

# Environmental Product Declaration



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

## ***Plasticizing admixture for concrete***

*CPC 35499: Other chemical products - CN 3824 40 00: Prepared additives for cements, mortars or concretes*

from

***Fosroc Euco, S.A.U.***



Programme:	The International EPD® System, <a href="http://www.environdec.com">www.environdec.com</a>
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*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](http://www.environdec.com)*



*Fosroc Euco, S.A.U. - Gasteiz Bidea, 11 - 48213 Izurza, Vizcaya (Spain)*

## General information

### Programme information

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

CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product category rules (PCR): PCR 2019:14 Construction products, 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 and data, according to ISO 14025:2006: <input checked="" type="checkbox"/> External <input type="checkbox"/> Internal covering <input type="checkbox"/> EPD process certification <input checked="" type="checkbox"/> EPD verification
Third party verifier:  Tecnalia R&I Certification, SL Auditor: Cristina Gazulla <a href="mailto:info@tecnaliacertificacion.com">info@tecnaliacertificacion.com</a> Accredited by: ENAC nº 125/C-PR283 accreditation
Procedure for follow-up of data during EPD validity involves third party verifier:  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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.

The verifier and the program operator do not have any claim nor have any responsibility of the legality of the product.

## Company information

Owner of the EPD: Fosroc Euco, S.A.U.

Contact:

Fosroc Euco, S.A.U.

Phone: +34 946 217 160 - Email: [spain@fosroc.com](mailto:spain@fosroc.com)

Description of the organisation:

Fosroc is a world leader in the delivery of Constructive Solutions for virtually any type of construction project, combining high quality products, expert technical support, customer service and innovation.

We supply high performance chemicals for the construction industry, with a particular focus on concrete. Our range of solutions include: admixtures for concrete, surface treatment, concrete repair, flooring, grouts and anchors, protective coatings, waterproofing, joint sealants, adhesives and grinding aids.

Fosroc serves customers across a broad range of market segments including building, industrial or civil works, through our extensive network of offices and manufacturing locations with distributor representation across many other regions. Our customers come to us for our knowledge and service as well as our reputable products, and many see us as an extension of their team. Fosroc helps customers successfully deliver complex projects in some of the most challenging conditions around the world.

Fosroc was established in Spain in 1970. The headquarters (offices, manufacturing premises and laboratory) of Fosroc Euco, S.A.U. are in Izurza (Vizcaya).

In Fosroc we are committed to the quality and environmental performance of our products. Faithful to these principles, the management team of Fosroc Euco, S.A.U. takes the responsibility of creating, implementing and maintaining at all levels of the organization, a quality management system based on the application of ISO9001:2015 and an environmental management system based on the application of ISO14001:2015.



Name and location of production site:

Fosroc Euco, S.A.U.

Gasteiz Bidea, 11

48213 Izurza, Vizcaya (Spain)

## Product information

Product name: Plasticizing admixtures for concrete:

- Auramix 230 (see Annex V)
- Auramix 240 (see Annex V)
- Auramix 269 (see Annex VI)
- Auramix P269 (see Annex VI)
- Conplast MR260 (see Annex I)
- Conplast MR276 (see Annex II)
- Conplast MR285 (see Annex I)
- Conplast MR286 (see Annex II)
- Conplast MR288 (see Annex II)
- Conplast MR289 (see Annex II)
- Conplast MR290 (see Annex I)
- Conplast MR291 (see Annex II)
- Conplast MR292 (see Annex III)
- Conplast MR292-A (see Annex III)
- Conplast MR293 (see Annex III)
- Conplast MR295 (see Annex II)
- Conplast P509 (see Annex IV)
- Conplast P510 (see Annex IV)
- Conplast SD100 (see Annex IV)

Product identification:

Plasticizers comply with the general requirements of EN934-1:2008 and the additional requirements of EN934-2:2009+A1:2012, Table 2.

Admixture products placed on the European Economic Area (EEA) require a Declaration of Performance and CE marking taking consideration of EN934-2:2009+A1:2012. Outside of the EEA, the corresponding national regulation applies.

Product description:

Admixtures are chemical materials added during the mixing process of concrete in a quantity not normally exceeding 5% by mass of the cement content of the concrete to modify the properties of the mix in the fresh and/or hardened state.

A water reducing/plasticizing admixture is an admixture which without affecting the consistence, permits a reduction in the water content of a given concrete mix, or which, without affecting the water content increases the slump/flow or produces both effects simultaneously

UN CPC code: 35499: Other chemical products

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

## LCA information

Declared unit: 1 kg of plasticizing admixture for concrete.

Reference service life: RSL is not relevant for this EPD.

Time representativeness: Full 2020 for data from factory (primary data). Secondary data from Ecoinvent database 3.6.

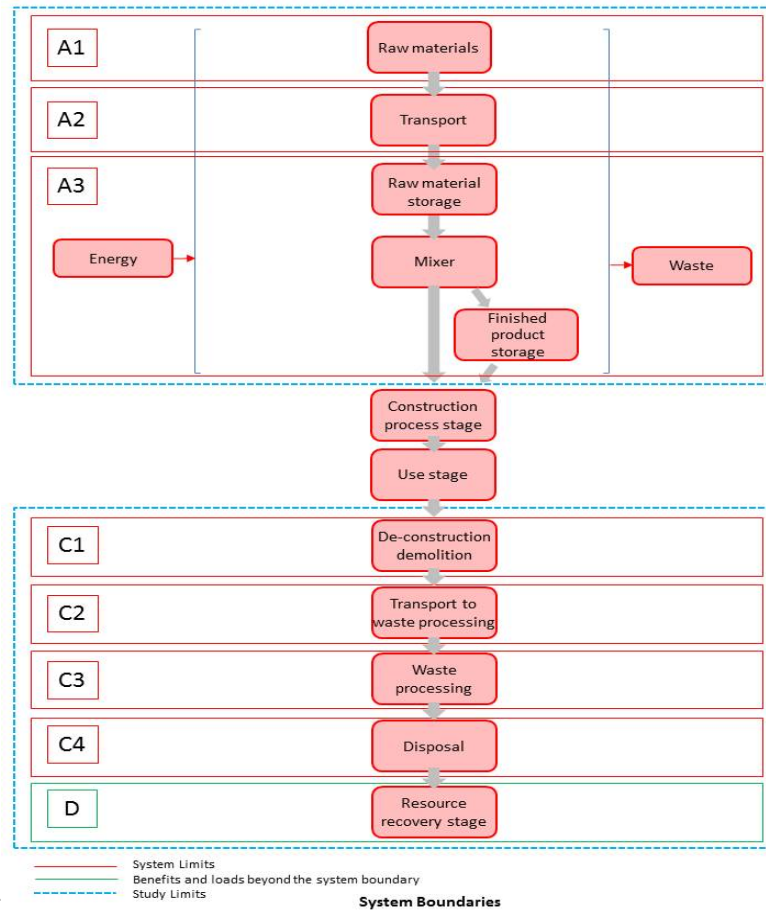
Database(s) and LCA software used:

All the data used to model the process and obtain the Life Cycle Inventory are specific data and have been obtained by measurements made during the year 2020. They are representative of the different processes implemented during the manufacturing process. The data has been measured directly at the company's own premises. In addition, the most complete and highest quality European life cycle inventory database, Ecoinvent 3.6., 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. The LCA was modelled with SimaPro 9.1.1.0.

Description of system boundaries:

Cradle to gate with modules C1–C4 and module D (A1–A3 + C + D). The life cycle stages A4-A5, B1-B7 were excluded from the LCA study.

System diagram:



Manufacturing process:

The production process for concrete admixtures is as follows. The majority of liquid components are automatically transported from the storage silos to the liquid mixer where minority raw materials are added manually. All materials are mixed at room temperature and the admixture is either carried directly to the tank truck or stored.

More information

For more information about the admixtures, please visit <http://www.fosroc.com> where Technical Data Sheets are placed.

Data quality

The environmental impact has been calculated based on the international standards established for the development of environmental product declarations, such as ISO14025 for the preparation of the environmental product declaration, ISO 14040 and ISO 14044 for the preparation of the life cycle analysis, UNE-EN 15804:2012+A2:2020 (March 2020) and the Product Category Rules PCR “2019:14 Construction products” (Version 1.11).

Data has been collected in 2020 and is representative of that year. Data for raw material supply, transport to the manufacturing plant and production (A1-A3) is based on specific consumption data for the factory at Izurza. Generic background datasets were used for the upstream and downstream processes. SimaPro v.9.1.1.0 software was used to prepare the life cycle analysis together with the Ecoinvent 3.6. database. Characterization factors from EN 15804:2012+A2:2019.

The geographical coverage is Europe. Technological coverage is typical or average.

### Assumptions

The following assumptions have been made in this EPD:

- It does not include the manufacturing processes of the capital goods or spare parts and/or maintenance with a life of more than three years.
- 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 processes associated with fuel production are intrinsically included in the indicators in Ecoinvent's database used in carrying out the LCA.
- The environmental impact of external transport has been calculated using lorries from the Ecoinvent 3.6. database, EURO 5. These lorries have been selected to reflect the most realistic scenario possible.

### Cut-off rules

According to EN15804 and PCR "2019:14 Construction products", a minimum of 95% of total inflows (mass and energy) per module are included and more than 99% of the inflows are accounted for.

### Allocation

Regarding the input of materials, allocations have not been considered since a single product is obtained so that the amount of raw material used is consistent with the composition of the final admixture, with material losses lower than 1%.

For the allocation of energy, this section has electricity consumption that has been calculated by mass allocation of the annual production to the expense indicated in the electricity bills for the year. The gas allocation has been calculated with the data of the admixtures that require water heating and the gas bills.

Those auxiliary materials belonging to the production process (mainly machinery maintenance) or the general waste have been allocated by the total tons of admixtures.

### Greenhouse gas emission from the use of electricity in the manufacturing phase:

In 2020, Fosroc Euco, S.A.U. obtained the electricity supply from an only marketer, high voltage.

Electricity mix	Amount	Unit
Electricity	0,238	kg CO <sub>2</sub> -eq./kWh

## LCA Scenarios and additional technical information

The scenarios included are currently in use and are representative for one of the most probable alternatives.

### Dismantling/demolition (module C1):

No information was found in the life cycle databases consulted for the dismantling operations of the admixture embedded in the concrete nor was there a bibliography regarding the inputs or residues generated during these operations. The energy consumption of this phase is considered not relevant and there is no contribution on impact categories of this module.

### Transport (module C2)

With a collection rate of 100%, the transports are carried out by lorry (EURO 5) over 50 km, as it is stated in RCP-006 Aenor.

### Waste processing (modules C3 and C4)

A recycling ratio of 75.80% is considered in accordance with the Construction and Demolition Waste Statistics of the autonomous community of the Basque Country 2018: ([https://www.euskadi.eus/web01-s2ing/es/contenidos/estadistica/amb\\_res\\_rcd\\_2018/es\\_def/index.shtml](https://www.euskadi.eus/web01-s2ing/es/contenidos/estadistica/amb_res_rcd_2018/es_def/index.shtml)) published by the Basque Government. The remaining 24.20% is considered to be landfilled. These percentages are representative of the geographical scope "Europe".

Parameter	Value/Description
Collection process specified by type	The admixture is collected mixed with construction waste
Recovery system specified by type	Recycling: 75,8%
Disposal specified by type	Landfill: 24,2%
Assumptions for scenario development (e.g. transportation)	16-32 tn truck. Fuel consumption: 25 l/100 km. Distance: 50 km.

### Recyclability potentials (module D)

Module D contains credits from the recycling of concrete elements (where the admixture is embedded) in module C3. The concrete elements are recycled for use in substitution of virgin raw materials. The results of recycling (avoided product) is crushed gravel.

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

	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	
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	X	X	X	X	X
Geography	EU	EU	EU	ND	ND	ND	ND	ND	ND	ND	ND	ND	EU	EU	EU	EU	EU
Specific data	>95%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	Less than 10% for every group of products			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	Manufactured in one site			-	-	-	-	-	-	-	-	-	-	-	-	-	-

## Content information

Product components	Weight, kg <sup>(1)</sup>	Post-consumer material, weight-%	Renewable material, weight-%
Lignosulphonate	0,51	45%	100%
Sugar derived materials	0,09	0%	100%
Additives	0,05	0%	0%
Water	0,35	0%	0%
TOTAL	1,00	23%	60%
Packaging materials	Weight, kg	Weight-% (versus the product)	
Not applicable	---	---	

<sup>(1)</sup> Average content of the admixtures included in this EPD.

Packaging: The admixture is in bulk to be transported to the customers by tank truck.

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



## Environmental Information

The environmental information of the plasticizing admixtures for concrete is declared in the Annexes.

## Additional information

No additional information is provided.

## Information related to Sector EPD

This is an individual EPD®.

## Differences versus previous versions

This is the first version of the EPD®.

## References

- ✓ General Programme Instructions of the International EPD® System. Version 3.01.
- ✓ ISO14040:2006. Environmental management Life cycle assessment. Principles and framework.
- ✓ ISO14044:2006. Environmental management. Life cycle assessment. Requirements and guidelines.
- ✓ ISO14020:2000. Environmental labels and declarations – General principles.
- ✓ ISO14025:2010. Environmental labels and declarations – Type III Environmental Declarations– Principles and procedures.
- ✓ PCR – “2019:14 Construction products” (Version 1.11)
- ✓ UNE-EN 15804:2012+A2:2020. Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products.
- ✓ EN 934-1:2008. Admixtures for concrete, mortar and grout. Part 1: Common requirements.
- ✓ EN 934-2:2009+A1:2012. Admixtures for concrete, mortar and grout. Part 2: Concrete admixtures. Definitions, requirements, conformity, marking and labelling.

## ANNEX I

These results are valid for the next products since their impact differs less than 10%: Conplast MR260, Conplast MR285 and Conplast MR290.

### Potential environmental impact – mandatory indicators according to EN 15804

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-fossil	kg CO <sub>2</sub> eq.	1,58E-01	0,00E+00	8,33E-03	1,59E-03	1,27E-03	-1,21E-03
GWP-biogenic	kg CO <sub>2</sub> eq.	-5,34E-01	0,00E+00	4,45E-06	3,45E-05	2,53E-06	-4,23E-05
GWP-luluc	kg CO <sub>2</sub> eq.	9,52E-04	0,00E+00	2,91E-06	1,13E-06	3,55E-07	-1,21E-06
GWP-total	kg CO <sub>2</sub> eq.	-3,74E-01	0,00E+00	8,34E-03	1,62E-03	1,28E-03	-1,25E-03
ODP	kg CFC 11 eq.	2,81E-08	0,00E+00	1,89E-09	3,46E-10	5,25E-10	-7,02E-11
AP	mol H <sup>+</sup> eq.	1,51E-03	0,00E+00	3,41E-05	1,03E-05	1,21E-05	-1,37E-05
EP-freshwater	kg P eq.	1,15E-05	0,00E+00	6,54E-08	4,31E-08	1,43E-08	-4,81E-08
EP-freshwater	kg PO <sub>4</sub> <sup>3-</sup> eq.	3,53E-05	0,00E+00	2,01E-07	1,32E-07	4,39E-08	-1,48E-07
EP-marine	kg N eq.	4,54E-04	0,00E+00	1,01E-05	3,41E-06	4,16E-06	-3,09E-06
EP-terrestrial	mol N eq.	4,79E-03	0,00E+00	1,12E-04	3,83E-05	4,59E-05	-5,08E-05
POCP	kg NMVOC eq.	1,09E-03	0,00E+00	3,42E-05	1,07E-05	1,33E-05	-1,01E-05
ADP-minerals&metals*	kg Sb eq.	4,80E-06	0,00E+00	2,26E-07	3,37E-08	1,17E-08	-6,39E-07
ADP-fossil*	MJ	2,35E+00	0,00E+00	1,26E-01	3,29E-02	3,56E-02	-1,11E-02
WDP	m <sup>3</sup>	6,05E-01	0,00E+00	3,50E-04	1,73E-04	1,60E-03	-5,98E-04
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.

### Potential environmental impact – additional mandatory and voluntary indicators

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-GHG <sup>1</sup>	kg CO <sub>2</sub> eq.	1,57E-01	0,00E+00	8,26E-03	1,57E-03	1,25E-03	-1,18E-03

<sup>1</sup> The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

## Use of resources

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
PERE	MJ	1,11E+01	0,00E+00	1,77E-03	9,19E-03	2,88E-04	-1,62E-03
PERM	MJ	2,63E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	1,38E+01	0,00E+00	1,77E-03	9,19E-03	2,88E-04	-1,62E-03
PENRE	MJ	2,24E+00	1,00E+00	1,26E-01	3,29E-02	3,56E-02	-1,11E-02
PENRM	MJ	1,10E-01	-1,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	2,35E+00	0,00E+00	1,26E-01	3,29E-02	3,56E-02	-1,11E-02
SM	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m <sup>3</sup>	1,45E-02	0,00E+00	1,32E-05	3,18E-05	3,81E-05	-2,43E-04
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

### Waste production

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed	kg	4,06E-06	0,00E+00	3,29E-07	5,65E-08	5,32E-08	-1,21E-07
Non-hazardous waste disposed	kg	5,16E-02	0,00E+00	6,01E-03	1,04E-03	2,42E-01	4,20E-04
Radioactive waste disposed	kg	1,12E-05	0,00E+00	8,57E-07	2,87E-07	2,34E-07	-3,44E-08

### Output flows

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	2,82E-05	0,00E+00	0,00E+00	7,58E-01	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy, electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy, thermal	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

## Information on biogenic carbon content

Results per functional or declared unit		
BIOTIC CARBON CONTENT	Unit	QUANTITY
Biogenic carbon content in product	kg C	1,58E-01
Biogenic carbon content in packaging	kg C	0,00E+00

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO<sub>2</sub>.

## ANNEX II

These results are valid for the next products since their impact differs less than 10%: Conplast MR276, Conplast MR286, Conplast MR288, Conplast MR289, Conplast MR291 and Conplast MR295.

### Potential environmental impact – mandatory indicators according to EN 15804

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-fossil	kg CO <sub>2</sub> eq.	2,04E-01	0,00E+00	8,33E-03	1,59E-03	1,27E-03	-1,21E-03
GWP-biogenic	kg CO <sub>2</sub> eq.	-5,47E-01	0,00E+00	4,45E-06	3,45E-05	2,53E-06	-4,23E-05
GWP-luluc	kg CO <sub>2</sub> eq.	1,09E-03	0,00E+00	2,91E-06	1,13E-06	3,55E-07	-1,21E-06
GWP-total	kg CO <sub>2</sub> eq.	-3,42E-01	0,00E+00	8,34E-03	1,62E-03	1,28E-03	-1,25E-03
ODP	kg CFC 11 eq.	4,15E-08	0,00E+00	1,89E-09	3,46E-10	5,25E-10	-7,02E-11
AP	mol H <sup>+</sup> eq.	1,70E-03	0,00E+00	3,41E-05	1,03E-05	1,21E-05	-1,37E-05
EP-freshwater	kg P eq.	1,32E-05	0,00E+00	6,54E-08	4,31E-08	1,43E-08	-4,81E-08
EP-freshwater	kg PO <sub>4</sub> <sup>3-</sup> eq.	4,04E-05	0,00E+00	2,01E-07	1,32E-07	4,39E-08	-1,48E-07
EP-marine	kg N eq.	4,86E-04	0,00E+00	1,01E-05	3,41E-06	4,16E-06	-3,09E-06
EP-terrestrial	mol N eq.	5,12E-03	0,00E+00	1,12E-04	3,83E-05	4,59E-05	-5,08E-05
POCP	kg NMVOC eq.	1,26E-03	0,00E+00	3,42E-05	1,07E-05	1,33E-05	-1,01E-05
ADP-minerals&metals*	kg Sb eq.	5,54E-06	0,00E+00	2,26E-07	3,37E-08	1,17E-08	-6,39E-07
ADP-fossil*	MJ	3,41E+00	0,00E+00	1,26E-01	3,29E-02	3,56E-02	-1,11E-02
WDP	m <sup>3</sup>	6,54E-01	0,00E+00	3,50E-04	1,73E-04	1,60E-03	-5,98E-04
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.

### Potential environmental impact – additional mandatory and voluntary indicators

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-GHG <sup>2</sup>	kg CO <sub>2</sub> eq.	2,01E-01	0,00E+00	8,26E-03	1,57E-03	1,25E-03	-1,18E-03

<sup>2</sup> The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

## Use of resources

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
PERE	MJ	1,15E+01	0,00E+00	1,77E-03	9,19E-03	2,88E-04	-1,62E-03
PERM	MJ	2,68E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	1,42E+01	0,00E+00	1,77E-03	9,19E-03	2,88E-04	-1,62E-03
PENRE	MJ	2,81E+00	0,00E+00	1,26E-01	3,29E-02	3,56E-02	-1,11E-02
PENRM	MJ	6,05E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	3,41E+00	0,00E+00	1,26E-01	3,29E-02	3,56E-02	-1,11E-02
SM	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m <sup>3</sup>	1,58E-02	0,00E+00	1,32E-05	3,18E-05	3,81E-05	-2,43E-04
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

### Waste production

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed	kg	4,87E-06	0,00E+00	3,29E-07	5,65E-08	5,32E-08	-1,21E-07
Non-hazardous waste disposed	kg	5,78E-02	0,00E+00	6,01E-03	1,04E-03	2,42E-01	4,20E-04
Radioactive waste disposed	kg	1,35E-05	0,00E+00	8,57E-07	2,87E-07	2,34E-07	-3,44E-08

### Output flows

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	2,42E-04	0,00E+00	0,00E+00	7,58E-01	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy, electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy, thermal	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

## Information on biogenic carbon content

Results per functional or declared unit		
BIOGENIC CARBON CONTENT	Unit	QUANTITY
Biogenic carbon content in product	kg C	1,63E-01
Biogenic carbon content in packaging	kg C	0,00E+00

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO<sub>2</sub>.

### ANNEX III

These results are valid for the next products since their impact differs less than 10%: Conplast MR292, Conplast MR292A and Conplast MR293.

#### Potential environmental impact – mandatory indicators according to EN 15804

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-fossil	kg CO <sub>2</sub> eq.	2,55E-01	0,00E+00	8,33E-03	1,59E-03	1,27E-03	-1,21E-03
GWP-biogenic	kg CO <sub>2</sub> eq.	-5,15E-01	0,00E+00	4,45E-06	3,45E-05	2,53E-06	-4,23E-05
GWP-luluc	kg CO <sub>2</sub> eq.	8,86E-04	0,00E+00	2,91E-06	1,13E-06	3,55E-07	-1,21E-06
GWP-total	kg CO <sub>2</sub> eq.	-2,59E-01	0,00E+00	8,34E-03	1,62E-03	1,28E-03	-1,25E-03
ODP	kg CFC 11 eq.	5,57E-08	0,00E+00	1,89E-09	3,46E-10	5,25E-10	-7,02E-11
AP	mol H <sup>+</sup> eq.	2,12E-03	0,00E+00	3,41E-05	1,03E-05	1,21E-05	-1,37E-05
EP-freshwater	kg P eq.	1,52E-05	0,00E+00	6,54E-08	4,31E-08	1,43E-08	-4,81E-08
EP-freshwater	kg PO <sub>4</sub> <sup>3-</sup> eq.	4,66E-05	0,00E+00	2,01E-07	1,32E-07	4,39E-08	-1,48E-07
EP-marine	kg N eq.	5,63E-04	0,00E+00	1,01E-05	3,41E-06	4,16E-06	-3,09E-06
EP-terrestrial	mol N eq.	6,23E-03	0,00E+00	1,12E-04	3,83E-05	4,59E-05	-5,08E-05
POCP	kg NMVOC eq.	1,44E-03	0,00E+00	3,42E-05	1,07E-05	1,33E-05	-1,01E-05
ADP-minerals&metals*	kg Sb eq.	7,18E-06	0,00E+00	2,26E-07	3,37E-08	1,17E-08	-6,39E-07
ADP-fossil*	MJ	4,40E+00	0,00E+00	1,26E-01	3,29E-02	3,56E-02	-1,11E-02
WDP	m <sup>3</sup>	6,36E-01	0,00E+00	3,50E-04	1,73E-04	1,60E-03	-5,98E-04
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.

#### Potential environmental impact – additional mandatory and voluntary indicators

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-GHG <sup>3</sup>	kg CO <sub>2</sub> eq.	2,52E-01	0,00E+00	8,26E-03	1,57E-03	1,25E-03	-1,18E-03

<sup>3</sup> The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

## Use of resources

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
PERE	MJ	1,05E+01	0,00E+00	1,77E-03	9,19E-03	2,88E-04	-1,62E-03
PERM	MJ	2,62E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	1,31E+01	0,00E+00	1,77E-03	9,19E-03	2,88E-04	-1,62E-03
PENRE	MJ	3,23E+00	0,00E+00	1,26E-01	3,29E-02	3,56E-02	-1,11E-02
PENRM	MJ	1,17E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	4,40E+00	0,00E+00	1,26E-01	3,29E-02	3,56E-02	-1,11E-02
SM	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m <sup>3</sup>	1,54E-02	0,00E+00	1,32E-05	3,18E-05	3,81E-05	-2,43E-04
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

### Waste production

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed	kg	6,02E-06	0,00E+00	3,29E-07	5,65E-08	5,32E-08	-1,21E-07
Non-hazardous waste disposed	kg	6,67E-02	0,00E+00	6,01E-03	1,04E-03	2,42E-01	4,20E-04
Radioactive waste disposed	kg	1,67E-05	0,00E+00	8,57E-07	2,87E-07	2,34E-07	-3,44E-08

### Output flows

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	4,80E-04	0,00E+00	0,00E+00	7,58E-01	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy, electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy, thermal	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

## Information on biogenic carbon content

Results per functional or declared unit		
BIOTIC CARBON CONTENT	Unit	QUANTITY
Biogenic carbon content in product	kg C	1,50E-01
Biogenic carbon content in packaging	kg C	0,00E+00

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO<sub>2</sub>.

## ANNEX IV

These results are valid for the next products since their impact differs less than 10%: Conplast P509, Conplast P510 and Conplast SD100.

### Potential environmental impact – mandatory indicators according to EN 15804

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-fossil	kg CO <sub>2</sub> eq.	3,19E-01	0,00E+00	8,33E-03	1,59E-03	1,27E-03	-1,21E-03
GWP-biogenic	kg CO <sub>2</sub> eq.	-6,34E-01	0,00E+00	4,45E-06	3,45E-05	2,53E-06	-4,23E-05
GWP-luluc	kg CO <sub>2</sub> eq.	1,36E-02	0,00E+00	2,91E-06	1,13E-06	3,55E-07	-1,21E-06
GWP-total	kg CO <sub>2</sub> eq.	-3,01E-01	0,00E+00	8,34E-03	1,62E-03	1,28E-03	-1,25E-03
ODP	kg CFC 11 eq.	3,97E-08	0,00E+00	1,89E-09	3,46E-10	5,25E-10	-7,02E-11
AP	mol H <sup>+</sup> eq.	3,30E-03	0,00E+00	3,41E-05	1,03E-05	1,21E-05	-1,37E-05
EP-freshwater	kg P eq.	2,40E-05	0,00E+00	6,54E-08	4,31E-08	1,43E-08	-4,81E-08
EP-freshwater	kg PO <sub>4</sub> <sup>3-</sup> eq.	7,36E-05	0,00E+00	2,01E-07	1,32E-07	4,39E-08	-1,48E-07
EP-marine	kg N eq.	1,04E-03	0,00E+00	1,01E-05	3,41E-06	4,16E-06	-3,09E-06
EP-terrestrial	mol N eq.	1,08E-02	0,00E+00	1,12E-04	3,83E-05	4,59E-05	-5,08E-05
POCP	kg NMVOC eq.	1,77E-03	0,00E+00	3,42E-05	1,07E-05	1,33E-05	-1,01E-05
ADP-minerals&metals*	kg Sb eq.	1,14E-05	0,00E+00	2,26E-07	3,37E-08	1,17E-08	-6,39E-07
ADP-fossil*	MJ	5,08E+00	0,00E+00	1,26E-01	3,29E-02	3,56E-02	-1,11E-02
WDP	m <sup>3</sup>	6,38E-01	0,00E+00	3,50E-04	1,73E-04	1,60E-03	-5,98E-04
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.

### Potential environmental impact – additional mandatory and voluntary indicators

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-GHG <sup>4</sup>	kg CO <sub>2</sub> eq.	3,25E-01	0,00E+00	8,26E-03	1,57E-03	1,25E-03	-1,18E-03

<sup>4</sup> The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.



## Use of resources

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
PERE	MJ	1,02E+01	0,00E+00	1,77E-03	9,19E-03	2,88E-04	-1,62E-03
PERM	MJ	3,30E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	1,35E+01	0,00E+00	1,77E-03	9,19E-03	2,88E-04	-1,62E-03
PENRE	MJ	3,90E+00	0,00E+00	1,26E-01	3,29E-02	3,56E-02	-1,11E-02
PENRM	MJ	1,19E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	5,10E+00	0,00E+00	1,26E-01	3,29E-02	3,56E-02	-1,11E-02
SM	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m <sup>3</sup>	1,59E-02	0,00E+00	1,32E-05	3,18E-05	3,81E-05	-2,43E-04
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

### Waste production

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed	kg	7,70E-06	0,00E+00	3,29E-07	5,65E-08	5,32E-08	-1,21E-07
Non-hazardous waste disposed	kg	7,57E-02	0,00E+00	6,01E-03	1,04E-03	2,42E-01	4,20E-04
Radioactive waste disposed	kg	1,87E-05	0,00E+00	8,57E-07	2,87E-07	2,34E-07	-3,44E-08

### Output flows

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	2,56E-04	0,00E+00	0,00E+00	7,58E-01	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy, electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy, thermal	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

## Information on biogenic carbon content

Results per functional or declared unit		
BIOGENIC CARBON CONTENT	Unit	QUANTITY
Biogenic carbon content in product	kg C	1,61E-01
Biogenic carbon content in packaging	kg C	0,00E+00

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO<sub>2</sub>.

## ANNEX V

These results are valid for the next products since their impact differs less than 10%: Auramix 230 and Auramix 240.

### Potential environmental impact – mandatory indicators according to EN 15804

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-fossil	kg CO <sub>2</sub> eq.	2,34E-01	0,00E+00	8,33E-03	1,59E-03	1,27E-03	-1,21E-03
GWP-biogenic	kg CO <sub>2</sub> eq.	-1,33E-01	0,00E+00	4,45E-06	3,45E-05	2,53E-06	-4,23E-05
GWP-luluc	kg CO <sub>2</sub> eq.	5,62E-04	0,00E+00	2,91E-06	1,13E-06	3,55E-07	-1,21E-06
GWP-total	kg CO <sub>2</sub> eq.	1,01E-01	0,00E+00	8,34E-03	1,62E-03	1,28E-03	-1,25E-03
ODP	kg CFC 11 eq.	3,94E-08	0,00E+00	1,89E-09	3,46E-10	5,25E-10	-7,02E-11
AP	mol H <sup>+</sup> eq.	1,87E-03	0,00E+00	3,41E-05	1,03E-05	1,21E-05	-1,37E-05
EP-freshwater	kg P eq.	1,23E-05	0,00E+00	6,54E-08	4,31E-08	1,43E-08	-4,81E-08
EP-freshwater	kg PO <sub>4</sub> <sup>3-</sup> eq.	3,76E-05	0,00E+00	2,01E-07	1,32E-07	4,39E-08	-1,48E-07
EP-marine	kg N eq.	5,44E-04	0,00E+00	1,01E-05	3,41E-06	4,16E-06	-3,09E-06
EP-terrestrial	mol N eq.	6,01E-03	0,00E+00	1,12E-04	3,83E-05	4,59E-05	-5,08E-05
POCP	kg NMVOC eq.	6,86E-04	0,00E+00	3,42E-05	1,07E-05	1,33E-05	-1,01E-05
ADP-minerals&metals*	kg Sb eq.	8,00E-06	0,00E+00	2,26E-07	3,37E-08	1,17E-08	-6,39E-07
ADP-fossil*	MJ	4,02E+00	0,00E+00	1,26E-01	3,29E-02	3,56E-02	-1,11E-02
WDP	m <sup>3</sup>	1,83E-01	0,00E+00	3,50E-04	1,73E-04	1,60E-03	-5,98E-04
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.

### Potential environmental impact – additional mandatory and voluntary indicators

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-GHG <sup>5</sup>	kg CO <sub>2</sub> eq.	2,30E-01	0,00E+00	8,26E-03	1,57E-03	1,25E-03	-1,18E-03

<sup>5</sup> The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

## Use of resources

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
PERE	MJ	5,11E-01	0,00E+00	1,77E-03	9,19E-03	2,88E-04	-1,62E-03
PERM	MJ	1,18E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	1,69E+00	0,00E+00	1,77E-03	9,19E-03	2,88E-04	-1,62E-03
PENRE	MJ	2,64E+00	0,00E+00	1,26E-01	3,29E-02	3,56E-02	-1,11E-02
PENRM	MJ	1,38E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	4,02E+00	0,00E+00	1,26E-01	3,29E-02	3,56E-02	-1,11E-02
SM	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m <sup>3</sup>	4,72E-03	0,00E+00	1,32E-05	3,18E-05	3,81E-05	-2,43E-04
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

### Waste production

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed	kg	5,43E-06	0,00E+00	3,29E-07	5,65E-08	5,32E-08	-1,21E-07
Non-hazardous waste disposed	kg	5,54E-02	0,00E+00	6,01E-03	1,04E-03	2,42E-01	4,20E-04
Radioactive waste disposed	kg	1,42E-05	0,00E+00	8,57E-07	2,87E-07	2,34E-07	-3,44E-08

### Output flows

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	8,58E-05	0,00E+00	0,00E+00	7,58E-01	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy, electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy, thermal	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

## Information on biogenic carbon content

Results per functional or declared unit		
BIOGENIC CARBON CONTENT	Unit	QUANTITY
Biogenic carbon content in product	kg C	1,99E-02
Biogenic carbon content in packaging	kg C	0,00E+00

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO<sub>2</sub>.

## ANNEX VI

These results are valid for the next products since their impact differs less than 10%: Auramix 269 and Auramix P269.

### Potential environmental impact – mandatory indicators according to EN 15804

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-fossil	kg CO <sub>2</sub> eq.	3,16E-01	0,00E+00	8,33E-03	1,59E-03	1,27E-03	-1,21E-03
GWP-biogenic	kg CO <sub>2</sub> eq.	-1,89E-01	0,00E+00	4,45E-06	3,45E-05	2,53E-06	-4,23E-05
GWP-luluc	kg CO <sub>2</sub> eq.	1,01E-03	0,00E+00	2,91E-06	1,13E-06	3,55E-07	-1,21E-06
GWP-total	kg CO <sub>2</sub> eq.	1,29E-01	0,00E+00	8,34E-03	1,62E-03	1,28E-03	-1,25E-03
ODP	kg CFC 11 eq.	5,94E-08	0,00E+00	1,89E-09	3,46E-10	5,25E-10	-7,02E-11
AP	mol H <sup>+</sup> eq.	2,61E-03	0,00E+00	3,41E-05	1,03E-05	1,21E-05	-1,37E-05
EP-freshwater	kg P eq.	1,73E-05	0,00E+00	6,54E-08	4,31E-08	1,43E-08	-4,81E-08
EP-freshwater	kg PO <sub>4</sub> <sup>3-</sup> eq.	5,31E-05	0,00E+00	2,01E-07	1,32E-07	4,39E-08	-1,48E-07
EP-marine	kg N eq.	7,59E-04	0,00E+00	1,01E-05	3,41E-06	4,16E-06	-3,09E-06
EP-terrestrial	mol N eq.	8,38E-03	0,00E+00	1,12E-04	3,83E-05	4,59E-05	-5,08E-05
POCP	kg NMVOC eq.	9,44E-04	0,00E+00	3,42E-05	1,07E-05	1,33E-05	-1,01E-05
ADP-minerals&metals*	kg Sb eq.	1,10E-05	0,00E+00	2,26E-07	3,37E-08	1,17E-08	-6,39E-07
ADP-fossil*	MJ	5,28E+00	0,00E+00	1,26E-01	3,29E-02	3,56E-02	-1,11E-02
WDP	m <sup>3</sup>	2,44E-01	0,00E+00	3,50E-04	1,73E-04	1,60E-03	-5,98E-04
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.

### Potential environmental impact – additional mandatory and voluntary indicators

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-GHG <sup>6</sup>	kg CO <sub>2</sub> eq.	3,10E-01	0,00E+00	8,26E-03	1,57E-03	1,25E-03	-1,18E-03

<sup>6</sup> The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

## Use of resources

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
PERE	MJ	7,33E-01	0,00E+00	1,77E-03	9,19E-03	2,88E-04	-1,62E-03
PERM	MJ	1,65E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	2,38E+00	0,00E+00	1,77E-03	9,19E-03	2,88E-04	-1,62E-03
PENRE	MJ	3,60E+00	0,00E+00	1,26E-01	3,29E-02	3,56E-02	-1,11E-02
PENRM	MJ	1,68E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	5,28E+00	0,00E+00	1,26E-01	3,29E-02	3,56E-02	-1,11E-02
SM	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m <sup>3</sup>	6,36E-03	0,00E+00	1,32E-05	3,18E-05	3,81E-05	-2,43E-04
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

### Waste production

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed	kg	7,51E-06	0,00E+00	3,29E-07	5,65E-08	5,32E-08	-1,21E-07
Non-hazardous waste disposed	kg	7,51E-02	0,00E+00	6,01E-03	1,04E-03	2,42E-01	4,20E-04
Radioactive waste disposed	kg	1,92E-05	0,00E+00	8,57E-07	2,87E-07	2,34E-07	-3,44E-08

### Output flows

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	1,06E-04	0,00E+00	0,00E+00	7,58E-01	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy, electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy, thermal	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

## Information on biogenic carbon content

Results per functional or declared unit		
BIOTIC CARBON CONTENT	Unit	QUANTITY
Biogenic carbon content in product	kg C	2,85E-02
Biogenic carbon content in packaging	kg C	0,00E+00

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO<sub>2</sub>.

## VERIFICATION STATEMENT CERTIFICATE CERTIFICADO DE DECLARACIÓN DE VERIFICACIÓN

Certificate No. / Certificado nº: EPD05401

TECNALIA R&I CERTIFICACION S.L., confirms that independent third-party verification has been conducted of the Environmental Product Declaration (EPD) on behalf of:

TECNALIA R&I CERTIFICACION S.L., confirma que se ha realizado verificación de tercera parte independiente de la Declaración Ambiental de Producto (DAP) en nombre de:

**FOSROC EUCO, S.A.U.**  
**Gasteiz Bidea, 11**  
**48213 - IZURTZA (Bizkaia) SPAIN**

for the following product(s):  
para el siguiente(s) producto(s):

### PLASTICIZING ADMIXTURE FOR CONCRETE ADITIVOS PLASTIFICANTES PARA HORMIGON

with registration number **S-P-04322** in the International EPD® System ([www.environdec.com](http://www.environdec.com))  
con número de registro **S-P-04322** en el Sistema Internacional EPD® ([www.environdec.com](http://www.environdec.com))

it's in conformity with:  
es conforme con:

- **ISO 14025:2010 Environmental labels and declarations. Type III environmental declarations.**
- **EN 15804:2012+A2:2019 Sustainability of construction works. Environmental product declarations. Core rules for the product category of construction products.**
- **General Programme Instructions for the International EPD® System v.3.01.**
- **PCR 2019:14 Construction products v1.11.**
- **UN CPC Code: 35499: Other chemical products.**

Issued date / Fecha de emisión:	29/07/2021
Update date / Fecha de actualización:	29/07/2021
Valid until / Válido hasta:	26/07/2026
Serial Nº / Nº Serie:	EPD0540100-E



Carlos Nazabal Alsua  
Manager

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