



# Environmental Product Declaration

In accordance with ISO 14025 and EN 15804:2012+A2:2019 for: PrīmX SFRSSC (Steel Fiber Reinforced Self-Stressing Concrete) Slab Systems

Programme:	
Programme operator:	
EPD registration number:	
Publication date:	
Valid until:	

The International EPD <sup>®</sup> System, <u>www.environdec.com</u>	
EPD International AB	
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This document includes different products and results are displayed individually An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com

# **General information**

### **Programme information**

The 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

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

ISO Standard ISO 21930 and CEN standard EN 15804 serves as the Core Product Category Rules (PCR)

Product category rules (PCR): Construction Products, PCR 2019:14 Version 1.11 and Concrete and Concrete Elements C-PCR-003 (TO PCR 2019:14), UN CPC 375

PCR review was conducted by: The Technical Committee of the International EPD<sup>®</sup> System. See www.environdec.com/TC for a list of members. Review chair: Claudia A. Peña, University of Concepción (Chile). The review panel may be contacted via the Secretariat <u>info@environdec.com</u>

Independent third-party verification of the declaration and data, according to ISO 14025:2006:

□ EPD process certification ⊠ EPD verification

The life cycle assessment(LCA) has been worked out by Bureau Veritas Latvia. Email: riga@bureauveritas.com

Third party verifier: Marcel Gómez Ferrer, Marcel Gómez Consultoria Ambiental. Email: info@marcelgomez.com

Approved by: The International EPD<sup>®</sup> System

Procedure for follow-up of data during EPD validity involves third party verifier:

🛛 Yes 🛛 🗆 No



# **Company information**

Owner	of the	EPD:
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Primekss Group

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### Description of the organization:

Founded in 1997, concrete contractor and highly innovative concrete specialist Primekss is the world's leading concrete technology company. Within its own concrete R&D center, the company has developed a unique high-performance truly joint-less concrete flooring technology – PrīmX.

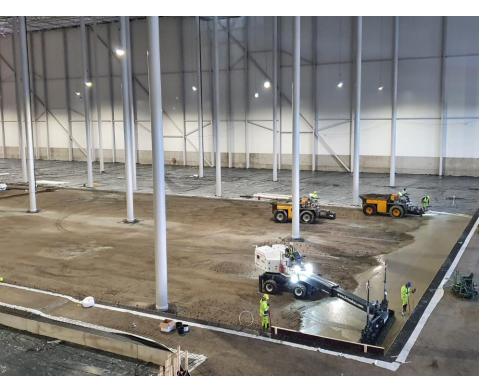
From its very beginning, the PrīmX system was developed to achieve 3 main goals:

- To overcome the biggest drawback of concrete: shrinkage and the problems it causes, namely curling and cracking
- To create a sustainable and eco-friendly concrete technology;
- Technology that allows consistent quality slabs to be built anywhere in the world.

PrīmX technology is delivered via own resources (Baltics, Scandinavia, Germany, Israel) as concrete contractor or qualified license partners worldwide who implement projects under strict Primekss quality control, ensured by Primekss Labs engineers (cement and aggregates testing, mix design adjustment, design, etc.) using only approved PrīmX materials.

Primekss as specialised contractor deliver design-build service – from agreement until the ready floor handover.

### Name and location of production site(s): Northern Europe







# **Product information**

### Product name:

PrīmX SFRSSC (Steel Fiber Reinforced Self-Stressing Concrete) Slab Systems

### **Product description:**

PrīmX is unique and patented PrīmX steel fibre reinforced self-stressing concrete (SFRSSC) slab technology.

PrīmX contains steel fibers and proprietary admixtures combined with ready-mix concrete to create a composite material. It requires no joints or saw cuts within each daily pour. PrīmX technology floor slabs are designed to facilitate the rapid development of automated logistics and warehousing operations. This zero-shrinkage high-performance steel-fiber-reinforced concrete system represents the pinnacle of consistent, high-quality concrete flooring anywhere in the world. The jointless concrete technology makes it possible to construct high-quality, jointless, saw-cut-free floors that ensure true flatness over the long term – life-time flatness for fast.

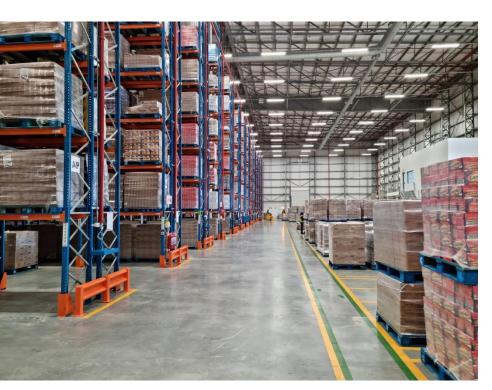
More than 15 million square meter of PrīmX floors on ground, on piles and pavements are in service in distribution centers, warehouses and manufacturing facilities around the world.

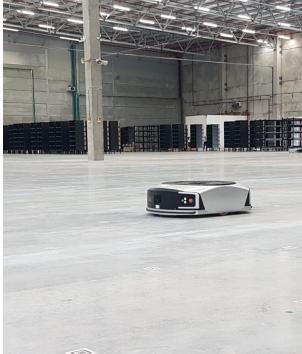
The surface density of the products varies with the thichness presented in each slab category, with 207-225 kg/m<sup>2</sup> for the 90mm version, 300-325 kg/m<sup>2</sup> for 130mm version, 345-375 kg/m<sup>2</sup> for the 150mm version, 460-500 kg/m<sup>2</sup> for the 200mm version, and 475-625 kg/m<sup>2</sup> for the 250 mm version.

The abrasion resistance is AR1 mm. It presents a compressive strength of C25/30 N/mm<sup>2</sup>, tensile strength of 2.7 Nmm<sup>2</sup>, and an elasticity modulus of 30000 N/mm<sup>2</sup>.

This construction material correspond to the R120 class.

UN CPC code: 375 - Articles of concrete, cement and plaster.







# **LCA information**

#### Declared unit:

In accordance with the PCR the declared unit is 1 square meter of slab system in different thickness (90 - 130 - 150 - 200 - 250 mm)

#### **Reference service life:**

The reference service life for the slab system is estimated at 50 years

#### Time representativeness:

The primary data was gathered internally. All production data corresponds to values for the year 2020

#### Scope of the EPD:

This EPD has a Global Scope, as installation activities and main raw materials are common independently from the region where the slab system is to be installed. Nonetheless, it must be clarified, that transport distances data used for the model under study, correspond to a construction site located in Sweden. Hence, results must be treated carefully, especially those from stage A4, related to transport to installation site.

#### Database(s) and LCA software used:

The Ecoinvent 3.6. was used to conduct the quantitative evaluation in this study. This database provided the life cycle inventory data for raw and processes materials in the background system. The LCA software was Simapro 9.1.

#### Description of system boundaries:

b) Cradle to gate with options. The LCA was carried out considering the product stage A1-A3, modules C1–C4, module D and the additional optional modules A4-A5.

### Data quality:

The foreground data was collected internally considering the latest available average production amounts and measures during the last year. Data regarding waste processes and scenarios was taken from waste scenarios for Sweden contained in Ecoinvent 3.6.

According to the criteria of the UN Environment Global Guidance on LCA database development, the quality level can be defined as very good. Data is geographically representative as it comes from the area of study, it is technical representative as it comes from processes and products under study using the same state of technology defined in goal and scope, and it is also time representative as data used was collected less than 3 years difference between the reference year according to the documentation.

### Cut-off criteria:

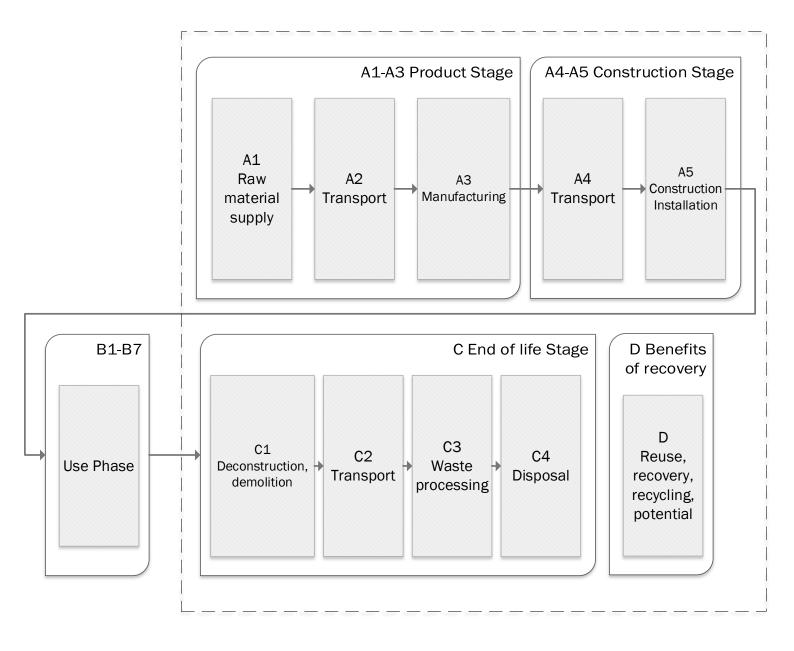
All major raw materials and processes have been considered and only less than 1% of total material and energy flows were excluded, and 5% of materials and energy per module.

### Allocation:

Following the recommendations in the EN 15804 and PCR 2019:14, allocation among products and co-products has been avoided. Material and energy flows have been allocated to the main product following physical/mass criteria.



# System diagram:



### More information:

During this LCA, the *polluters pay*, and modularity principles have been followed. As well as double counting avoided

The processes related to infrastructure, construction and production of equipment and tools that are not directly consumed in the production process, have been excluded.

Activities personnel-related, such as transportation to and from work, have been excluded.



# **Stages and Production process description**

### **Product Stage**

A1: This stage considers the extraction and processing of all raw materials.

A2: In this stage, raw materials transported to the warehouse in Latvia are modelled.

A3: As there is no manufacturing in any facility, and the product installation occurs directly in the construction site, this stage has been left blank.

### **Construction Stage**

A4: This stage stands for the transport of materials to the construction site, either from the warehouse in Latvia or other materials acquired directly from local suppliers. For calculations, transport distances were aggregated depending on the type of vehicle.

PARAMETER	VALUE/DESCRIPTION
Fuel type and consumption of vehicle or vehicle type used for transport e.g. long distance truck, boat, etc.	Average truck trailer EURO5 with a 16 - 32 t payload, with diesel consumption of 38 liters for 100 km.
Distance	Due to the considerable number of products required for the Slab Systems, the minimum and maximum distances to the installation site are shown. 30 km (minimum) 1500 km (maximum)
Capacity utilization (including empty returns)	45 % of the capacity in volume according to Ecoinvent v3.6 and Life Cycle Inventories of Road and Non-Road Transport Services
Bulk density of transported products	Depending on the product been transported
Volume capacity utilization factor	0.45

A5: This stage includes the pre-manufacturing process conducted in the construction site previous to the full assembly of the product in its declared unit as well as the activities related to the construction and installation of the slab system on-site. Packaging materials are sent for waste processing and disposal accordingly with waste treatment scenarios for each specific material, described and available in Ecoinvent 3.6.

PARAMETER	VALUE/DESCRIPTION
Ancillary materials used during installation of the	Curing water (0.010 – 0.029 L)
product	Slab washing water – 1 L
Electricity and/or other energy sources required for the installation process.	Diesel – (0.0101 – 0.156 L)
Wastage of materials on the building site before	
waste processing, generated by the product's	NA
installation (specified by type)	
Output materials (specified by type) as results of	Plastic sheet – 0.122221 kg
waste processing at the building site e.g. of collection	Geotextile – 0.0501105 kg
for recycling, for energy recovering, disposal	Slab washing water – 0.6 L
(specified by route)	

#### Use Stage

During the normal use scenario, it is assumed that no maintenance, repair, replacement and/or refurbishment is required, hence this optional stage is not considered (B1–B5). ). Energy or water consumption for the concrete flooring system (referred to the declared unit) is not declared for the building operation (B6-B7).



### End of Life Stage

C1: The consumption of fuel during the deconstruction and dismantling process is considered using as reference the background process available in Ecoinvent 3.6 for conducting this specific activity. Other air emissions are also accounted for, during deconstruction.

C2: The transport of the dismantled slab system is considered in this stage. A distance of 30 km is assumed to the disposal facility.

C3: No reuse or recycling of the product is considered.

C4: The waste disposal scenario corresponds to the inert landfilling of 100% of the product.

The main assumptions during the end-of-life stage are presented as follow:

PARAMETER	VALUE/DESCRIPTION
Collection process specified by type	Deconstruction and demolition of floor system
Recovery system specified by type	No re-use, recycling or energy recovery
Disposal specified by type	1 m2 landfilled
Assumptions for scenario development (e.g. transportation)	Average waste collection truck with a 7.5-16t payload, 30 km of average distance to landfill site

#### Benefits and loads beyond system boundaries

D: Benefits of recycled packaging materials (Polyethylene and cardboard) are taken into account in the module D. The amount to recycle is considered avoided product to the technosphere.



# **System Boundaries**

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

	Product stage				ruction ss 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	В3	B4	B5	B6	Β7	C1	C2	C3	C4	D
Modules declared	х	х	х	х	х	ND	ND	ND	ND	ND	ND	ND	х	х	х	х	х
Geography	GLO	LV	GLO	GLO	GLO	ND	ND	ND	ND	ND	ND	ND	GLO	GLO	GLO	GLO	GLO
Specific data used	> 90%				•	-	-	-	-	-	-	-	•	-	-	-	
Variation – products	NOT RELEVANT					-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	NOT RELEVANT					-	-	-	-	-	-	-	-	-	-	-	-

Description of the system boundary (X = Included in LCA; ND = Not declared; NR = Not relevant)



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# **Content information**

	Weight, kg*	Weight-%**
Concrete	216 - 600	95.9%
Steel fiber	3.6 - 10	1.6%
Additives	3.9 - 10.9	1.7%
Water	1.8 - 5.0	0.8%
TOTAL	225.3 – 625.9	100%
Packaging materials	Weight, kg	Weight-% (versus the product)
Material 1	0	0
Total	0	0

# **Biogenic carbon content :**

The biogenic carbon content in the product leaving the factory gate is less than 5%, hence the declaration of biogenic carbon content has been omitted.

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

During the life cycle of the product any hazardous substance listed in the "Candidate List of Substances of Very High Concern (SVHC) for authorization" has not been used in a percentage higher than 0,1% of the weight of the product

\* The content information is presented for the range of 90 to 250 mm slab thickness.

\*\* Average percentage across the different slab thickness



# **Environmental Information**

Data results is now presented for each one of the different slab system thicknesses.

### Concrete slab 90 mm

### Potential environmental impact - mandatory indicators according to EN 15804:2012+A2 2019 -

### 90 mm thickness

Results per declared unit											
Indicator	Unit	Total A1-A3	A4	A5	C1	C2	C3	C4	D		
GWP-fossil	kg CO <sub>2</sub> eq.	2.7E+01	2.7E+00	3.8E-01	1.2E+00	8.3E+00	0.0E+00	1.1E+00	-2.5E-02		
GWP-biogenic	kg CO <sub>2</sub> eq.	1.1E+00	1.7E-03	6.0E-03	3.4E-04	2.3E-03	0.0E+00	2.3E-03	1.1E-02		
GWP- luluc	kg CO <sub>2</sub> eq.	7.2E-03	1.3E-03	2.9E-05	9.5E-05	7.7E-04	0.0E+00	3.2E-04	-2.5E-04		
GWP- total	kg CO <sub>2</sub> eq.	2.8E+01	2.7E+00	3.9E-01	1.2E+00	8.3E+00	0.0E+00	1.1E+00	-1.4E-02		
ODP	kg CFC 11 eq.	1.4E-06	5.9E-07	7.8E-08	2.6E-07	1.8E-06	0.0E+00	4.7E-07	-1.4E-09		
АР	mol H+ eq.	9.5E-02	1.9E-02	3.8E-03	1.3E-02	5.2E-02	0.0E+00	1.1E-02	-1.6E-04		
EP-freshwater	kg PO <sub>4</sub> eq.	2.2E-02	1.0E-03	5.6E-05	1.7E-04	6.8E-04	0.0E+00	4.6E-04	-4.4E-05		
EP-freshwater	kg P eq.	5.5E-03	2.5E-04	1.4E-05	4.3E-05	1.7E-04	0.0E+00	1.2E-04	-1.1E-05		
EP- marine	kg N eq.	2.4E-02	5.1E-03	1.7E-03	5.6E-03	2.1E-02	0.0E+00	3.7E-03	-4.0E-05		
EP-terrestrial	mol N eq.	2.7E-01	5.6E-02	1.8E-02	6.1E-02	2.3E-01	0.0E+00	4.1E-02	-3.6E-04		
РОСР	kg NMVOC eq.	7.7E-02	1.6E-02	5.0E-03	1.7E-02	8.1E-02	0.0E+00	1.2E-02	-9.7E-05		
ADP- minerals&metals *	kg Sb eq.	1.8E+02	8.6E-05	5.9E-07	1.9E-06	4.9E-05	0.0E+00	1.0E-05	-2.8E-07		
ADP-fossil*	MJ	2.6E-04	4.0E+01	5.0E+00	1.7E+01	1.1E+02	0.0E+00	3.2E+01	-5.4E-01		
WDP*	m³	2.7E+00	1.2E-01	6.2E-02	2.2E-02	9.0E-02	0.0E+00	1.4E+00	-2.4E-02		
	Global Wa	rming Potent	ial land use a	nd land use c	hange; ODP =	Depletion p	otential of the	-	; GWP-luluc = c ozone layer; on of		

GwP-fossil = Global Warming Potential fossil fuels; GwP-biogenic = Global Warming Potential biogenic; GwP-luid = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption

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



Acronyms

### Use of resources - 90mm thickness

	Results per declared unit													
Indicator	Unit	Total A1-A3	A4	A5	C1	C2	C3	C4	D					
PERE	MJ	1.6E+01	4.8E-01	2.1E-02	6.8E-02	2.9E-01	0.0E+00	1.8E-01	-1.8E-02					
PERM	MJ	4.7E+00	2.2E-01	6.9E-03	2.2E-02	1.3E-01	0.0E+00	8.1E-02	-1.6E-01					
PERT	MJ	2.1E+01	6.9E-01	2.8E-02	9.0E-02	4.2E-01	0.0E+00	2.6E-01	-1.8E-01					
PENRE	MJ	1.8E+02	4.0E+01	5.0E+00	1.7E+01	1.1E+02	0.0E+00	3.2E+01	-5.4E-01					
PENRM	MJ.	3.0E-03	1.3E-03	1.4E-05	4.4E-05	6.7E-04	0.0E+00	1.7E-04	-2.9E-04					
PENRT	MJ	1.8E+02	4.0E+01	5.0E+00	1.7E+01	1.1E+02	0.0E+00	3.2E+01	-5.4E-01					
SM	kg	3.0E+00	0.0E+00											
RSF	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00					
NRSF	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00					
FW	m³	3.8E-01	4.8E-03	1.5E-03	8.6E-04	4.0E-03	0.0E+00	3.4E-02	-7.5E-04					
FW		3.8E-01 Use of renewat												

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water



Acronyms

# Waste production and output flows

Results per declared unit										
Indicator	Unit	Total A1-A3	A4	A5	C1	C2	C3	C4	D	
Hazardous waste disposed	kg	5.7E-04	1.9E-04	1.4E-05	4.5E-05	3.0E-04	0.0E+00	4.8E-05	-3.5E-07	
Non-hazardous waste disposed	kg	3.7E+00	1.4E+00	1.8E-01	2.0E-02	5.3E-01	0.0E+00	2.2E+02	-2.4E-03	
Radioactive waste disposed	kg	8.7E-04	2.7E-04	3.5E-05	1.2E-04	8.0E-04	0.0E+00	2.1E-04	-1.1E-06	

### Waste production - 90mm thickness

### **Output flows – 90mm thickness**

	Re	esults per declaı	red unit	t					
Indicator	Unit	Total A1-A3	A4	A5	C1	C2	С3	C4	D
Components for re-use	kg	0	0	0	0	0	0	0	0
Material for recycling	kg	0	0	0.0158	0	0	0	0	0
Materials for energy recovery	kg	0	0	0	0	0	0	0	0
Exported energy, electricity	MJ	0	0	0	0	0	0	0	0
Exported energy, thermal	MJ	0	0	0	0	0	0	0	0



# Potential environmental impact – mandatory indicators according to EN 15804:2012+A2

### 2019 – 130mm thickness

			Resul	ts per decla	ared unit							
Indicator	Unit	Total A1-A3	A4	A5	C1	C2	C3	C4	D			
GWP-fossil	kg CO <sub>2</sub> eq.	3.8E+01	3.6E+00	4.6E-01	1.7E+00	1.2E+01	0.0E+00	1.6E+00	-3.6E-02			
GWP-biogenic	kg CO <sub>2</sub> eq.	1.5E+00	2.1E-03	8.5E-03	4.9E-04	3.3E-03	0.0E+00	3.3E-03	1.6E-02			
GWP- luluc	kg CO <sub>2</sub> eq.	1.0E-02	1.7E-03	3.5E-05	1.4E-04	1.1E-03	0.0E+00	4.6E-04	-3.5E-04			
GWP- total	kg CO <sub>2</sub> eq.	4.0E+01	3.6E+00	4.7E-01	1.7E+00	1.2E+01	0.0E+00	1.6E+00	-2.0E-02			
ODP	kg CFC 11 eq.	2.0E-06	7.9E-07	9.2E-08	3.8E-07	2.6E-06	0.0E+00	6.8E-07	-2.0E-09			
АР	mol H⁺ eq.	1.3E-01	2.5E-02	4.5E-03	1.8E-02	7.6E-02	0.0E+00	1.6E-02	-2.3E-04			
EP-freshwater	kg PO₄ eq.	3.1E-02	1.3E-03	6.6E-05	2.5E-04	9.9E-04	0.0E+00	6.7E-04	-6.3E-05			
EP-freshwater	kg P eq.	7.7E-03	3.3E-04	1.7E-05	6.3E-05	2.5E-04	0.0E+00	1.7E-04	-1.6E-05			
EP- marine	kg N eq.	3.4E-02	6.8E-03	2.0E-03	8.1E-03	3.0E-02	0.0E+00	5.4E-03	-5.7E-05			
EP-terrestrial	mol N eq.	3.9E-01	7.5E-02	2.2E-02	8.9E-02	3.3E-01	0.0E+00	5.9E-02	-5.1E-04			
РОСР	kg NMVOC eq.	1.1E-01	2.2E-02	5.9E-03	2.4E-02	1.2E-01	0.0E+00	1.7E-02	-1.4E-04			
ADP- minerals&metals *	kg Sb eq.	2.5E+02	1.2E-04	7.0E-07	2.7E-06	7.1E-05	0.0E+00	1.5E-05	-4.0E-07			
ADP-fossil*	MJ	3.6E-04	5.3E+01	5.9E+00	2.4E+01	1.6E+02	0.0E+00	4.6E+01	-7.7E-01			
WDP*	m³	3.7E+00	1.6E-01	9.8E-02	3.2E-02	1.3E-01	0.0E+00	2.1E+00	-3.4E-02			
Acronyms	luluc = Glob ozone layer fraction of r nutrier Exceedan	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP- luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water										

(user) deprivation potential, deprivation-weighted water consumption

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



### Use of resources - 130mm thickness

				Results pe	r declared ur	it			
Indicator	Unit	Total A1-A3	A4	A5	C1	C2	C3	C4	D
PERE	MJ	2.3E+01	6.2E-01	2.5E-02	9.8E-02	4.3E-01	0.0E+00	2.5E-01	-2.5E-02
PERM	MJ	6.3E+00	2.9E-01	8.2E-03	3.2E-02	1.9E-01	0.0E+00	1.2E-01	-2.3E-01
PERT	MJ	2.9E+01	9.1E-01	3.3E-02	1.3E-01	6.1E-01	1.2E-01	3.7E-01	-2.5E-01
PENRE	MJ	2.5E+02	5.3E+01	5.9E+00	2.4E+01	1.6E+02	0.0E+00	4.6E+01	-7.7E-01
PENRM	MJ.	4.1E-03	1.7E-03	1.6E-05	6.4E-05	9.6E-04	0.0E+00	2.4E-04	-4.1E-04
PENRT	MJ	2.5E+02	5.3E+01	5.9E+00	2.4E+01	1.6E+02	0.0E+00	4.6E+01	-7.7E-01
SM	kg	4.4E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
RSF	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
NRSF	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
FW	m³	5.4E-01	6.3E-03	2.4E-03	1.2E-03	5.7E-03	0.0E+00	4.9E-02	-1.1E-03
		= Use of renewa e of renewable		•.					

Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources used as raw materials; PENRE = Use of non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water



Acronyms

# Waste production and output flows

Results per declared unit											
Indicator	Unit	Total A1-A3	A4	A5	C1	C2	C3	C4	D		
Hazardous waste disposed	kg	6.9E-04	2.2E-04	1.6E-05	6.6E-05	4.4E-04	0.0E+00	6.9E-05	-5.0E-07		
Non-hazardous waste disposed	kg	5.2E+00	1.9E+00	1.8E-01	2.8E-02	7.7E-01	0.0E+00	3.1E+02	-3.4E-03		
Radioactive waste disposed	kg	1.2E-03	3.6E-04	4.1E-05	1.7E-04	1.2E-03	0.0E+00	3.0E-04	-1.6E-06		

### Waste production - 130mm thickness

# Output flows – 130mm thickness

	Results per declared unit											
Indicator	Unit	Total A1-A3	A4	A5	C1	C2	C3	C4	D			
Components for re-use	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Material for recycling	kg	0.00	0.00	0.02251	0.00	0.00	0.00	0.00	0.00			
Materials for energy recovery	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Exported energy, electricity	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Exported energy, thermal	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			



Potential environmental impact – mandatory indicators according to EN 15804:2012+A2

### 2019 – 150mm thickness

				Results per c	leclared unit						
Indicator	Unit	Total A1-A3	A4	A5	C1	C2	C3	C4	D		
GWP-fossil	kg CO <sub>2</sub> eq.	4.4E+01	4.1E+00	5.0E-01	2.0E+00	1.4E+01	0.0E+00	1.9E+00	-4.1E-02		
GWP- biogenic	kg CO <sub>2</sub> eq.	1.8E+00	2.3E-03	9.8E-03	5.6E-04	3.8E-03	0.0E+00	3.8E-03	1.8E-02		
GWP- luluc	kg CO <sub>2</sub> eq.	1.1E-02	1.9E-03	3.7E-05	1.6E-04	1.3E-03	0.0E+00	5.3E-04	-4.1E-04		
GWP- total	kg CO <sub>2</sub> eq.	4.6E+01	4.1E+00	5.1E-01	2.0E+00	1.4E+01	0.0E+00	1.9E+00	-2.3E-02		
ODP	kg CFC 11 eq.	2.2E-06	8.9E-07	9.9E-08	4.4E-07	3.0E-06	0.0E+00	7.8E-07	-2.3E-09		
АР	mol H⁺ eq.	1.5E-01	2.8E-02	4.8E-03	2.1E-02	8.7E-02	0.0E+00	1.8E-02	-2.7E-04		
EP- freshwater	kg PO <sub>4</sub> eq.	3.5E-02	1.4E-03	7.1E-05	2.9E-04	1.1E-03	0.0E+00	7.7E-04	-7.2E-05		
EP- freshwater	kg P eq.	8.9E-03	3.6E-04	1.8E-05	7.2E-05	2.9E-04	0.0E+00	1.9E-04	-1.8E-05		
EP- marine	kg N eq.	4.0E-02	7.7E-03	2.1E-03	9.3E-03	3.5E-02	0.0E+00	6.2E-03	-6.5E-05		
EP- terrestrial	mol N eq.	4.4E-01	8.5E-02	2.3E-02	1.0E-01	3.9E-01	0.0E+00	6.8E-02	-5.9E-04		
РОСР	kg NMVOC eq.	1.2E-01	2.5E-02	6.4E-03	2.8E-02	1.4E-01	0.0E+00	2.0E-02	-1.6E-04		
ADP- minerals&m etals*	kg Sb eq.	2.8E+02	1.3E-04	7.5E-07	3.1E-06	8.2E-05	0.0E+00	1.7E-05	-4.6E-07		
ADP-fossil*	MJ	4.1E-04	6.0E+01	6.3E+00	2.8E+01	1.9E+02	0.0E+00	5.3E+01	-8.8E-01		
WDP*	m³	4.2E+00	1.8E-01	1.2E-01	3.7E-02	1.5E-01	0.0E+00	2.4E+00	-3.9E-02		
Acronyms	= Global W layer; AP = nutrients r reaching n	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil									

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

deprivation-weighted water consumption

resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential,



### Use of resources - 150mm thickness

Results per declared unit											
Indicator	Unit	Total A1-A3	A4	A5	C1	C2	C3	C4	D		
PERE	MJ	2.6E+01	6.9E-01	2.7E-02	1.1E-01	4.9E-01	0.0E+00	2.9E-01	0.0E+00		
PERM	MJ	7.1E+00	3.2E-01	8.8E-03	3.7E-02	2.2E-01	0.0E+00	1.3E-01	0.0E+00		
PERT	MJ	3.3E+01	1.0E+00	3.6E-02	1.5E-01	7.1E-01	1.3E-01	4.3E-01	0.0E+00		
PENRE	MJ	2.8E+02	6.0E+01	6.3E+00	2.8E+01	1.9E+02	0.0E+00	5.3E+01	0.0E+00		
PENRM	MJ.	4.7E-03	1.9E-03	1.7E-05	7.4E-05	1.1E-03	0.0E+00	2.8E-04	0.0E+00		
PENRT	MJ	2.8E+02	6.0E+01	6.3E+00	2.8E+01	1.9E+02	0.0E+00	5.3E+01	0.0E+00		
SM	kg	5.0E+00	0.0E+00								
RSF	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00		
NRSF	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00		
FW	m³	6.2E-01	7.0E-03	2.8E-03	1.4E-03	6.6E-03	0.0E+00	5.7E-02	-1.2E-03		

# Acronyms

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water



# Waste production and output flows

Results per declared unit											
Indicator	Unit	Total A1-A3	A4	A5	C1	C2	C3	C4	D		
Hazardous waste disposed	kg	7.5E-04	2.4E-04	1.7E-05	7.6E-05	5.1E-04	0.0E+00	7.9E-05	-5.7E-07		
Non-hazardous waste disposed	kg	6.0E+00	2.1E+00	1.9E-01	3.3E-02	8.9E-01	0.0E+00	3.6E+02	-3.9E-03		
Radioactive waste disposed	kg	1.4E-03	4.1E-04	4.4E-05	1.9E-04	1.3E-03	0.0E+00	3.5E-04	-1.8E-06		

## Waste production - 150mm thickness

### Output flows – 150mm thickness

	Results per declared unit											
Indicator	Unit	Total A1-A3	A4	A5	C1	C2	C3	C4	D			
Components for re- use	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Material for recycling	kg	0.00	0.00	0.02597	0.00	0.00	0.00	0.00	0.00			
Materials for energy recovery	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Exported energy, electricity	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Exported energy, thermal	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			



Potential environmental impact - mandatory indicators according to EN 15804:2012+A2

### 2019 – 200mm thickness

				Results per o	leclared unit				
Indicator	Unit	Total A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-fossil	kg CO <sub>2</sub> eq.	5.8E+01	5.2E+00	6.0E-01	2.7E+00	1.8E+01	0.0E+00	2.5E+00	-5.5E-02
GWP- biogenic	kg CO <sub>2</sub> eq.	2.4E+00	2.7E-03	1.3E-02	7.5E-04	5.0E-03	0.0E+00	5.0E-03	2.4E-02
GWP- luluc	kg CO <sub>2</sub> eq.	1.5E-02	2.4E-03	4.8E-05	2.1E-04	1.7E-03	0.0E+00	7.0E-04	-5.4E-04
GWP- total	kg CO <sub>2</sub> eq.	6.0E+01	5.2E+00	6.1E-01	2.7E+00	1.8E+01	0.0E+00	2.5E+00	-3.1E-02
ODP	kg CFC 11 eq.	2.9E-06	1.1E-06	1.2E-07	5.8E-07	4.0E-06	0.0E+00	1.0E-06	-3.0E-09
AP	mol H+ eq.	2.0E-01	3.7E-02	5.7E-03	2.8E-02	1.2E-01	0.0E+00	2.4E-02	-3.5E-04
EP- freshwater	kg PO <sub>4</sub> eq.	4.6E-02	1.8E-03	8.2E-05	3.8E-04	1.5E-03	0.0E+00	1.0E-03	-9.6E-05
EP- freshwater	kg P eq.	1.2E-02	4.5E-04	2.1E-05	9.7E-05	3.9E-04	0.0E+00	2.6E-04	-2.4E-05
EP- marine	kg N eq.	5.2E-02	1.0E-02	2.5E-03	1.2E-02	4.7E-02	0.0E+00	8.3E-03	-8.7E-05
EP- terrestrial	mol N eq.	5.8E-01	1.1E-01	2.8E-02	1.4E-01	5.1E-01	0.0E+00	9.1E-02	-7.8E-04
РОСР	kg NMVOC eq.	1.6E-01	3.1E-02	7.6E-03	3.7E-02	1.8E-01	0.0E+00	2.6E-02	-2.1E-04
ADP- minerals&m etals*	kg Sb eq.	3.7E+02	1.7E-04	9.5E-07	4.1E-06	1.1E-04	0.0E+00	2.3E-05	-6.1E-07
ADP-fossil*	MJ	5.3E-04	7.7E+01	7.5E+00	3.7E+01	2.5E+02	0.0E+00	7.1E+01	-1.2E+00
WDP*	m³	5.4E+00	2.3E-01	1.6E-01	5.0E-02	2.0E-01	0.0E+00	3.2E+00	-5.2E-02
Acronyms	Global Wa AP = Acidit reaching fi	rming Potent fication poter reshwater en	ial land use a ntial, Accumul d compartme	nd land use ch lated Exceedar nt; EP-marine utrophication p	GWP-biogenic ange; ODP = D nce; EP-freshwa = Eutrophicatio potential, Accu	epletion pote ater = Eutrop on potential,	ential of the st hication pote fraction of nu	tratospheric o ntial, fraction trients reachi	zone layer; of nutrients ng marine

Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption \* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as

of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil =

there is limited experience with the indicator.



### Use of resources - 200mm thickness

				Results per d	eclared unit				
Indicator	Unit	Total A1-A3	A4	A5	C1	C2	C3	C4	D
PERE	MJ	3.5E+01	8.7E-01	3.2E-02	1.5E-01	6.5E-01	0.0E+00	3.9E-01	-3.8E-02
PERM	MJ	9.2E+00	4.1E-01	1.1E-02	5.0E-02	2.9E-01	0.0E+00	1.8E-01	-3.4E-01
PERT	MJ	4.4E+01	1.3E+00	4.3E-02	2.0E-01	9.4E-01	1.8E-01	5.7E-01	-3.8E-01
PENRE	MJ	3.7E+02	7.7E+01	7.5E+00	3.7E+01	2.5E+02	0.0E+00	7.1E+01	-1.2E+00
PENRM	MJ.	6.1E-03	2.4E-03	3.5E-05	9.8E-05	1.5E-03	0.0E+00	3.8E-04	-6.2E-04
PENRT	MJ	3.7E+02	7.7E+01	7.5E+00	3.7E+01	2.5E+02	0.0E+00	7.1E+01	-1.2E+00
SM	kg	6.7E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
RSF	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
NRSF	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
FW	m³	8.2E-01	8.9E-03	3.9E-03	1.9E-03	8.8E-03	0.0E+00	7.5E-02	-1.6E-03
	of renev	vable primary er	nergy resourc	ergy excluding re es used as raw n	naterials; PERT =	Total use of re	newable prima	ary energy reso	ources;

### Acronyms

of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of nonrenewable secondary fuels; FW = Use of net fresh water



# Waste production and output flows

Results per declared unit											
Indicator	Unit	Total A1-A3	A4	A5	C1	C2	C3	C4	D		
Hazardous waste disposed	kg	9.1E-04	2.8E-04	2.0E-05	1.0E-04	6.7E-04	0.0E+00	1.1E-04	-7.6E-07		
Non-hazardous waste disposed	kg	7.9E+00	2.7E+00	1.9E-01	4.4E-02	1.2E+00	0.0E+00	4.8E+02	-5.2E-03		
Radioactive waste disposed	kg	1.9E-03	5.2E-04	5.2E-05	2.6E-04	1.8E-03	0.0E+00	4.6E-04	-2.4E-06		

# Waste production - 200mm thickness

### Output flows – 200mm thickness

Results per declared unit											
Indicator	Unit	Total A1-A3	A4	A5	C1	C2	C3	C4	D		
Components for re- use	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Material for recycling	kg	0.00	0.00	0.0345	0.00	0.00	0.00	0.00	0.00		
Materials for energy recovery	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Exported energy, electricity	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Exported energy, thermal	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		



Potential environmental impact - mandatory indicators according to EN 15804:2012+A2

### 2019 – 250mm thickness

Results per declared unit											
Indicator	Unit	Total A1-A3	A4	A5	C1	C2	C3	C4	D		
GWP-fossil	kg CO <sub>2</sub> eq.	7.2E+01	6.4E+00	6.9E-01	3.4E+00	2.3E+01	0.0E+00	3.2E+00	-6.9E-02		
GWP- biogenic	kg CO <sub>2</sub> eq.	3.0E+00	3.2E-03	1.6E-02	9.4E-04	6.3E-03	0.0E+00	6.3E-03	3.1E-02		
GWP- luluc	kg CO <sub>2</sub> eq.	1.8E-02	2.9E-03	5.1E-05	2.7E-04	2.1E-03	0.0E+00	8.8E-04	-6.8E-04		
GWP- total	kg CO <sub>2</sub> eq.	7.5E+01	6.4E+00	7.1E-01	3.4E+00	2.3E+01	0.0E+00	3.2E+00	-3.9E-02		
ODP	kg CFC 11 eq.	3.7E-06	1.4E-06	1.4E-07	7.3E-07	5.0E-06	0.0E+00	1.3E-06	-3.8E-09		
АР	mol H⁺ eq.	2.5E-01	4.5E-02	6.6E-03	3.5E-02	1.5E-01	0.0E+00	3.0E-02	-4.5E-04		
EP- freshwater	kg PO <sub>4</sub> eq.	5.8E-02	2.2E-03	9.8E-05	4.8E-04	1.9E-03	0.0E+00	1.3E-03	-1.2E-04		
EP- freshwater	kg P eq.	1.5E-02	5.5E-04	2.5E-05	1.2E-04	4.8E-04	0.0E+00	3.2E-04	-3.1E-05		
EP- marine	kg N eq.	6.5E-02	1.2E-02	2.9E-03	1.6E-02	5.8E-02	0.0E+00	1.0E-02	-1.1E-04		
EP-terrestrial	mol N eq.	7.3E-01	1.3E-01	3.2E-02	1.7E-01	6.4E-01	0.0E+00	1.1E-01	-9.8E-04		
РОСР	kg NMVOC eq.	2.0E-01	3.8E-02	8.8E-03	4.7E-02	2.3E-01	0.0E+00	3.3E-02	-2.7E-04		
ADP- minerals&me tals*	kg Sb eq.	4.5E+02	2.0E-04	1.0E-06	5.2E-06	1.4E-04	0.0E+00	2.9E-05	-7.7E-07		
ADP-fossil*	MJ	6.5E-04	9.3E+01	8.7E+00	4.6E+01	3.1E+02	0.0E+00	8.8E+01	-1.5E+00		
WDP*	m³	6.6E+00	2.8E-01	2.1E-01	6.2E-02	2.5E-01	0.0E+00	4.0E+00	-6.6E-02		
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-										

minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption

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



### Use of resources - 250mm thickness

Results per declared unit											
Indicator	Unit	Total A1-A3	A4	A5	C1	C2	C3	C4	D		
PERE	MJ	4.3E+01	1.1E+00	3.7E-02	1.9E-01	8.2E-01	0.0E+00	4.9E-01	-4.8E-02		
PERM	MJ	1.1E+01	5.0E-01	1.2E-02	6.2E-02	3.6E-01	0.0E+00	2.2E-01	-4.3E-01		
PERT	MJ	5.5E+01	1.5E+00	4.9E-02	2.5E-01	1.2E+00	2.2E-01	7.1E-01	-4.8E-01		
PENRE	MJ	4.5E+02	9.3E+01	8.7E+00	4.6E+01	3.1E+02	0.0E+00	8.8E+01	-1.5E+00		
PENRM	MJ.	7.5E-03	3.0E-03	2.4E-05	1.2E-04	1.9E-03	0.0E+00	4.7E-04	-7.8E-04		
PENRT	MJ	4.5E+02	9.3E+01	8.7E+00	4.6E+01	3.1E+02	0.0E+00	8.8E+01	-1.5E+00		
SM	kg	8.4E+00	0.0E+00								
RSF	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00		
NRSF	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00		
FW	m³	1.0E+00	1.1E-02	5.0E-03	2.4E-03	1.1E-02	0.0E+00	9.4E-02	-2.1E-03		

Acronyms

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of non-renewable second



# Waste production and output flows

Results per declared unit											
Indicator	Unit	Total A1-A3	A4	A5	C1	C2	C3	C4	D		
Hazardous waste disposed	kg	1.1E-03	3.2E-04	2.4E-05	1.3E-04	8.4E-04	0.0E+00	1.3E-04	-9.5E-07		
Non- hazardous waste disposed	kg	9.7E+00	3.3E+00	1.9E-01	5.5E-02	1.5E+00	0.0E+00	6.0E+02	-6.6E-03		
Radioactive waste disposed	kg	2.3E-03	6.3E-04	6.0E-05	3.2E-04	2.2E-03	0.0E+00	5.8E-04	-3.0E-06		

# Waste production - 250mm thickness

### Output flows – 200mm thickness

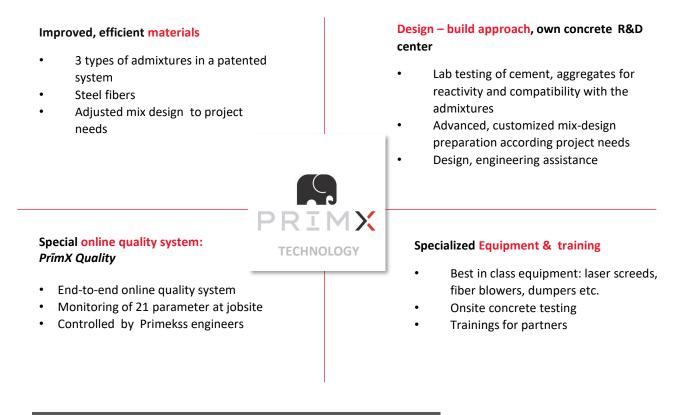
Results per declared unit											
Indicator	Unit	Total A1-A3	A4	A5	C1	C2	C3	C4	D		
Components for re-use	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Material for recycling	kg	0.00	0.00	0.0433	0.00	0.00	0.00	0.00	0.00		
Materials for energy recovery	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Exported energy, electricity	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Exported energy, thermal	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		



# **Additional information**

### Key Parts of the PrimX Technology

To ensure predictable quality in each project anywhere in the world, Primekss has implemented a system to control quality of the whole production process and adjust Technology according to each project's available materials, ambient conditions etc.



#### Less CO<sub>2</sub> emissions

Up to 70% CO<sub>2</sub> emission saving due to optimized designs - thinner slab that still exceeds defined loading requirements, smart material choices and technological and process optimization. Steel fiber reinforcement and PrīmX special material formula allows to build much thinner design slabs, whilst improving stiffness and load bearing capacities. Thinner slabs lead to meaningful material and energy savings.

#### Maintenance

PrīmX floors have an estimated life of 50 years. The product does not require special maintenance but lifespan can be prolonged by carrying out maintenance as outlined in TR34, 4 th Edition - Chapter 13- Maintenance. Regular floor cleaning should be done with a disk rotary automatic washing machine with solid brushes or light abrasive cleaning rings used as cleaning pads. Regular use of abrasive pads will improve the luster of the floor.



# References

- ISO 14040:2006: Environmental Management-Life Cycle Assessment-Principles and framework.
- ISO 14044:2006/Amd 2:2020 Environmental management. Life Cycle Assessment. Requirements and guidelines.
- ISO 14025:2010 Environmental labels and declarations. Type III environmental declarations. Principles and procedures.
- General Programme Instructions of the International EPD<sup>®</sup> System. Version 3.01.
- PCR 2019:14. Construction Products. Version 1.11.
- C-PCR-003 (TO PCR 2019:14). Concrete and Concrete Elements. Version: 2019-12-20.
- EN 15804:2012+A2:2019 Sustainability of construction works. Environmental product declarations. Core rules for the product category of construction products.
- Ecoinvent v3.6 Database.
- Y. Dong, M. U. Hossain, H. Li, and P. Liu, "Developing conversion factors of LCIA methods for comparison of LCA results in the construction sector," Sustain., vol. 13, no. 16, pp. 1–16, 2021, doi: 10.3390/su13169016.







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