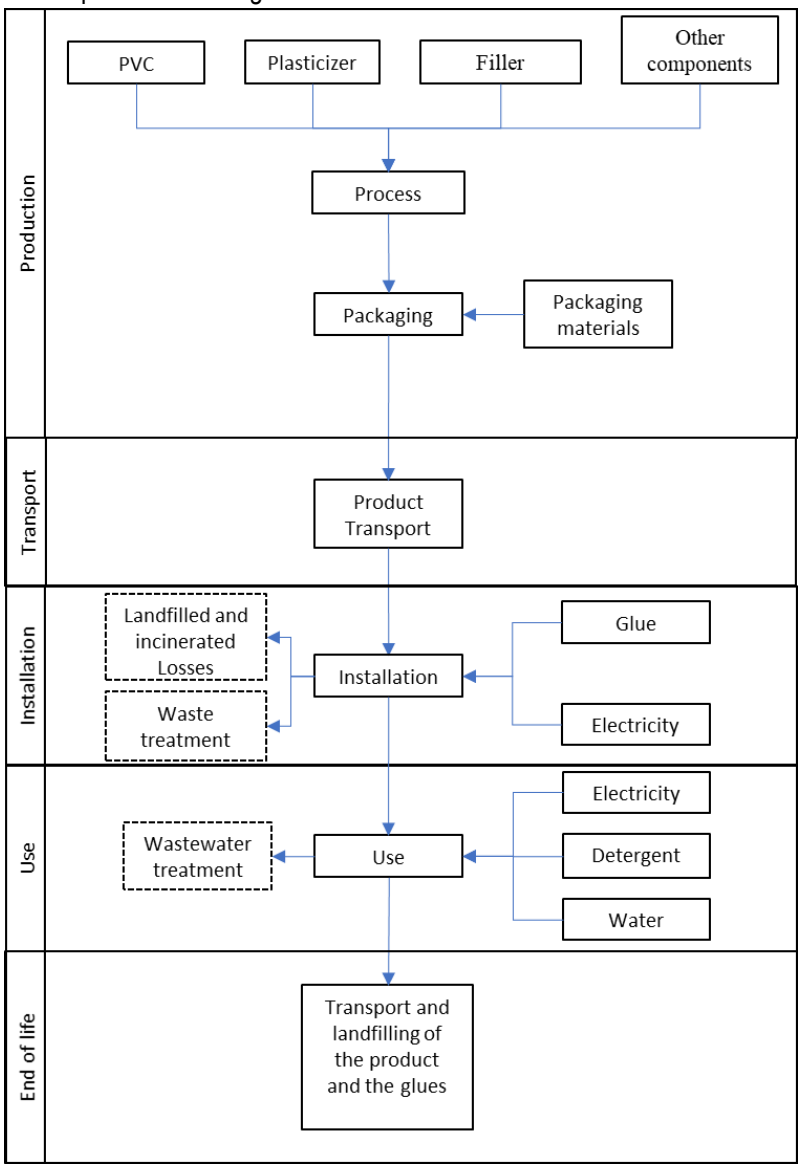
4 LIFE CYCLE STAGES

Flooring life cycle :



3.1 Flow-Sheet

The following figure shows the product flow diagram:



3.2 Production stage, A1-A3

Steps A1 to A3 include all processes from the extraction of raw materials to their processing in the factory.

3.3 Construction process stage, A4-A5

Transport between factory and installation site (if applicable):

Parameter	Unit	Value
Type of combustible and vehicle consumption or vehicle type	-	Considered vehicles are Euro 5 type trucks with a payload of 16-32 ton
Distance to the installation site	km	1.40E+03
Use capacity	%	3.63E+01
Density of the transported product	kg/cub	1.01E+02
Density utilisation coefficient	-	-
Scenario description		The average distribution distance between the factory and the installation site is 1400 km

Installation in the building (if applicable):

Parameter	Unit	Value
Auxiliary inputs for the installation (specify by material)	appropriate units	-
Electricity consumption	kWh/sqm	4.84E-02
Glue consumption	kg/sqm	2.75E-01
Loss of flooring	%	4.56
Waste generated at the construction site before processing the waste generated by the product Installation (specify by type)		
Wood Pallet waste	kg/sqm	1.04E-01
PELD waste	kg/sqm	1.17E-02
PP waste	kg/sqm	2.02E-03
Cardboard waste	kg/sqm	2.10E-02
Paper waste	kg/sqm	8.55E-02
Tape waste	kg/sqm	2.72E-03
Direct emissions into ambient air. soil and water	kg/sqm	-
Waste treatment scenario		The scenario for the treatment of packaging waste is: 50% in landfill and 50% in incineration. Flooring losses during installation are sent to landfill. The distance of waste transport to the treatment centre is 30 km for landfilling and 100 km for incineration (according to the norm FD P01-015).
Scenario description		The product is cut to the required dimensions and then processed using acrylic glue. A hot welding is carried out between the coating sheets for products in rolls.

3.5 Implementation life stages (Exclusion of potential savings), B1-B7

B1 Use

Parameter	Unit	Value/description
Scenario description		Floor coverings do not contribute to this module according to the standard EN 16810.
Emissions	kg/FU	-

B2 Maintenance

Parameter	Unit	Value/description
Scenario description		The maintenance scenario is as following: - Common maintenance: 4 cleaning / week - Periodic maintenance: 4 basic cleaning / year
Maintenance frequency	Year	0,0048
Auxiliary inputs for maintenance		
Water consumption	L/year/sqm	1.06E+01 that is 1.59E+02 liters over the RSL
Electricity consumption	kWh/year/sqm	7.44E-02 that is 1.12E+00 kWh over the RSL
Cleaning agent consumption	L/year/sqm	7.13E-02 that is 1.07E+00 liters over the RSL
Waste generated during maintenance (specify materials)	kg	-

B3 Repair

Parameter	Unit	Value/description
Scenario description		Floor coverings do not contribute to this module according to the standard EN 16810.
Inspection process		-
Repair frequency	year	-
auxiliary inputs (specify materials)		-
Waste generated during repair (specify materials)	kg	-
Net freshwater consumption	cub	
Consumption and type of energy		-

B4 Replacement

Parameter	Unit	Value/description
Scenario description		Floor coverings do not contribute to this module according to the standard EN 16810.
Replacement frequency	year	-
Consumption and type of energy	kWh	-
Replaced worn part quantity	kg	-

B5 Refurbishement

Parameter	Unit	Value/description
Scenario description		Floor coverings do not contribute to this module according to the standard EN 16810.
Refurbishment frequency	year	-
Quantity of material required		-
Waste generated during refurbishment	kg	-
Consumption and type of energy	kWh	-
Other assumptions for scenario development	Appropriate units	-

B6 – B7 Energy and water use

Parameter	Unit	Value/description
Scenario description		Floor coverings do not contribute to this module according to the standard EN 16810.
Auxiliary inputs specified by material	Appropriate units	-
Net freshwater consumption	cub	-
Type of energy	kWh	-
Equipment output power	kWh	-
Characteristic performance	Appropriate units	-
Other assumptions for scenario development	Appropriate units	-

3.6 End of life stage C1-C4

Parameter	Unit	Value/description
Scenario description		The product (mixed with the glue) is removed and sent to a landfill centre at the end of its life. Transport between the construction site and the landfill site is by truck. with an estimated distance of 50 km (according to FD P01-015)
Quantity collected separately	kg/sqm	-
Quantity collected with mixed construction waste	kg/sqm	2.88E+00
Quantity for reuse	kg/sqm	-
Quantity for recycling	kg/sqm	-
Quantity for energy recovery	kg/sqm	-
Quantity of disposed product	kg/sqm	2.88E+00

3.7 Recycling/reuse/recovery/ potential, D

D Module is not taken into consideration in this study.

5 INFORMATION FOR THE LIFE CYCLE ASSESMENT CALCULATION

Used PCR	EN 15804+A1:2014, NF EN 15804/CN:2016 and NF EN 16810
System boundaries	System boundaries respect the limits imposed by the norm NF EN 15804+A1 and its national complement NF EN 15804/CN.
Allocations	A surface allocation of manufacturing data was performed by Graboplast for its various production sites.
Geographical and temporal representativeness of primary and secondary data	Generic data from the Ecoinvent database 3.4 Used software: SimaPro - SimaPro, life cycle assessment software (V8.5). ev DEC - Ev-DEC, (www.ev-dec.com), developed by the consulting firm EVEA (www.evea-conseil.com), which help to realize the FDES.
Variability of the results	A sensibility analysis has been performed in the scope of this FDES and has showed that impacts of all references don't exceed 1.4 times the average impact declared in this FDES.

6 LIFE CYCLE ASSESSMENT RESULTS

Environmental impacts	Production stage			Construction stage		Use stage							End of life stage				D Profits and costs beyond the system's borders
	A1 Raw material supply	A2 Transport	A3 Manufacturing	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Rehabilitation	B6 Use of energy	B7 Water consumption	C1 Deconstruction/ demolition	C2 Transport	C3 Waste treatment	C4 Elimination	
Global Warming kg CO_2 eq/FU	6.73E+00	3.46E-01	2.56E+00	6.12E-01	1.07E+00	0.00E+00	3.01E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.40E-02	0.00E+00	1.78E-01	NDM
Ozone Depletion kg CFC 11 eq/FU	1.16E-06	6.44E-08	3.91E-07	1.14E-07	1.43E-07	0.00E+00	2.21E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.61E-09	0.00E+00	7.45E-09	NDM
Acidification of soil and water kg SO_2 eq/FU	2.65E-02	1.11E-03	7.16E-02	1.95E-03	6.80E-03	0.00E+00	1.13E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.48E-05	0.00E+00	1.65E-04	NDM
Eutrophication kg $(PO_4)^{3-}$ eq/FU	4.47E-03	1.83E-04	1.78E-02	3.24E-04	1.36E-03	0.00E+00	1.03E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.42E-06	0.00E+00	6.15E-05	NDM
Photochemical ozone creation Ethene eq/FU	8.39E-03	1.80E-04	7.20E-03	3.17E-04	1.12E-03	0.00E+00	2.09E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.27E-06	0.00E+00	5.54E-05	NDM
Depletion of abiotic resources -elements kg Sb eq/FU	1.27E-04	1.08E-06	1.98E-05	1.90E-06	9.50E-06	0.00E+00	1.04E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.36E-08	0.00E+00	3.66E-08	NDM
Depletion of abiotic resources -fossil MJ PCI/FU	1.28E+02	5.22E+00	3.32E+01	9.22E+00	1.78E+01	0.00E+00	1.50E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.11E-01	0.00E+00	6.39E-01	NDM
Water pollution m^3/FU	9.82E+00	1.23E-01	1.99E+00	2.17E-01	7.58E-01	0.00E+00	1.66E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.98E-03	0.00E+00	2.35E-02	NDM
Air pollution m^3/FU	5.90E+02	3.64E+01	1.17E+03	6.42E+01	1.41E+02	0.00E+00	3.14E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.47E+00	0.00E+00	1.30E+01	NDM

Use of resources	Production stage			Construction stage		Use stage							End of life stage				D Profits and costs beyond the system's borders e
	A1 Raw material supply	A2 Transport	A3 Manufacturing	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Rehabilitation	B6 Use of energy	B7 Water consumption	C1 Deconstruction /demolition	C2 Transport	C3 Waste treatment	C4 Elimination	
Renewable primary energy excl. RM MJ PCI/FU	8.67E+00	7.77E-02	6.54E+00	1.37E-01	1.16E+00	0.00E+00	1.14E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.15E-03	0.00E+00	2.03E-02	NDM
Renewable primary energy used as RM MJ PCI/FU	1.51E+00	0.00E+00	3.59E+00	0.00E+00	2.32E-01	0.00E+00	1.11E+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	0.00E+00	NDM
Total renewable primary energy MJ PCI/FU	1.02E+01	7.77E-02	1.01E+01	1.37E-01	1.39E+00	0.00E+00	2.25E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.15E-03	0.00E+00	2.03E-02	NDM
Non-renewable primary energy excl. RM MJ PCI/FU	8.34E+01	5.35E+00	3.87E+01	9.44E+00	1.68E+01	0.00E+00	2.27E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.16E-01	0.00E+00	6.83E-01	NDM
Non-renewable primary energy used as RM MJ PCI/FU	6.74E+01	0.00E+00	1.01E+01	0.00E+00	3.53E+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	0.00E+00	0.00E+00	NDM
Total Non-renewable primary energy MJ PCI/FU	1.51E+02	5.34E+00	4.88E+01	9.44E+00	2.03E+01	0.00E+00	2.27E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.16E-01	0.00E+00	6.83E-01	NDM
Use of secondary material kg/FU	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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NDM
Use of renewable secondary fuels MJ PCI/FU	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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NDM
Use of Non-renewable secondary fuels MJ PCI/FU	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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NDM
Net use of fresh water m^3/FU	3.64E-01	1.00E-03	6.98E-02	1.77E-03	3.01E-02	0.00E+00	1.58E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.06E-05	0.00E+00	8.08E-04	NDM

Waste category	Production stage			Construction stage		Use stage							End of life stage				D Profits and costs beyond the system's borders
	A1 Raw material supply	A2 Transport	A3 Manufacturing	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Rehabilitation	B6 Use of energy	B7 Water consumption	C1 Deconstruction/demolition	C2 Transport	C3 Waste treatment	C4 Elimination	
Hazardous waste disposed kg/FU	2.11E-01	3.15E-03	7.69E-02	5.57E-03	3.53E-02	0.00E+00	1.95E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.28E-04	0.00E+00	5.91E-04	NDM
Non-hazardous waste disposed kg/FU	1.26E+00	2.78E-01	8.66E-01	4.91E-01	5.30E-01	0.00E+00	7.47E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.13E-02	0.00E+00	2.88E+00	NDM
Radioactive waste disposed kg/FU	1.65E-04	3.67E-05	2.00E-04	6.48E-05	4.74E-05	0.00E+00	1.09E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.49E-06	0.00E+00	4.53E-06	NDM

Outflows		Production stage			Construction stage		Use stage							End of life stage				D Profits and costs beyond the system's borders
		A1 Raw material supply	A2 Transport	A3 Manufacturing	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Rehabilitation	B6 Use of energy	B7 Water consumption	C1 Deconstruction/demolition	C2 Transport	C3 Waste treatment	C4 Elimination	
Components for re-use kg/FU		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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NDM
Materials for recycling kg/FU		0.00E+00	0.00E+00	1.31E-02	0.00E+00	5.99E-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	0.00E+00	0.00E+00	0.00E+00	NDM
Materials for energy recovery kg/FU		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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NDM
Exported energy MJ/FU	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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
	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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
	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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND

Impact Indicator	Unit	Production stage	Construction stage	Use stage	End of life stage	Total
Global Warming	kg CO_2 eq/FU	9.64E+00	1.68E+00	3.01E+00	1.92E-01	1.45E+01
Ozone Depletion	kg CFC 11 eq/ FU	1.62E-06	2.56E-07	2.21E-07	1.01E-08	2.11E-06
Acidification of soil and water	kg SO_2 eq/FU	9.92E-02	8.75E-03	1.13E-02	2.10E-04	1.19E-01
Eutrophication	kg $(PO_4)^{3-}$ eq/FU	2.24E-02	1.68E-03	1.03E-02	6.89E-05	3.44E-02
Photochemical ozone creation	Ethene eq/FU	1.58E-02	1.44E-03	2.09E-03	6.26E-05	1.94E-02
Depletion of abiotic resources -elements	kg Sb eq/FU	1.48E-04	1.14E-05	1.04E-05	8.03E-08	1.70E-04
Depletion of abiotic resources -fossil	MJ PCI/FU	1.66E+02	2.70E+01	1.50E+01	8.50E-01	2.09E+02
Water pollution	m^3/FU	1.19E+01	9.75E-01	1.66E+01	2.85E-02	2.96E+01
Air pollution	m^3/FU	1.80E+03	2.06E+02	3.14E+02	1.45E+01	2.33E+03
Renewable primary energy excl. RM	MJ PCI/FU	1.53E+01	1.30E+00	1.14E+01	2.35E-02	2.80E+01
Renewable primary energy used as RM	MJ PCI/FU	5.10E+00	2.32E-01	1.11E+01	0.00E+00	1.65E+01
Total renewable primary energy	MJ PCI/FU	2.04E+01	1.53E+00	2.25E+01	2.35E-02	4.45E+01
Non-renewable primary energy excl. RM	MJ PCI/FU	1.28E+02	2.63E+01	2.27E+01	8.99E-01	1.77E+02
Non-renewable primary energy used as RM	MJ PCI/FU	7.75E+01	3.53E+00	0.00E+00	0.00E+00	8.10E+01
Total Non-renewable primary energy	MJ PCI/FU	2.05E+02	2.98E+01	2.27E+01	8.99E-01	2.58E+02
Use of secondary material	kg/FU	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	MJ PCI/FU	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of Non-renewable secondary fuels	MJ PCI/FU	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water	m^3/FU	4.35E-01	3.18E-02	1.58E-01	8.49E-04	6.25E-01
Hazardous waste disposed	kg/FU	2.91E-01	4.09E-02	1.95E-01	7.19E-04	5.27E-01
Non-hazardous waste disposed	kg/FU	2.40E+00	1.02E+00	7.47E-01	2.89E+00	7.06E+00
Radioactive waste disposed	kg/FU	4.02E-04	1.12E-04	1.09E-04	6.02E-06	6.29E-04
Components for re-use	kg/FU	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg/FU	1.31E-02	5.99E-04	0.00E+00	0.00E+00	1.37E-02
Materials for energy recovery	kg/FU	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy (electricity)	MJ/FU	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy (steam)	MJ/FU	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy (process gas)	MJ/FU	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

7 ADDITIONAL INFORMATION ON THE RELEASE OF HAZARDOUS SUBSTANCES INTO INDOOR AIR. SOIL AND WATER DURING THE PERIOD OF USE

		Test results		Justification and/or test report
		Product range	VOC emission class	Test report
Emission to indoor air[1 2]	VOC emissions	Silver Knight Diamond Tech	A+	Test Report ISO 16000 Eurofins N°G10142A
		Diamond Standard	A+	Test Report AgBB ISO 16000 Eurofins N° 392-2016-00325701
		Grabo Safety	A+	Test Report Air Comfort ISO 16000 Eurofins N° 392-2017- 00057001
		Acoustic	A+	Test Report ISO 16000 Eurofins N°G10143
		Astral	A+	Rapport d'essai Air Comfort ISO 16000 Eurofins N° 392-2019-000285805_A
		TOP	A+	
		Soundtex	A+	
		LVT (PlankIT and DOMINO)	A+	Test Reports French VOC Regulation ISO 16000 Eurofins N° 392-2016-00206402 and N°392-2017-00084101_B
	Behaviour face to fungal and bacterial growth	*Not analysed*		
	Natural radioactive emissions from construction products	*Not concerned*		
	Fibre and particle emissions	*Not analysed*		
Emission to soil and water[1 2]	Emissions into water	*Not concerned*		
	Emissions into the soil	*Not concerned*		

1) Emissions to indoor air. soil and water according to horizontal norms for the measurement of emissions of regulated hazardous substances from construction products using harmonised test methods in accordance with the provisions of the respective Technical Committees of the European Product Standards. where available.

For more information. refer to the EeB Guide: http://www.eebguide.eu/?p=1991

2) In France. the INIES Base Technical Committee (CTIB) gives recommendations on the declaration of health and comfort characteristics - Guide to writing health and comfort summaries (CTIB N94. 2009)

8 PRODUCT CONTRIBUTION TO THE QUALITY OF LIFE INSIDE BUILDINGS

Product characteristics involved in creating hygrothermal comfort conditions in the building
The product does not claim any thermal performance.

Product characteristics involved in creating acoustic comfort conditions in the building:
The product does not claim any acoustic performance.

Product characteristics involved in creating visual comfort conditions in the building:
The product does not claim any visual performance.

Product characteristics involved in creating olfactory comfort conditions in the building:
The product does not claim any olfactory performance.

9 LIFE CYCLE ASSESSMENT RESULTS FOR A RSL OF ONE YEAR

Environmental impacts	Production stage			Construction stage		Use stage							End of life stage				D Profits and costs beyond the system's borders
	A1 Raw material supply	A2 Transport	A3 Manufacturing	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Rehabilitation	B6 Use of energy	B7 Water consumption	C1 Deconstruction/ demolition	C2 Transport	C3 Waste treatment	C4 Elimination	
Global Warming kg CO_2 eq/FU	6.73E+00	3.46E-01	2.56E+00	6.12E-01	1.07E+00	0.00E+00	2.01E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.40E-02	0.00E+00	1.78E-01	NDM
Ozone Depletion kg CFC 11 eq/FU	1.16E-06	6.44E-08	3.91E-07	1.14E-07	1.43E-07	0.00E+00	1.48E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.61E-09	0.00E+00	7.45E-09	NDM
Acidification of soil and water kg SO_2 eq/FU	2.65E-02	1.11E-03	7.16E-02	1.95E-03	6.80E-03	0.00E+00	7.51E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.48E-05	0.00E+00	1.65E-04	NDM
Eutrophication kg $(PO_4)^{3-}$ eq/FU	4.47E-03	1.83E-04	1.78E-02	3.24E-04	1.36E-03	0.00E+00	6.84E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.42E-06	0.00E+00	6.15E-05	NDM
Photochemical ozone creation Ethene eq/FU	8.39E-03	1.80E-04	7.20E-03	3.17E-04	1.12E-03	0.00E+00	1.39E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.27E-06	0.00E+00	5.54E-05	NDM
Depletion of abiotic resources -elements kg Sb eq/FU	1.27E-04	1.08E-06	1.98E-05	1.90E-06	9.50E-06	0.00E+00	6.91E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.36E-08	0.00E+00	3.66E-08	NDM
Depletion of abiotic resources -fossil MJ PCI/FU	1.28E+02	5.22E+00	3.32E+01	9.22E+00	1.78E+01	0.00E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.11E-01	0.00E+00	6.39E-01	NDM
Water pollution m^3/FU	9.82E+00	1.23E-01	1.99E+00	2.17E-01	7.58E-01	0.00E+00	1.11E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.98E-03	0.00E+00	2.35E-02	NDM
Air pollution m^3/FU	5.90E+02	3.64E+01	1.17E+03	6.42E+01	1.41E+02	0.00E+00	2.10E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.47E+00	0.00E+00	1.30E+01	NDM

Use of resources	Production stage			Construction stage		Use stage							End of life stage				D Profits and costs beyond the system's borders e
	A1 Raw material supply	A2 Transport	A3 Manufacturing	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Rehabilitation	B6 Use of energy	B7 Water consumption	C1 Deconstruction /demolition	C2 Transport	C3 Waste treatment	C4 Elimination	
Renewable primary energy excl. RM MJ PCI/FU	8.67E+00	7.77E-02	6.54E+00	1.37E-01	1.16E+00	0.00E+00	7.61E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.15E-03	0.00E+00	2.03E-02	NDM
Renewable primary energy used as RM MJ PCI/FU	1.51E+00	0.00E+00	3.59E+00	0.00E+00	2.32E-01	0.00E+00	7.42E-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	0.00E+00	NDM
Total renewable primary energy MJ PCI/FU	1.02E+01	7.77E-02	1.01E+01	1.37E-01	1.39E+00	0.00E+00	1.50E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.15E-03	0.00E+00	2.03E-02	NDM
Non-renewable primary energy excl. RM MJ PCI/FU	8.34E+01	5.35E+00	3.87E+01	9.44E+00	1.68E+01	0.00E+00	1.52E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.16E-01	0.00E+00	6.83E-01	NDM
Non-renewable primary energy used as RM MJ PCI/FU	6.74E+01	0.00E+00	1.01E+01	0.00E+00	3.53E+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	0.00E+00	0.00E+00	NDM
Total Non-renewable primary energy MJ PCI/FU	1.51E+02	5.34E+00	4.88E+01	9.44E+00	2.03E+01	0.00E+00	1.51E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.16E-01	0.00E+00	6.83E-01	NDM
Use of secondary material kg/FU	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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NDM
Use of renewable secondary fuels MJ PCI/FU	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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NDM
Use of Non-renewable secondary fuels MJ PCI/FU	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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NDM
Net use of fresh water m^3/FU	3.64E-01	1.00E-03	6.98E-02	1.77E-03	3.01E-02	0.00E+00	1.05E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.06E-05	0.00E+00	8.08E-04	NDM

Waste category	Production stage			Construction stage		Use stage							End of life stage				D Profits and costs beyond the system's borders
	A1 Raw material supply	A2 Transport	A3 Manufacturing	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Rehabilitation	B6 Use of energy	B7 Water consumption	C1 Deconstruction/demolition	C2 Transport	C3 Waste treatment	C4 Elimination	
Hazardous waste disposed kg/FU	2.11E-01	3.15E-03	7.69E-02	5.57E-03	3.53E-02	0.00E+00	1.30E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.28E-04	0.00E+00	5.91E-04	NDM
Non-hazardous waste disposed kg/FU	1.26E+00	2.78E-01	8.66E-01	4.91E-01	5.30E-01	0.00E+00	4.98E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.13E-02	0.00E+00	2.88E+00	NDM
Radioactive waste disposed kg/FU	1.65E-04	3.67E-05	2.00E-04	6.48E-05	4.74E-05	0.00E+00	7.25E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.49E-06	0.00E+00	4.53E-06	NDM

Outflows		Production stage			Construction stage		Use stage							End of life stage				D Profits and costs beyond the system's borders
		A1 Raw material supply	A2 Transport	A3 Manufacturing	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Rehabilitation	B6 Use of energy	B7 Water consumption	C1 Deconstruction/demolition	C2 Transport	C3 Waste treatment	C4 Elimination	
Components for re-use kg/FU		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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NDM
Materials for recycling kg/FU		0.00E+00	0.00E+00	1.31E-02	0.00E+00	5.99E-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	0.00E+00	0.00E+00	0.00E+00	NDM
Materials for energy recovery kg/FU		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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NDM
Exported energy MJ/FU	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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
	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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
	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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND

Impact Indicator	Unit	Production stage	Construction stage	Use stage	End of life stage	Total
Global Warming	kg CO_2 eq/FU	9.64E+00	1.68E+00	2.01E-01	1.92E-01	1.17E+01
Ozone Depletion	kg CFC 11 eq/ FU	1.62E-06	2.56E-07	1.48E-08	1.01E-08	1.90E-06
Acidification of soil and water	kg SO_2 eq/FU	9.92E-02	8.75E-03	7.51E-04	2.10E-04	1.09E-01
Eutrophication	kg $(PO_4)^{3-}$ eq/FU	2.24E-02	1.68E-03	6.84E-04	6.89E-05	2.49E-02
Photochemical ozone creation	Ethene eq/FU	1.58E-02	1.44E-03	1.39E-04	6.26E-05	1.74E-02
Depletion of abiotic resources -elements	kg Sb eq/FU	1.48E-04	1.14E-05	6.91E-07	8.03E-08	1.60E-04
Depletion of abiotic resources -fossil	MJ PCI/FU	1.66E+02	2.70E+01	1.00E+00	8.50E-01	1.95E+02
Water pollution	m^3/FU	1.19E+01	9.75E-01	1.11E+00	2.85E-02	1.40E+01
Air pollution	m^3/FU	1.80E+03	2.06E+02	2.10E+01	1.45E+01	2.04E+03
Renewable primary energy excl. RM	MJ PCI/FU	1.53E+01	1.30E+00	7.61E-01	2.35E-02	1.74E+01
Renewable primary energy used as RM	MJ PCI/FU	5.10E+00	2.32E-01	7.42E-01	0.00E+00	6.07E+00
Total renewable primary energy	MJ PCI/FU	2.04E+01	1.53E+00	1.50E+00	2.35E-02	2.34E+01
Non-renewable primary energy excl. RM	MJ PCI/FU	1.28E+02	2.63E+01	1.52E+00	8.99E-01	1.56E+02
Non-renewable primary energy used as RM	MJ PCI/FU	7.75E+01	3.53E+00	0.00E+00	0.00E+00	8.10E+01
Total Non-renewable primary energy	MJ PCI/FU	2.05E+02	2.98E+01	1.51E+00	8.99E-01	2.37E+02
Use of secondary material	kg/FU	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	MJ PCI/FU	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of Non-renewable secondary fuels	MJ PCI/FU	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water	m^3/FU	4.35E-01	3.18E-02	1.05E-02	8.49E-04	4.78E-01
Hazardous waste disposed	kg/FU	2.91E-01	4.09E-02	1.30E-02	7.19E-04	3.45E-01
Non-hazardous waste disposed	kg/FU	2.40E+00	1.02E+00	4.98E-02	2.89E+00	6.37E+00
Radioactive waste disposed	kg/FU	4.02E-04	1.12E-04	7.25E-06	6.02E-06	5.28E-04
Components for re-use	kg/FU	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg/FU	1.31E-02	5.99E-04	0.00E+00	0.00E+00	1.37E-02
Materials for energy recovery	kg/FU	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy (electricity)	MJ/FU	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy (steam)	MJ/FU	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy (process gas)	MJ/FU	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00