

# Environmental Data Sheet | Self-declaration

Self-declaration based on Environdec c-PCR-003 Concrete and concrete elements (EN 16757)

## Betonsa C 30/37

Manufacturer:	Akcansa, TR, +90, All Cities (TR)
Declared unit:	m <sup>3</sup>
Product identification:	Betonsa C 30/37, C 30/37
Production site(s):	Betonsa RMC Plants
Compressive strength:	37
Density:	2,363 kg/m <sup>3</sup> e
Reference service life:	50 years
Recycling rate at EoL:	0%
Scope:	A1-A3, cradle-to-gate
Methodology:	GCCA's Industry EPD Tool for Cement and Concrete (V3.2), International version
Date of issue:	2023-04-07 09:05
Comment:	

This document is NOT a verified EPD but a self-declaration in EPD format. All information about goal and scope necessary for results interpretation by the EPD verifier are present in the latest version of the "LCA Model" report, available in GCCA's Industry EPD Tool. Materials incorporated to the product and packaging materials available in the tool are pre-defined. For a given material, for instance, the share of primary versus secondary cannot be specified. Any give material is either 'primary' or 'secondary, product' or 'secondary, co-product' or 'secondary, waste'. The indicator 'Use of secondary materials' is computed as 'secondary materials, product' + 'secondary, co-product' + 'secondary, waste'. 'Secondary materials, waste' coming into the system are considered as a waste stream and are accepted as such. Therefore, no impact from the former life is considered. 'Secondary materials, product' and 'secondary materials, co-products' however inherit the impact of pre-processing (processing from 'end-of-waste' state to 'fit-for-use' state), consistently with the requirements of EN15804. The PCR requires that the biogenic carbon content of the product and packaging should be reported in an EPD. It is mandatory when the biogenic carbon content exceeds 5% wt. (product or packaging). The latter is calculated and reported in the tool based on the default biogenic carbon content of input materials and is taken into account in the calculation of the GWP-bio indicator as per the requirements of the PCR. **It is the responsibility of the EPD owner to report the biogenic content of the product and packaging in the EPD.** The removals and emissions associated with biogenic carbon content of the product and packaging are taken into consideration in the calculation of the GWP-bio indicator, as per the PCR. The uptake of CO<sub>2</sub> in A1-A3 (e.g. bio-based insulation materials in precast elements or bio-based packaging materials) and reemission in A5 (packaging end-of-life) or C3-C4 (product end-of-life). The tool does not calculate the 'Radioactive waste disposed' indicator. This is due to the absence of any readily available data in LCA databases for the corresponding indicator. The latter is considered not to be significant for the sector. The 'Water deprivation potential' (WDP) indicator is characterised according to global characterization factors and not local ones.

The following hypotheses apply to waste streams at the end-of-life: 1) The only materials sent to recycling are the concrete itself and the reinforcement steel when applicable. Other materials (e.g. insulation, void formers) are considered to be landfilled. We assume the recycled materials are actually recycled and accounted for as recycled material. 2) The only credit in module D therefore applies to the recycling of concrete at the end of life and the recycling of reinforcing steel at the end of life. This methodological choice is consistent with the reality of the cement and concrete industry.

No allocation is applied in the GCCA tool. For instance, no allocation of impacts will be applied to excess electricity or excess heat which may result from the production of concrete or precast. Such situations are considered to be marginal and negligible when they take place.

**The limitations and non-conformities above should be explicitly stated in any EPD report when applicable.**

# Environmental Data Sheet | Self-declaration

Self-declaration based on Environdec c-PCR-003 Concrete and concrete elements (EN 16757)

**Betonsa C 30/37**

## Core environmental impact indicators

		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG	kg CO <sub>2</sub> eq.	3.07E2 **	4.29E0	1.79E1	-1.67E0	-	-	-	-	-	-	8.99E0	9.05E0	0E0	-6.77E0	0E0
GWP-tot	kg CO <sub>2</sub> eq.	3.07E2 *	4.29E0	1.79E1	-1.67E0	-	-	-	-	-	-	8.99E0	9.05E0	0E0	-6.77E0	0E0
GWP-fos	kg CO <sub>2</sub> eq.	3.07E2	4.29E0	1.79E1	-1.67E0	-	-	-	-	-	-	8.99E0	9.03E0	0E0	-6.79E0	0E0
GWP-bio	kg CO <sub>2</sub> eq.	2.04E-2	1.68E-3	4.72E-3	0E0	-	-	-	-	-	-	1.6E-3	6.46E-3	0E0	8.58E-3	0E0
GWP-luc	kg CO <sub>2</sub> eq.	4.35E-2	1.45E-3	4.51E-3	0E0	-	-	-	-	-	-	1.13E-3	5.25E-3	0E0	6.97E-3	0E0
ODP	kg CFC 11 eq.	8.33E-6	8.18E-7	1.65E-6	0E0	-	-	-	-	-	-	1.62E-6	1.52E-6	0E0	4.23E-6	0E0
AP	mol H+ eq.	1.13E0	2.22E-2	1.22E-1	0E0	-	-	-	-	-	-	9.42E-2	5.46E-2	0E0	1.24E-1	0E0
EP-fw	kg P eq.	5.78E-2	3.19E-4	3.52E-3	0E0	-	-	-	-	-	-	4.02E-4	1.21E-3	0E0	1.52E-3	0E0
EP-mar	kg N eq.	3.69E-3	2.78E-5	7.8E-4	0E0	-	-	-	-	-	-	3.34E-5	8.92E-5	0E0	1.43E-4	0E0
EP-ter	mol N eq.	2.64E0	7.94E-2	4.13E-1	0E0	-	-	-	-	-	-	4.44E-1	1.92E-1	0E0	4.45E-1	0E0
POCP	kg NMVOC eq.	6.39E-1	2.39E-2	1.12E-1	0E0	-	-	-	-	-	-	1.22E-1	5.62E-2	0E0	1.31E-1	0E0
ADPE	kg Sb eq.	1.25E-4	7.99E-6	1.01E-5	0E0	-	-	-	-	-	-	2.66E-6	1.59E-5	0E0	1.41E-5	0E0
ADPF	MJ, net calorific value	1.79E3	6.75E1	1.86E2	0E0	-	-	-	-	-	-	1.3E2	1.35E2	0E0	3.61E2	0E0
WDP	m <sup>3</sup> world eq. deprived	1.52E2	4.98E-1	2.95E0	0E0	-	-	-	-	-	-	7.67E-1	1.17E0	0E0	1.74E1	0E0

\* The indicated values (net values) do not include the greenhouse gas emissions from the incineration of secondary fuels at clinker production. The gross GWP-tot (including the emissions from the incineration of secondary fuels at clinker production) is 3.11E2 kg CO<sub>2</sub>-eq. The gross GWP-fos is 3.11E2 kg CO<sub>2</sub>-eq. The gross GWP-bio is 5.61E-2 kg CO<sub>2</sub>-eq.

\*\* The indicated values (net values) do not include the greenhouse gas emissions from the incineration of secondary fuels at clinker production. The gross GWP-GHG (including the emissions from the incineration of secondary fuels at clinker production) is 3.11E2 kg CO<sub>2</sub>-eq.

It should be noted that the net/gross differentiation applies to GWP indicators only and is ignored for other indicators where gross is applied by default.

---

Core environmental impact indicators      **GWP-GHG** (Global Warming Potential, GHG) • **GWP-tot** (Global Warming Potential, total) • **GWP-fos** (Global Warming Potential, fossil fuels) • **GWP-bio** (Global Warming Potential, biogenic) • **GWP-luc** (Global Warming Potential, land use and land use change) • **ODP** (Depletion potential of the stratospheric ozone layer) • **AP** (Acidification potential, Accumulated Exceedance) • **EP-fw** (Eutrophication potential, fraction of nutrients reaching freshwater end compartment) • **EP-mar** (Eutrophication potential, fraction of nutrients reaching marine end compartment) • **EP-ter** (Eutrophication potential, Accumulated Exceedance) • **POCP** (Formation potential of tropospheric ozone) • **ADPE** (Abiotic depletion potential for non- fossil resources) • **ADPF** (Abiotic depletion potential for fossil resources potential) • **WDP** (Water (user) deprivation potential, deprivation-weighted water consumption)

---

# Environmental Data Sheet | Self-declaration

Self-declaration based on Environdec c-PCR-003 Concrete and concrete elements (EN 16757)  
**Betonsa C 30/37**

## Additional environmental impact indicators

		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PM	Disease incidence	9.1E-6	3.95E-7	1.97E-6	0E0	-	-	-	-	-	-	2.44E-6	8.43E-7	0E0	2.32E-6	0E0
IRP	kBq U235 eq.	4.38E3	3.56E2	7.43E2	0E0	-	-	-	-	-	-	6.08E2	7.73E2	0E0	1.67E3	0E0
ETP	CTUe	7.99E1	1.43E1	7.13E0	0E0	-	-	-	-	-	-	1.76E0	2.37E1	0E0	6.81E0	0E0
HTPC	CTUh	8.02E-7	2.75E-8	2.11E-7	0E0	-	-	-	-	-	-	6.36E-8	1.03E-7	0E0	1.13E-7	0E0
HTPNC	CTUh	1.91E-5	7.66E-7	1.42E-6	0E0	-	-	-	-	-	-	2.46E-7	1.41E-6	0E0	7.25E-7	0E0
SQP	dimensionless	1.06E3	1.2E2	8.67E1	0E0	-	-	-	-	-	-	7.71E0	2.2E2	0E0	6.73E2	0E0

---

Additional environmental impact indicators **PM** (Potential incidence of disease due to PM emissions) • **IRP** (Potential Human exposure efficiency relative to U235) • **ETP** (Potential Comparative Toxic Unit for ecosystems) • **HTPC** (Potential Comparative Toxic Unit for humans - cancer) • **HTPNC** (Potential Comparative Toxic Unit for humans - non-cancer) • **SQP** (Potential soil quality index)

---

# Environmental Data Sheet | Self-declaration

Self-declaration based on Environdec c-PCR-003 Concrete and concrete elements (EN 16757)

**Betonsa C 30/37**

## Parameters describing resource use

		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ, net calorific value	6.97E1	1.95E0	7.45E0	0E0	-	-	-	-	-	-	7.59E-1	4.93E0	0E0	9.37E0	0E0
PERM	MJ, net calorific value	0E0	0E0	0E0	0E0	-	-	-	-	-	-	0E0	0E0	0E0	0E0	0E0
PERT	MJ, net calorific value	6.97E1	1.95E0	7.45E0	0E0	-	-	-	-	-	-	7.59E-1	4.93E0	0E0	9.37E0	0E0
PENRE	MJ, net calorific value	1.79E3	6.75E1	1.86E2	0E0	-	-	-	-	-	-	1.3E2	1.35E2	0E0	3.61E2	0E0
PENRM	MJ, net calorific value	0E0	0E0	0E0	0E0	-	-	-	-	-	-	0E0	0E0	0E0	0E0	0E0
PENRT	MJ, net calorific value	1.79E3	6.75E1	1.86E2	0E0	-	-	-	-	-	-	1.3E2	1.35E2	0E0	3.61E2	0E0
SM	kg	7.93E1	0E0	2.38E0	0E0	-	-	-	-	-	-	0E0	0E0	0E0	0E0	0E0
RSF	MJ, net calorific value	5.08E1	0E0	1.52E0	0E0	-	-	-	-	-	-	0E0	0E0	0E0	0E0	0E0
NRSF	MJ, net calorific value	4.51E1	0E0	1.35E0	0E0	-	-	-	-	-	-	0E0	0E0	0E0	0E0	0E0
NFW	m <sup>3</sup>	3.57E0	1.49E-2	2.15E-1	0E0	-	-	-	-	-	-	1.99E-2	3.61E-2	0E0	4.06E-1	0E0

Parameters describing resource use **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) • **SM** (Use of secondary materials) • **RSF** (Use of renewable secondary fuels) • **NRSF** (Use of non-renewable secondary fuels) • **NFW** (Net use of fresh water)

## Other environmental information describing waste categories

		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
HWD	kg	0E0	0E0	0E0	0E0	-	-	-	-	-	-	0E0	0E0	0E0	0E0	0E0
NHWD	kg	1.7E1	0E0	7.13E1	0E0	-	-	-	-	-	-	0E0	0E0	0E0	2.36E3	0E0
RWD	kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Waste categories **HWD** (Hazardous waste disposed) • **NHWD** (Non-hazardous waste disposed) • **RWD** (Radioactive waste disposed)

# Environmental Data Sheet | Self-declaration

Self-declaration based on Environdec c-PCR-003 Concrete and concrete elements (EN 16757)  
**Betonsa C 30/37**

## Environmental information describing output flows

		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
CRU	kg	0E0	0E0	0E0	0E0	-	-	-	-	-	-	0E0	0E0	0E0	0E0	0E0
MFR	kg	0E0	0E0	0E0	0E0	-	-	-	-	-	-	0E0	0E0	0E0	0E0	0E0
MER	kg	0E0	0E0	0E0	0E0	-	-	-	-	-	-	0E0	0E0	0E0	0E0	0E0
EE	MJ per energy carrier	0E0	0E0	0E0	0E0	-	-	-	-	-	-	0E0	0E0	0E0	0E0	0E0

Output flows **CRU** (Components for re-use) • **MFR** (Materials for recycling) • **MER** (Materials for energy recovery) • **EE** (Exported energy)

## Extra indicators

		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
CC	kg CO <sub>2</sub> eq.	1.3E2	0E0	3.25E0	-1.67E0	-	-	-	-	-	-	0E0	0E0	0E0	-1.97E1	0E0
CWRS	kg CO <sub>2</sub> eq.	3.56E-2	0E0	1.07E-3	0E0	-	-	-	-	-	-	0E0	0E0	0E0	0E0	0E0
CWNRS	kg CO <sub>2</sub> eq.	4.58E0	0E0	1.37E-1	0E0	-	-	-	-	-	-	0E0	0E0	0E0	0E0	0E0
GWP-prod	kg CO <sub>2</sub>	0E0	0E0	0E0	0E0	-	-	-	-	-	-	0E0	0E0	0E0	0E0	0E0
GWP-pack	kg CO <sub>2</sub>	0E0	0E0	0E0	0E0	-	-	-	-	-	-	0E0	0E0	0E0	0E0	0E0

Extra indicators **CC** (Emissions from calcination and removals from carbonation) • **CWRS** (Emissions from combustion of secondary fuels from renewable sources used in production processes) • **CWNRS** (Emissions from combustion of secondary fuels from non-renewable sources used in production processes) • **GWP-prod** (Removals and emissions associated with biogenic carbon content of the bio-based product) • **GWP-pack** (Removals and emissions associated with biogenic carbon content of the bio-based packaging)