

BUILDING TRUST



ECO PLATFORM



# Environmental Product Declaration

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

*Plasticizing concrete  
admixtures-  
Retarders*

Programme:  
Programme operator:  
EPD registration number:  
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## 1. General information

The goal of this study is the development of a specific Environmental Product Declaration (EPD) presenting the environmental performance of retarders **Sika®Plastiment®** and **Sikaplast®** manufactured in SIKA Hellas ABEE located in Thessaloniki during the year 2021. The intended use of EPDs aims to inform construction companies, builders, engineers and concrete experts.

The EPD was developed according to the requirements of EN 15804:2012+A2:2019 and EN ISO 14025. Also, the EPD was developed taking into account the principles of Product Category Rules (PCR) 2019:14 "Construction products" (Version 1.11).

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Programme Operator Mailing address	EPD International AB Box 210 60 SE-100 31 Stockholm email: <a href="mailto:info@environdec.com">info@environdec.com</a>
Owner of the EPD	<b>Sika Hellas ABEE</b> Protomagias 15 14568 Kryoneri Attiki, Greece +30 210 81 60 600
Location of the production site	<b>Sika Hellas ABEE</b> Arkadiou 6 57009 Kalochori, Thessaloniki (Greece)
LCA Practitioner	Terra Nova Ltd Kaisareias 39, 11527 Athens email: <a href="mailto:information@terranova.gr">information@terranova.gr</a>
UN CPC code:	35499: Other chemical products
Product Category Rules (PCR)	CEN standard EN 15804 serves as the Core Product Category Rules (PCR) PCR 2019:14, Version 1.11,
PCR review was conducted by	The Technical Committee of the International EPD® System. A full list of members available on <a href="http://www.environdec.com">www.environdec.com</a> . The review panel may be contacted via <a href="mailto:info@environdec.com">info@environdec.com</a> .
Independent third-party verification of the declaration	<input checked="" type="checkbox"/> External EPD verification <input type="checkbox"/> EPD Process Certification

and data, according to ISO 14025:2010	
Third party verifier:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Verifier	Eurocert S.A. Chlois 89, 14452 Athens email: <a href="mailto:info@eurocert.gr">info@eurocert.gr</a> 

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. For further information about comparability, see EN 15804 and ISO 14025.

## 2. Company information

Sika is a specialty chemicals company with a leading position in the development and production of systems and products for bonding, sealing, damping, reinforcing, and protecting in the building sector and motor vehicle industry. Sika has subsidiaries in 101 countries around the world and manufactures in over 300 factories.

Sika Hellas was founded in 1995 and it has production facilities in Athens and Thessaloniki. Sika Hellas is mainly active in the production, distribution and marketing of construction products, as well as in the marketing of sealing and welding materials for industry. The introduction to the market of innovative materials, the guaranteed quality of its products & the perfect technical support are the main characteristics of its corporate identity. The high-performance chemicals supplied to the construction industry include admixtures for concrete, namely superplasticizers and retarders.

Sika Hellas has developed and implemented an Integrated Management System:

- for the Quality of products and services according to the principles of EN ISO 9001: 2015
- for Occupational Health & Safety in the whole range of our activity according to EN ISO 45001: 2018
- for the Management of the Environment based on the environmental aspects of all our activity, according to the principles of EN ISO 14001: 2015.

### 3. Product information

Admixtures are liquid or powdery agents that are introduced in small amounts (< 5% by mass of the cement content) to concrete while it is being mixed and that enhance the properties of the fresh and/or hardened concrete.

Retarders are admixtures that extend the time to the mixture's transition from the plastic to the hardened state.

This specific EPD refers to the following Product Trade Names:

- SikaPlast®-250
- Sika® Plastiment®-40
- Sika® Plastiment®-20 R
- Sikaplast®-180
- Sika®Plastiment®-30 GR
- Sika® Plastiment®-15



UN CPC code: 35499: Other chemical products

CN code: 3824 40 00: Prepared additives for cements, mortars or concretes

Plasticizers comply with the general requirements of EN 934-1:2008 and the additional requirements of EN 934-2:2009+A1:2012.

For more information about the admixtures, please visit <https://grc.sika.com/el/industry/download-documents/product-data-sheets-industry.html?#a227104> where Technical Data Sheets are available.

## 4. Content information

The main components and ancillary materials of the products covered by this EPD are presented in Table 1.

**Table 1.** Content of the plasticizers covered by this EPD

Product components	Weight
Polycarboxylate ethers	0-8,5%
Additives	0-49%
NaOH	<1%
Intermediate product	<40%
Water	38 -80%
Packaging materials (plastic or metal)	<5%

The products are transported either in bulk or packaged in drums and pails. Reusable containers and reusable pallets are, where practicable, taken back. Empty plastic containers are recyclable. Empty PE containers are recycled.

No substances included in the Candidate List of Substances of Very High Concern for authorization under REACH Regulations are present in the plasticizers above the threshold for registration with the European Chemicals Agency (< 0,1% wt/wt).

## 5. LCA information

### 5.1 Declared unit

The declared unit is 1 kg of retarder for concrete.

### 5.2 Time representativeness

All primary data used in this study is for the reporting year 2021.

### 5.3 Databases used

The databases that were used were the following: Ecoinvent v.3.8 & EuGeos' 15804+A2\_IA v4.1. The impact assessment method used was the EN15804\_A2\_2020.

### 5.4 System boundaries

The approach followed is "Cradle to gate", covering the product stage which is the mandatory stage. The following life cycle stages were considered:

- A1: Raw material supply,
- A2: Transportation to the industrial unit,
- A3: Manufacturing of the product.

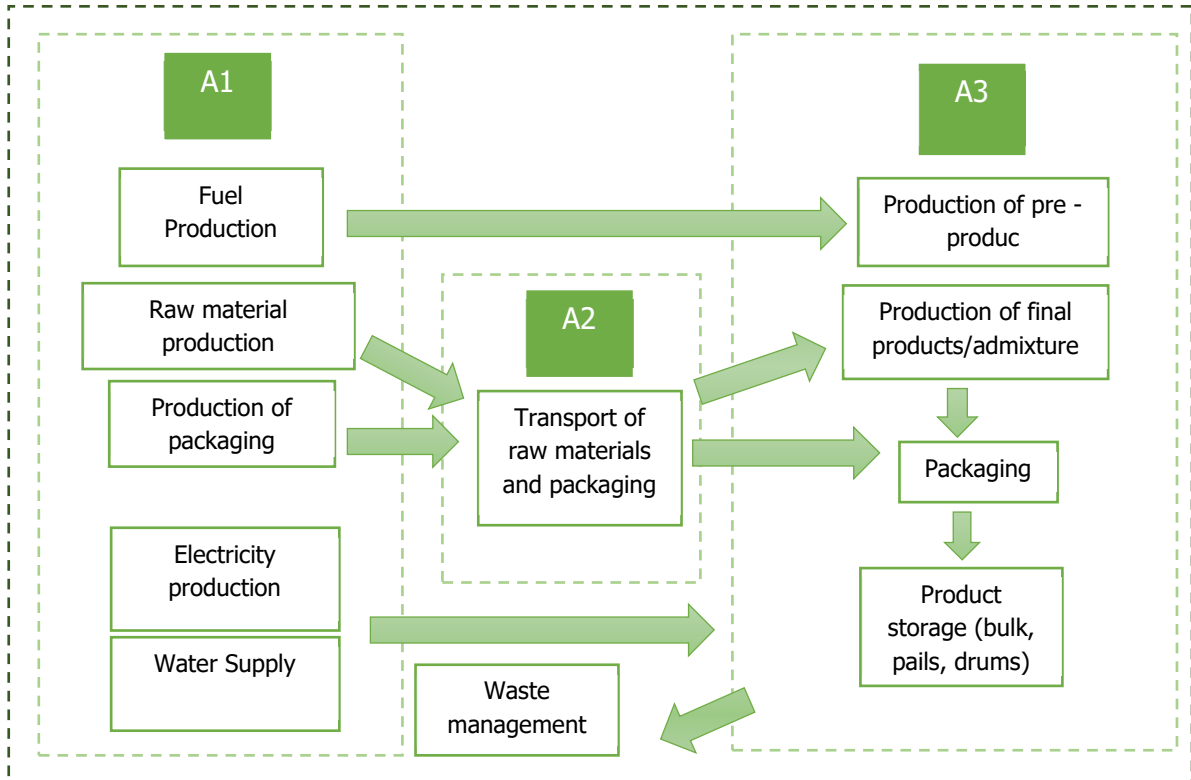
The life cycle stages A4–A5, B and C, which are optional were not included in the LCA study due to the fact that there is a significant uncertainty in the product construction and use stage and that the product is physically integrated with cement products during installation, they cannot be physically separated from them at end of life, the products are no longer identifiable at end of life as a result of a physical or chemical transformation process, and that does not contain biogenic carbon (negligible).

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	X	X	X	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Geography	EU	EU	EU	ND	ND	ND							ND		ND	ND	
Specific data	>95%			-	-	-							-		-	-	
Variation – products	Less than 10% for every specific product			-	-	-							-		-	-	
Variation – sites	Manufactured in onesite			-	-	-							-		-	-	

X: Included, ND: Not declared

A flow Diagram of the system is shown below.

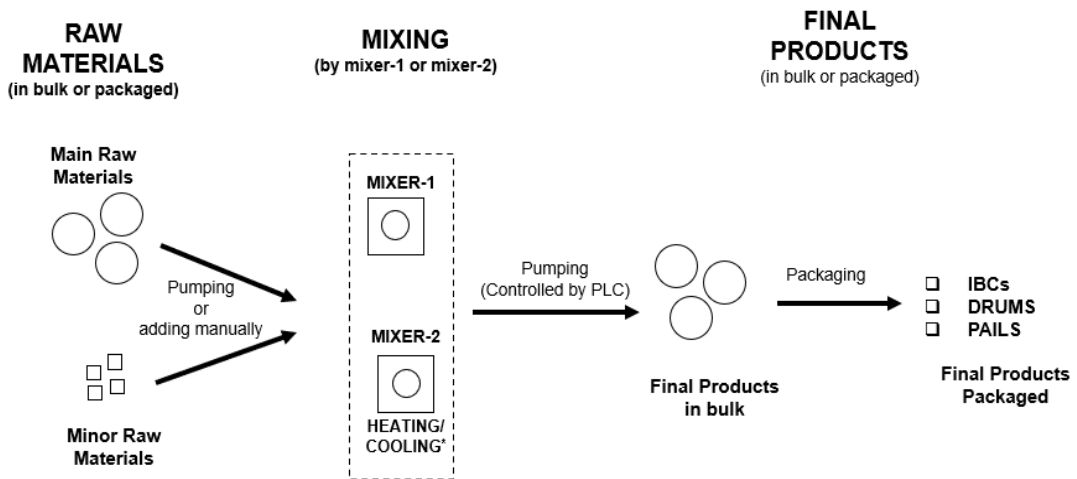




**Figure 1:** Diagram of unit processes in each module

### 5.5 Description of the manufacturing process

The manufacturing process is shown in the next diagramme.



Note: Heating by steam Generator / Cooling by water circulation

**Figure 2:** Manufacturing process of the products.

## 5.6 Cut-off rules and exceptions

All inputs and outputs were included in the calculation of the unit process of the production stage. The cut-off criteria were 1% for the total mass input that was accounted for and 5% for energy usage and mass that was included, according to EN 15804:2012+A2:2019 and PCR 2019:14 Construction products. Water use, minor materials, stretch film for packaging and biogenic carbon were <1% for the total mass and not included in LCA calculations.

The following activities and processes have been exempted from the LCA report: the manufacturing processes of the capital goods or spare parts, infrastructure for general management, office and headquarters operations as well as people activities (common activities, travel for work etc.).

## 5.7 Data Quality

All the data used to model the manufacturing process for the products covered by this EPD, are specific data. Data for raw material supply and transport to the manufacturing plant and production (A1-A3) are based on specific consumption data for the specific production process taking place at the site in Thessaloniki for the reference year 2021. The components (raw materials) for each product are calculated based on specific Bill of Materials (BoM).

Generic datasets were used for the upstream processes (production of raw material and transportation). For this reason, the European life cycle inventory database Ecoinvent v.3.8 & EuGeos' 15804+A2\_IA v4.1 has been used, as this database contains the most extensive and updated information and its scope coincides with the geographical, technological and temporal area of the project.

All the datasets used for calculations cover the area of Europe for the materials produced in Europe or other country origin and were updated during the last 5 years. Technological coverage is typical or average. The LCA was modeled with OpenLCA 1.10.3.

The environmental impacts have been calculated based on the international standards established for the development of environmental product declarations, such as ISO 14025 for the preparation of the environmental product declaration, ISO 14040 and ISO 14044 for the preparation of the life cycle analysis, EN 15804:2012+A2:2019 and the Ecoinvent PCR 2019:14 Construction products (Version 1.11).

## 5.8 Assumptions

The following assumptions have been made in this EPD:

- It does not include the manufacturing processes of the capital goods or spare parts.
- The environmental impact of infrastructure for general management, office and headquarters operations is not included.
- The impact caused by people (common activities, travel for work) will not be considered.
- The environmental impact of external transport has been calculated using lorries from the Ecoinvent 3.8. database, EURO 5. These lorries have been selected to reflect the most realistic scenario possible.
- The scenarios included are currently in use and are representative for one of the most probable alternatives.

## 5.9 Allocations

Taking into account that all the products are produced implementing the same production procedure, there is no need for allocation in different production subsystems (sub -processes). There are no co-products produced using other production procedures.

Regarding the input of raw materials, it was based on the composition of each specific product taking into account the BoM for each admixture. The material losses were lower than 1%. Electricity was calculated by mass allocation of the total electricity consumption of the industrial unit indicated in the electricity bills for the year divided by the annual production. Also, water supply and general waste have been allocated by the total tons of products.

Therefore, no allocation method was used (economic or physical) for electricity or raw materials. Allocation method was used only for steam production. Taking into account that heat was applied only in a specific product all the steam production was included as an input only in this product (physical allocation). Economic allocation was not used in any case.

## 6. Environmental Performance

The environmental indicators for each one of the specific products are presented in the following tables.

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.

### 6.1 SikaPlast®-250

The results in the following table are for the product: SikaPlast®-250.

**Potential environmental impact** – Results per declared unit

Indicator	Unit	Total A1-A3
AP - Acidification potential	molc H+ eq	1,43E-03
GWP - CO2 uptake	kg CO <sub>2</sub> eq	3,73E-03
GWP – biogenic Global Warming Potential biogenic	kg CO <sub>2</sub> eq	2,27E-03
GWP – fossil Global Warming Potential fossil fuels	kg CO <sub>2</sub> eq	2,41E-01
GWP - luluc Global Warming Potential land use and land use change	kg CO <sub>2</sub> eq	1,30E-04
GWP - total	kg CO <sub>2</sub> eq	2,43E-01
ADP – minerals and metals Abiotic depletion potential for non-fossil resources	kg Sb-Eq	3,87E-06
ADP - fossil Abiotic depletion potential for fossil resources	MJ	5,82E+00
EP - freshwater Eutrophication potential, fraction of nutrients reaching freshwater end compartment	kg P eq	4,98E-05
EP – marine Eutrophication potential, fraction of nutrients reaching marine end compartment	kg N eq	2,82E-04
EP - terrestrial Eutrophication potential	molc N eq	3,00E-03
ODP - Depletion potential of the stratospheric ozone layer	kg CFC11 eq	3,07E-08
POCP - Formation potential of tropospheric ozone	kg NMVOC eq	9,89E-04
WDP - Water deprivation potential, deprivation-weighted water consumption	m <sup>3</sup>	7,82E+00

**Use of resources**– Results per declared unit

Indicator	Unit	Total A1-A3
PENRE - Use of non-renewable primary energy excluding nonrenewable primary energy resources used as raw materials	MJ	6,18E+00
PENRM - Use of non-renewable primary energy resources used as raw materials	MJ	0,00E+00

Indicator	Unit	Total A1-A3
PENRT - Total use of non-renewable primary energy re-sources	MJ	6,18E+00
PERE - Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	1,61E-01
PERM - Use of renewable primary energy resources used as raw materials	MJ	0,00E+00
PERT - Total use of renewable primary energy resources	MJ	1,61E-01
FW - Use of net fresh water	m <sup>3</sup>	5,02E-02
SM - Use of secondary material	kg	5,68E-06
NRSF - Use of non-renewable secondary fuels	MJ	-8,44E-04
RSF - Use of renewable secondary fuels	MJ	4,70E-03

**Output flows**– Results per declared unit

Indicator	Unit	Total A1-A3
Components for reuse	kg	0,00E+00
Exported energy	MJ	0,00E+00
Materials for energy recovery	kg	4,68E-05
Materials for recycling	kg	-1,00E-04

**Waste production**– Results per declared unit

Indicator	Unit	Total A1-A3
Hazardous waste disposed – HW	kg	6,79E-03
Non-hazardous waste disposed - NHW	kg	1,20E-01
Radioactive waste disposed - RW	kg	5,38E-06

**Information on biogenic carbon content** - Results per declared unit

Biogenic Carbon Content	Unit	Quantity
Biogenic carbon content in product	kg C	0,00E+00
Biogenic carbon content in packaging	kg C	0,00E+00

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

## 6.2 Sika® Plastiment®-20 R

The results in the following table are for the product: Sika® Plastiment®-20 R.

**Potential environmental impact** - Results per declared unit

Indicator	Unit	Total A1-A3
AP - Acidification potential	molc H+ eq	6,83E-04
GWP - CO <sub>2</sub> uptake	kg CO <sub>2</sub> eq	1,10E-01
GWP – biogenic	kg CO <sub>2</sub> eq	-8,85E-02

Indicator	Unit	Total A1-A3
Global Warming Potential biogenic		
GWP – fossil		
Global Warming Potential fossil fuels	kg CO <sub>2</sub> eq	1,35E-01
GWP - luluc		
Global Warming Potential land use and land use change	kg CO <sub>2</sub> eq	6,73E-05
GWP - total	kg CO <sub>2</sub> eq	1,36E-01
ADP – minerals and metals		
Abiotic depletion potential for non-fossil resources	kg Sb-Eq	1,80E-06
ADP - fossil		
Abiotic depletion potential for fossil resources	MJ	3,56E+00
EP - freshwater		
Eutrophication potential, fraction of nutrients reaching freshwater end compartment	kg P eq	2,67E-05
EP – marine		
Eutrophication potential, fraction of nutrients reaching marine end compartment	kg N eq	3,04E-04
EP - terrestrial		
Eutrophication potential	molc N eq	1,76E-03
ODP - Depletion potential of the stratospheric ozone layer	kg CFC11 eq	1,47E-08
POCP - Formation potential of tropospheric ozone	kg NMVOC eq	4,02E-04
WDP - Water deprivation potential, deprivation-weighted water consumption	m <sup>3</sup>	1,22E+01

#### Use of resources- Results per declared unit

Indicator	Unit	Total A1-A3
PENRE - Use of non-renewable primary energy excluding nonrenewable primary energy resources used as raw materials	MJ	3,79E+00
PENRM - Use of non-renewable primary energy resources used as raw materials	MJ	0,00E+00
PENRT - Total use of non-renewable primary energy re-sources	MJ	3,79E+00
PERE - Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	1,08E+00
PERM - Use of renewable primary energy resources used as raw materials	MJ	0,00E+00
PERT - Total use of renewable primary energy resources	MJ	1,08E+00
FW - Use of net fresh water	m <sup>3</sup>	5,93E-02
SM - Use of secondary material	kg	7,19E-04
NRSF - Use of non-renewable secondary fuels	MJ	1,09E-04
RSF - Use of renewable secondary fuels	MJ	4,74E-03

#### Output flows - Results per declared unit

Indicator	Unit	Total A1-A3
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Components for reuse	kg	0,00E+00
Exported energy	MJ	0,00E+00
Materials for energy recovery	kg	8,74E-05
Materials for recycling	kg	-5,92E-06

#### Waste production- Results per declared unit

Indicator	Unit	Total A1-A3
Hazardous waste disposed - HW	kg	6,71E-03
Non-hazardous waste disposed - NHW	kg	1,32E-01
Radioactive waste disposed - RW	kg	4,15E-06

#### Information on biogenic carbon content - Results per declared unit

Biogenic Carbon Content	Unit	Quantity
Biogenic carbon content in product	kg C	4,15E-07
Biogenic carbon content in packaging	kg C	0,00E+00

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

### 6.3 Sika® Plastiment®-30 GR

The results in the following table are for the product: Sika® Plastiment®-30 GR.

#### Potential environmental impact - Results per declared unit

Indicator	Unit	Total A1-A3
AP - Acidification potential	molc H+ eq	1,02E-03
GWP - CO2 uptake	kg CO <sub>2</sub> eq	5,01E-02
GWP – biogenic Global Warming Potential biogenic	kg CO <sub>2</sub> eq	-3,83E-02
GWP – fossil Global Warming Potential fossil fuels	kg CO <sub>2</sub> eq	1,46E-01
GWP - luluc Global Warming Potential land use and land use change	kg CO <sub>2</sub> eq	6,77E-05
GWP - total	kg CO <sub>2</sub> eq	1,48E-01
ADP – minerals and metals Abiotic depletion potential for non-fossil resources	kg Sb-Eq	1,56E-06
ADP - fossil Abiotic depletion potential for fossil resources	MJ	3,82E+00
EP - freshwater Eutrophication potential, fraction of nutrients reaching freshwater end compartment	kg P eq	2,34E-05
EP – marine Eutrophication potential, fraction of nutrients reaching marine end compartment	kg N eq	2,89E-04
EP - terrestrial Eutrophication potential	molc N eq	2,44E-03
ODP - Depletion potential of the stratospheric ozone layer	kg CFC11 eq	1,45E-08
POCP - Formation potential of tropospheric ozone	kg NMVOC eq	6,87E-04

Indicator	Unit	Total A1-A3
WDP - Water deprivation potential, deprivation-weighted water consumption	m <sup>3</sup>	8,13E+00

#### Use of resources- Results per declared unit

Indicator	Unit	Total A1-A3
PENRE - Use of non-renewable primary energy excluding nonrenewable primary energy resources used as raw materials	MJ	4,04E+00
PENRM - Use of non-renewable primary energy resources used as raw materials	MJ	0,00E+00
PENRT - Total use of non-renewable primary energy re-sources	MJ	4,04E+00
PERE - Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	5,33E-01
PERM - Use of renewable primary energy resources used as raw materials	MJ	0,00E+00
PERT - Total use of renewable primary energy resources	MJ	5,33E-01
FW - Use of net fresh water	m <sup>3</sup>	4,02E-02
SM - Use of secondary material	kg	2,88E-04
NRSF - Use of non-renewable secondary fuels	MJ	-4,75E-04
RSF - Use of renewable secondary fuels	MJ	4,60E-03

#### Output flows- Results per declared unit

Indicator	Unit	Total A1-A3
Components for reuse	kg	0,00E+00
Exported energy	MJ	0,00E+00
Materials for energy recovery	kg	6,38E-05
Materials for recycling	kg	-8,14E-05

#### Waste production- Results per declared unit

Indicator	Unit	Total A1-A3
Hazardous waste disposed - HW	kg	6,51E-03
Non-hazardous waste disposed - NHW	kg	1,16E-01
Radioactive waste disposed - RW	kg	4,93E-06

#### Information on biogenic carbon content- Results per declared unit

Biogenic Carbon Content	Unit	Quantity
Biogenic carbon content in product	kg C	1,87E-07
Biogenic carbon content in packaging	kg C	0,00E+00

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



## 6.4 Sika® Plastiment®-40

The results in the following table are for the product: Sika® Plastiment®-40.

### Potential environmental impact - Results per declared unit

Indicator	Unit	Total A1-A3
AP - Acidification potential	molc H+ eq	8,77E-04
GWP - CO2 uptake	kg CO <sub>2</sub> eq	6,75E-02
GWP – biogenic Global Warming Potential biogenic	kg CO <sub>2</sub> eq	-5,31E-02
GWP – fossil Global Warming Potential fossil fuels	kg CO <sub>2</sub> eq	1,32E-01
GWP - luluc Global Warming Potential land use and land use change	kg CO <sub>2</sub> eq	5,90E-05
GWP - total	kg CO <sub>2</sub> eq	1,34E-01
ADP – minerals and metals Abiotic depletion potential for non-fossil resources	kg Sb-Eq	1,44E-06
ADP - fossil Abiotic depletion potential for fossil resources	MJ	3,45E+00
EP - freshwater Eutrophication potential, fraction of nutrients reaching freshwater end compartment	kg P eq	2,13E-05
EP – marine Eutrophication potential, fraction of nutrients reaching marine end compartment	kg N eq	2,86E-04
EP - terrestrial Eutrophication potential	molc N eq	2,16E-03
ODP - Depletion potential of the stratospheric ozone layer	kg CFC11 eq	1,21E-08
POCP - Formation potential of tropospheric ozone	kg NMVOC eq	5,72E-04
WDP - Water deprivation potential, deprivation-weighted water consumption	m <sup>3</sup>	8,37E+00

### Use of resources- Results per declared unit

Indicator	Unit	Total A1-A3
PENRE - Use of non-renewable primary energy excluding nonrenewable primary energy resources used as raw materials	MJ	3,65E+00
PENRM - Use of non-renewable primary energy resources used as raw materials	MJ	0,00E+00
PENRT - Total use of non-renewable primary energy re-sources	MJ	3,65E+00
PERE - Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	6,87E-01
PERM - Use of renewable primary energy resources used as raw materials	MJ	0,00E+00
PERT - Total use of renewable primary energy resources	MJ	6,87E-01

FW - Use of net fresh water	m <sup>3</sup>	3,24E-02
SM - Use of secondary material	kg	3,77E-04
NRSF - Use of non-renewable secondary fuels	MJ	-2,26E-04
RSF - Use of renewable secondary fuels	MJ	4,26E-03

**Output flows-** Results per declared unit

Indicator	Unit	Total A1-A3
Components for reuse	kg	0,00E+00
Exported energy	MJ	0,00E+00
Materials for energy recovery	kg	6,69E-05
Materials for recycling	kg	-8,25E-05

**Waste production-** Results per functional or declared unit

Indicator	Unit	Total A1-A3
Hazardous waste disposed - HW	kg	5,98E-03
Non-hazardous waste disposed - NHW	kg	1,05E-01
Radioactive waste disposed - RW	kg	4,37E-06

**Information on biogenic carbon content-** Results per functional or declared unit

Biogenic Carbon Content	Unit	Quantity
Biogenic carbon content in product	kg C	2,54E-07
Biogenic carbon content in packaging	kg C	0,00E+00

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

**6.5 Sikaplast®-180**

The results in the following table are for the product: Sikaplast®-180.

**Potential environmental impact** - Results per declared unit

Indicator	Unit	Total A1-A3
AP - Acidification potential	molc H+ eq	4,93E-04
GWP - CO <sub>2</sub> uptake	kg CO <sub>2</sub> eq	2,44E-02
GWP – biogenic Global Warming Potential biogenic	kg CO <sub>2</sub> eq	-1,71E-02
GWP – fossil Global Warming Potential fossil fuels	kg CO <sub>2</sub> eq	1,20E-01
GWP - luluc Global Warming Potential land use and land use change	kg CO <sub>2</sub> eq	8,52E-05
GWP - total	kg CO <sub>2</sub> eq	1,21E-01
ADP – minerals and metals Abiotic depletion potential for non-fossil resources	kg Sb-Eq	2,92E-06
ADP - fossil Abiotic depletion potential for fossil resources	MJ	2,26E+00

Indicator	Unit	Total A1-A3
EP - freshwater Eutrophication potential, fraction of nutrients reaching freshwater end compartment	kg P eq	3,48E-05
EP – marine Eutrophication potential, fraction of nutrients reaching marine end compartment	kg N eq	1,16E-04
EP - terrestrial Eutrophication potential	molc N eq	8,73E-04
ODP - Depletion potential of the stratospheric ozone layer	kg CFC11 eq	2,23E-08
POCP - Formation potential of tropospheric ozone	kg NMVOC eq	2,63E-04
WDP - Water deprivation potential, deprivation-weighted water consumption	m <sup>3</sup>	5,02E+00

#### Use of resources- Results per declared unit

Indicator	Unit	Total A1-A3
PENRE - Use of non-renewable primary energy excluding nonrenewable primary energy resources used as raw materials	MJ	2,45E+00
PENRM - Use of non-renewable primary energy resources used as raw materials	MJ	0,00E+00
PENRT - Total use of non-renewable primary energy re-sources	MJ	2,45E+00
PERE - Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	3,04E-01
PERM - Use of renewable primary energy resources used as raw materials	MJ	0,00E+00
PERT - Total use of renewable primary energy resources	MJ	3,04E-01
FW - Use of net fresh water	m <sup>3</sup>	3,78E-02
SM - Use of secondary material	kg	-5,24E-05
NRSF - Use of non-renewable secondary fuels	MJ	1,90E-04
RSF - Use of renewable secondary fuels	MJ	1,16E-03

#### Output flows- Results per declared unit

Indicator	Unit	Total A1-A3
Components for reuse	kg CRU	0,00E+00
Exported energy	MJ EE	0,00E+00
Materials for energy recovery	kg MER	1,97E-05
Materials for recycling	kg MFR	-2,12E-04

#### Waste production- Results per functional or declared unit

Indicator	Unit	Total A1-A3
Hazardous waste disposed - HW	kg	3,41E-03
Non-hazardous waste disposed - NHW	kg	3,78E-02

Indicator	Unit	Total A1-A3
Radioactive waste disposed - RW	kg	9,99E-07

**Information on biogenic carbon content-** Results per functional or declared unit

Biogenic Carbon Content	Unit	Quantity
Biogenic carbon content in product	kg C	8,48E-08
Biogenic carbon content in packaging	kg C	0,00E+00

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

## 6.6 Sika® Plastiment®-15

The results in the following table are for the product: Sika® Plastiment®-15.

**Potential environmental impact** - Results per declared unit

Indicator	Unit	Total A1-A3
AP - Acidification potential	molc H+ eq	1,71E-03
GWP - CO2 uptake	kg CO <sub>2</sub> eq	2,27E-03
GWP – biogenic Global Warming Potential biogenic	kg CO <sub>2</sub> eq	1,60E-03
GWP – fossil Global Warming Potential fossil fuels	kg CO <sub>2</sub> eq	1,84E-01
GWP - luluc Global Warming Potential land use and land use change	kg CO <sub>2</sub> eq	1,01E-04
GWP - total	kg CO <sub>2</sub> eq	1,86E-01
ADP – minerals and metals Abiotic depletion potential for non-fossil resources	kg Sb-Eq	2,09E-06
ADP - fossil Abiotic depletion potential for fossil resources	MJ	4,52E+00
EP - freshwater Eutrophication potential, fraction of nutrients reaching freshwater end compartment	kg P eq	3,01E-05
EP – marine Eutrophication potential, fraction of nutrients reaching marine end compartment	kg N eq	3,78E-04
EP - terrestrial Eutrophication potential	molc N eq	4,11E-03
ODP - Depletion potential of the stratospheric ozone layer	kg CFC11 eq	2,69E-08
POCP - Formation potential of tropospheric ozone	kg NMVOC eq	1,22E-03
WDP - Water deprivation potential, deprivation-weighted water consumption	m <sup>3</sup>	8,09E+00

**Use of resources-** Results per declared unit

Indicator	Unit	Total A1-A3
PENRE - Use of non-renewable primary energy excluding nonrenewable primary energy resources used as raw materials	MJ	4,76E+00

Indicator	Unit	Total A1-A3
PENRM - Use of non-renewable primary energy resources used as raw materials	MJ	0,00E+00
PENRT - Total use of non-renewable primary energy re-sources	MJ	4,76E+00
PERE - Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	1,04E-01
PERM - Use of renewable primary energy resources used as raw materials	MJ	0,00E+00
PERT - Total use of renewable primary energy resources	MJ	1,04E-01
FW - Use of net fresh water	m <sup>3</sup>	8,21E-02
SM - Use of secondary material	kg	3,23E-04
NRSF - Use of non-renewable secondary fuels	MJ	1,84E-03
RSF - Use of renewable secondary fuels	MJ	4,94E-03

**Output flows-** Results per declared unit

Indicator	Unit	Total A1-A3
Components for reuse	kg CRU	0,00E+00
Exported energy	MJ EE	0,00E+00
Materials for energy recovery	kg MER	4,93E-05
Materials for recycling	kg MFR	2,15E-04

**Waste production-** Results per functional or declared unit

Indicator	Unit	Total A1-A3
Hazardous waste disposed - HW	kg	7,26E-03
Non-hazardous waste disposed - NHW	kg	1,50E-01
Radioactive waste disposed - RW	kg	7,69E-06

**Information on biogenic carbon content-** Results per functional or declared unit

Biogenic Carbon Content	Unit	Quantity
Biogenic carbon content in product	kg C	0,00E+00
Biogenic carbon content in packaging	kg C	0,00E+00

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

## 7. References

1. General Programme Instructions of the International EPD® System. Version 3.01.
2. ISO 14040:2006 Environmental management Life cycle assessment. Principles and framework.
3. ISO 14044:2006 Environmental management. Life cycle assessment. Requirements and guidelines.
4. ISO 14020:2000 Environmental labels and declarations – General principles.
5. ISO 14025:2010 Environmental labels and declarations – Type III Environmental Declarations– Principles and procedures.
6. PCR – 2019:14 “Construction products” (Version 1.11)
7. EN 15804:2012+A2:2019. Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products.
8. EN 934-1:2008 Admixtures for concrete, mortar and grout. Part 1: Common requirements.
9. EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout. Part 2: Concrete admixtures. Definitions, requirements, conformity, marking and labelling.
10. Residual Energy Mix 2021 from Renewable Energy Sources Operator & Guarantees of Origin (DAPEEP SA) <https://www.dapeep.gr/wp-content/uploads/2022/09/Residual%20Energy%20Mix%202021%20-%20English%20short%20version.pdf? t=1662359071>

## 8. Abbreviations

### List of Abbreviations

AP	Acidification potential
GWP – biogenic	Global Warming Potential biogenic
GWP – fossil	Global Warming Potential fossil fuels
GWP – luluc	Global Warming Potential land use and land use change
GWP - total	Global Warming Potential total
ADP – minerals and metals	Abiotic depletion potential for non-fossil resources
ADP – fossil	Abiotic depletion potential for non-fossil resources
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
ODP	Depletion potential of the stratospheric ozone layer
POCP	Formation potential of tropospheric ozone
WDP	Water deprivation potential, deprivation – weighted water consumption
PENRE	Use of non-renewable primary energy excluding nonrenewable 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
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
FW	Use of net fresh water
SM	Use of secondary material
NRSF	Use of non – renewable secondary fuels

RSF	Use of renewable secondary fuels
HW	Hazardous waste disposed
NHW	Non-hazardous waste disposed
RW	Radioactive waste disposed