

# ENVIRONMENTAL PRODUCT DECLARATION

as per ISO 14025 and EN 15804+A2

Owner of the Declaration	ICCONS Pty Ltd
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-ICC-20250638-CBA1-EN
Issue date	15.10.2025
Valid to	13.09.2028

## ICCONS Pure Epoxy BIS-PE GEN3 ICCONS Pty Ltd

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## General Information

### ICCONS Pty Ltd

#### Programme holder

IBU – Institut Bauen und Umwelt e.V.  
Hegelplatz 1  
10117 Berlin  
Germany

#### Declaration number

EPD-ICC-20250638-CBA1-EN

#### This declaration is based on the product category rules:

Reaction resin products, 01.08.2021  
(PCR checked and approved by the SVR)

#### Issue date

15.10.2025

#### Valid to

13.09.2028



Dipl.-Ing. Hans Peters  
(Chairman of Institut Bauen und Umwelt e.V.)



Florian Pronold  
(Managing Director Institut Bauen und Umwelt e.V.)

### ICCONS Pure Epoxy BIS-PE GEN3

#### Owner of the declaration

ICCONS Pty Ltd  
Frankston Dandenong Road 383  
3175 Dandenong South  
Australia

#### Declared product / declared unit

The declared product is the two-component reaction resin mortar "ICCONS Pure Epoxy BIS-PE GEN3", manufactured by ICCONS Pty Ltd. The declared unit is based on 1 kg reaction resin product in the ratio at which the two components must be mixed before use. The packaging is also included in the calculation, since the product is sold by ICCONS Pty Ltd with its packaging. The declared unit is indicated in [kg].

#### Scope:

This document covers the two-component reaction resin mortar "ICCONS Pure Epoxy BIS-PE GEN3". To prepare the life cycle assessment [LCA], specific data were collected from the ICCONS Pty Ltd manufacturing facility. The assessment is based on data from 2020 which correspond to the yearly average. The owner of the declaration shall be liable for the underlying information and evidence; the IBU shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

The EPD was created according to the specifications of EN 15804+A2. In the following, the standard will be simplified as *EN 15804*.

#### Verification

The standard EN 15804 serves as the core PCR	
Independent verification of the declaration and data according to ISO 14025:2011	
<input type="checkbox"/>	internally
<input checked="" type="checkbox"/>	externally



Angela Schindler,  
(Independent verifier)

## Product

### Product description/Product definition

The declared product ICCONS Pure Epoxy BIS-PE GEN3 is a two-component reaction resin mortar based on epoxy resin that is delivered in a two-component plastic cartridge. The high-performance product is applied through a static mixer using a manual, battery-operated or pneumatic gun. It was specially developed for use in securing threaded rods, rebar or internally threaded sleeves in concrete.

Marketing of the product in the EU/EFTA (except for Switzerland) is governed by *Regulation (EU) No. 305/2011 (CPR)*. The product requires a Declaration of Performance subject to *ETA-25/0454*, *ETA-25/0455* and *ETA-25/0653* and CE marking.

### Application

The ICCONS Pure Epoxy BIS-PE GEN3 injection system is used to safely secure threaded rods, internally threaded sleeves and post-mortared rebar connections in cracked and uncracked C20/25 to C50/60 concrete for a useful life of up to 100 years, and is suitable for installation in hammer-drilled (standard SDS and hollow bit) and diamond-drilled holes at environmental temperatures between 0°C and 40°C. The ICCONS Pure Epoxy BIS-PE GEN3 system has ETA assessments and ICC certifications, including seismic category C1 and C2 for anchoring from M8 to M30 and for rebar connections including seismic conditions from 8mm to 40mm, and can be rated for fire conditions.

### Technical Data

The following structural properties are relevant for the declared product ICCONS Pure Epoxy BIS-PE GEN3 as delivered:

#### Construction Data

Name	Value	Unit
Density acc. to DIN 51757 for mixing the two components	1.4	g/cm <sup>3</sup>
Compressive strength acc. to DIN EN 196 Part 1	121.8	N/mm <sup>2</sup>
Flexural strength acc. to DIN EN 196 Part 1	66	N/mm <sup>2</sup>

#### Storage:

Store in a cool, dry and dark place; storage temperature: +5°C to +35°C

#### Shelf life:

24 months in cartridge systems

#### Gel and working time:

0°C 90 min.  
 + 5°C 80 min.  
 + 10°C 60 min.  
 + 15°C 40 min.  
 + 20°C 30 min.  
 + 25°C 12 min.  
 + 35°C 8 min.  
 + 40 °C 8 min.

#### Curing time in dry substrate:

0°C 8640 min.

+ 5°C 2880 min.  
 + 10°C 1680 min.  
 + 15°C 1080 min.  
 + 20°C 720 min.  
 + 25°C 540 min.  
 + 35°C 360 min.  
 + 40°C 240 min.

For more information, please refer to the relevant technical data sheet.

Product performance values in accordance with the Declaration of Performance with regard to its principal characteristics according to *ETA-25/0454*, *ETA-25/0455* and *ETA-25/0653*.

### Base materials/Ancillary materials

The declared product ICCONS Pure Epoxy BIS-PE GEN3 is delivered as a two-component plastic cartridge and consists of a resin component and a curing agent component in a 3:1 volume ratio. The mixing ratio between the resin component and the curing agent component is set automatically as the product is pushed out of the cartridge. Curing begins immediately after the components are mixed.

- "This product/article/at least one partial article contains substances in the ECHA candidate list of substances of very high concern (SVHC) (17 January 2023) above a concentration of 0.1% by mass: no."
- "This product/article/at least one partial article contains other CMR substances in categories 1A or 1B which are not on the candidate list, exceeding 0.1 percentage by mass: no"
- "Biocide products were added to this construction product or it has been treated with biocide products (this then concerns a treated product as defined by the (EU) Regulation on Biocidal Products No. 528/2012): no"

The product considered in this EPD contains individual components in the following ranges:

#### Resin component:

Epoxy resin: 40 to 75% by weight  
 Mineral fillers: 30 to 40% by weight  
 Other components: < 5% by weight

#### Curing agent component:

Various polyamines: 40 to 50% by weight  
 Mineral fillers: 30 to 50% by weight  
 Other components: < 5% by weight

### Reference service life

The declared product ICCONS Pure Epoxy BIS-PE GEN3 may be exposed to a wide range of environmental conditions during the use phase. Its expected reference service life depends on the specific installation situation and on the product's resulting exposure. The main factors influencing service life are weather conditions and mechanical and chemical stresses.

## LCA: Calculation rules

### Declared Unit

The product declared is a two-component reaction resin mortar manufactured by ICCONS Pty Ltd with the product name

ICCONS Pure Epoxy BIS-PE GEN3. The declared unit is based on 1 kg reaction resin product in the ratio at which the two components must be mixed before use. The mass mixing ratio between the resin component and the curing agent component

is 4:1 (volume ratio 3:1). The packaging is also included in the calculation at 0.1435 kg per 1 kg of reaction resin product. The declared unit data are presented in the table below:

**Declared unit data**

Name	Value	Unit
Declared unit	1	kg
gross density	1500	kg/m <sup>3</sup>

**System boundary**

Type of EPD: Cradle to factory gate with options. The following information modules are defined as system boundaries in this study:

Production stage (A1–A3):

- A1, Raw material extraction,
- A2, Transport to the manufacturer,
- A3, Manufacturing.

End of life (C1-C4):

- C1, Deconstruction/demolition,
- C2, Transport,
- C3, Waste processing,
- C4, Disposal.

Reuse, recovery and recycling potential (D)

To precisely determine the indicators and environmental impacts of the declared unit, a total of 8 information modules are considered. The information modules A1 to A3 describe the material provision, the transport to the production site, as well as the production processes of the product itself.

The precursor products are sourced from Germany. Transport is exclusively done by truck. The following process diagrams illustrate the underlying production process.

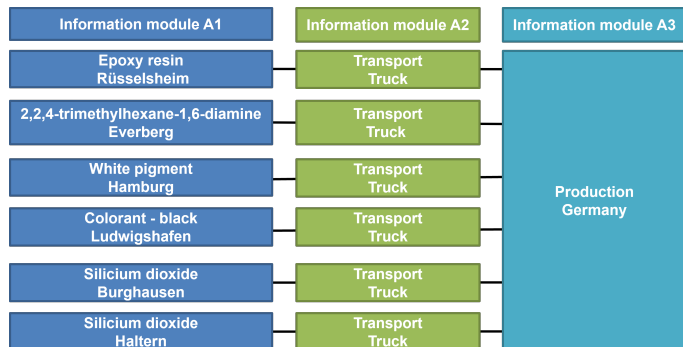


Figure 1 Information modules A1 to A3 of the product

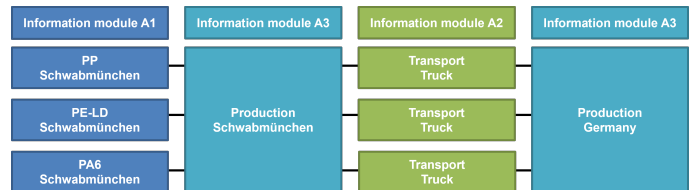


Figure 2 Information modules A1 to A3 of the packaging

Information modules C1 to C4 document deconstruction/demolition for removal from the building, transport to waste disposal, waste processing and product disposal. Reuse, recovery and recycling potential are documented in information module D.

**Geographic Representativeness**

Land or region, in which the declared product system is manufactured, used or handled at the end of the product’s lifespan: Germany

**Comparability**

Basically, a comparison or an evaluation of EPD data is only possible if all the data sets to be compared were created according to EN 15804 and the building context, respectively the product-specific characteristics of performance, are taken into account.

The background datasets from the LCA for Experts and ecoinvent 3.9.1 databases, which this study also draws on, are documented at the following site (Sphera). 2023.1 <http://www.gabi-software.com/deutsch/index/> (ecoinvent 3.9.1). <http://ecoquery.ecoinvent.org/3.9.1/cutoff/search>

**LCA: Scenarios and additional technical information**

**Characteristic product properties of biogenic carbon**

No renewable raw materials are used in the product or the packaging. The biogenic carbon value is therefore reported as zero.

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

**Packaging per declared unit**

Name	Value	Unit
Packaging PP	0.1188	kg
Packaging PA6	0.0082	kg
Packaging PE-LD	0.0165	kg

**End of Life (C1–C4)**

The product is demolished by using an electric chisel. The electrical energy consumption for this tool is estimated at 0.05 MJ for the declared unit. The power consumption is calculated using a European energy mix. Construction waste is transported 200 km by truck to a waste treatment facility. At the waste treatment facility, the construction waste is shredded and then disposed in a landfill.

Name	Value	Unit
Collected as mixed construction waste	1	kg
Shredding	1	kg
Disposal in landfill	1	kg

**Reuse, recovery and recycling potential (D), relevant scenario specifications**

The product has no reuse, recovery or recycling potential. Information module D is therefore declared and reported as zero.

Name	Value	Unit
Reuse, recovery and recycling potential	0	kg

## LCA: Results

The results in this calculation refer to the characterisation factors EN 15840+A2/EF 3.1.

**DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; MND = MODULE OR INDICATOR NOT DECLARED; MNR = MODULE NOT RELEVANT)**

Product stage			Construction process stage		Use stage							End of life stage				Benefits and loads beyond the system boundaries
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	MND	MND	MND	MND	MNR	MNR	MNR	MND	MND	X	X	X	X	X

### RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A2: 1 kg ICCONS Pure Epoxy BIS-PE GEN3

Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Global Warming Potential total (GWP-total)	kg CO <sub>2</sub> eq	4.1E+00	4.58E-03	1.75E-02	2.58E-03	1.46E-02	0
Global Warming Potential fossil fuels (GWP-fossil)	kg CO <sub>2</sub> eq	3.97E+00	4.53E-03	1.73E-02	2.56E-03	1.46E-02	0
Global Warming Potential biogenic (GWP-biogenic)	kg CO <sub>2</sub> eq	1.26E-01	4.91E-05	0	0	0	0
Global Warming Potential luluc (GWP-luluc)	kg CO <sub>2</sub> eq	8.91E-04	4.87E-07	1.58E-04	1.92E-05	4.53E-05	0
Depletion potential of the stratospheric ozone layer (ODP)	kg CFC11 eq	2.19E-10	8.27E-14	1.49E-15	4.28E-15	3.71E-14	0
Acidification potential of land and water (AP)	mol H <sup>+</sup> eq	5.13E-03	9.57E-06	6.48E-05	1.34E-05	1.03E-04	0
Eutrophication potential aquatic freshwater (EP-freshwater)	kg P eq	2.24E-05	1.67E-08	6.21E-08	8.71E-09	2.93E-08	0
Eutrophication potential aquatic marine (EP-marine)	kg N eq	1.76E-03	2.29E-06	3.03E-05	6.13E-06	2.67E-05	0
Eutrophication potential terrestrial (EP-terrestrial)	mol N eq	1.89E-02	2.39E-05	3.39E-04	6.77E-05	2.94E-04	0
Formation potential of tropospheric ozone photochemical oxidants (POCP)	kg NMVOC eq	5.94E-03	6.11E-06	5.84E-05	1.66E-05	8.06E-05	0
Abiotic depletion potential for non fossil resources (ADPE)	kg Sb eq	2.08E-07	6.95E-10	1.1E-09	2.74E-09	6.72E-10	0
Abiotic depletion potential for fossil resources (ADPF)	MJ	8.8E+01	9.43E-02	2.32E-01	5.04E-02	1.94E-01	0
Water use (WDP)	m <sup>3</sup> world eq deprived	1.21E-01	9.98E-04	1.96E-04	4.98E-04	1.6E-03	0

### RESULTS OF THE LCA - INDICATORS TO DESCRIBE RESOURCE USE according to EN 15804+A2: 1 kg ICCONS Pure Epoxy BIS-PE GEN3

Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Renewable primary energy as energy carrier (PERE)	MJ	8.76E+00	5.64E-02	1.64E-02	4.68E-03	3.16E-02	0
Renewable primary energy resources as material utilization (PERM)	MJ	0	0	0	0	0	0
Total use of renewable primary energy resources (PERT)	MJ	8.76E+00	5.64E-02	1.64E-02	4.68E-03	3.16E-02	0
Non renewable primary energy as energy carrier (PENRE)	MJ	6.69E+01	9.43E-02	2.32E-01	5.05E-02	1.94E-01	0
Non renewable primary energy as material utilization (PENRM)	MJ	2.11E+01	0	0	0	0	0
Total use of non renewable primary energy resources (PENRT)	MJ	8.81E+01	9.43E-02	2.32E-01	5.05E-02	1.94E-01	0
Use of secondary material (SM)	kg	0	0	0	0	0	0
Use of renewable secondary fuels (RSF)	MJ	0	0	0	0	0	0
Use of non renewable secondary fuels (NRSF)	MJ	0	0	0	0	0	0
Use of net fresh water (FW)	m <sup>3</sup>	1.18E-02	4.55E-05	1.81E-05	1.44E-05	4.9E-05	0

### RESULTS OF THE LCA – WASTE CATEGORIES AND OUTPUT FLOWS according to EN 15804+A2: 1 kg ICCONS Pure Epoxy BIS-PE GEN3

Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed (HWD)	kg	7.4E-09	7.38E-12	8.59E-13	1.31E-13	4.23E-12	0
Non hazardous waste disposed (NHWD)	kg	6.94E-02	6.91E-05	3.35E-05	1.33E-05	9.71E-01	0
Radioactive waste disposed (RWD)	kg	1.31E-03	1.5E-05	3E-07	6.77E-07	2.21E-06	0
Components for re-use (CRU)	kg	0	0	0	0	0	0
Materials for recycling (MFR)	kg	0	0	0	0	0	0
Materials for energy recovery (MER)	kg	0	0	0	0	0	0
Exported electrical energy (EEE)	MJ	0	0	0	0	0	0
Exported thermal energy (EET)	MJ	0	0	0	0	0	0

### RESULTS OF THE LCA – additional impact categories according to EN 15804+A2-optional: 1 kg ICCONS Pure Epoxy BIS-PE GEN3

Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Incidence of disease due to PM emissions (PM)	Disease incidence	ND	ND	ND	ND	ND	ND
Human exposure efficiency relative to U235 (IR)	kBq U235 eq	ND	ND	ND	ND	ND	ND
Comparative toxic unit for ecosystems (ETP-fw)	CTUe	ND	ND	ND	ND	ND	ND

Comparative toxic unit for humans (carcinogenic) (HTP-c)	CTUh	ND	ND	ND	ND	ND	ND
Comparative toxic unit for humans (noncarcinogenic) (HTP-nc)	CTUh	ND	ND	ND	ND	ND	ND
Soil quality index (SQP)	SQP	ND	ND	ND	ND	ND	ND

Disclaimer 2 - applies to the following indicators: 'Abiotic shortage potential - non-fossil resources', 'Abiotic shortage potential - fossil fuels', 'Water deprivation potential (users)', 'Potential comparative toxic unit for ecosystems', 'Potential comparative toxic unit for human health - carcinogenic effects', 'Potential comparative toxic unit for human health - non-carcinogenic effects', 'Potential soil quality index'. The results of this environmental impact indicator shall be used with care, as the uncertainties of the results are high and as there is limited experience with the indicator.

## References

### DIN 51757

DIN 51757:2011-01 Testing of mineral oils and related materials - Determination of density.

### EN 196

DIN EN 196-1:2016-11 Methods of testing cement - Part 1: Determination of strength.

### EN 15804

EN 15804+A2:2019+AC:2021, Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products.

### EN/TR 15941

CEN/TR 15941:2010-03: Sustainability of construction works - Environmental product declarations - Methodology for selection and use of generic data

### ISO 14025

DIN EN ISO 14025:2011-10, Environmental labels and declarations - Type III environmental declarations - Principles and procedures.

### ISO 14044

DIN EN ISO 14044:2006-10, Environmental management - Life cycle assessment - Requirements and guidelines.

### Further references

#### ECHA candidates list

<https://echa.europa.eu/de/candidate-list-substances-in-articles>

#### ECHA list

<https://echa.europa.eu/de/candidate-list-table>

#### ecoinvent 3.9.1

Background database: ecoinvent 3.9.1 Ziirich: ecoinvent (Ed.) <http://www.ecoinvent.org> (26 May 2023)

#### ETA-25/0454

European Technical Assessment

#### ETA-25/0455

European Technical Assessment

#### ETA-25/0653

European Technical Assessment

#### IBU 2021

Institut Bauen und Umwelt e.V.: General guidance for the EPD programme of the Institut Bauen und Umwelt e.V., Version 2.0, Berlin: Institut Bauen und Umwelt e.V., 2021. [www.ibu-epd.com](http://www.ibu-epd.com)

#### PCR Part A

Product Category Rules for Building-Related Products and Services - Calculation Rules for Life Cycle Assessment and Requirements on the Project Report V1.3, Institut Bauen und Umwelt e.V., 08.2022

#### PCR: Reaction resin products

Guidance-Texts for Building-Related Products and Services- PART B: Requirements on the Environmental Product Declarations for Reaction Resin Products, 1 August 2021

#### Sphera

LCA for Experts: 2023.1 Leinfelden-Echterdingen; Sphera Solution GmbH (Ed.) <http://www.gabi-software.com/deutsch/index/> (26 May 2023)

#### Regulation (EU) No. 305/2011 (CPR)

#### Regulation (EU) No. 528/2012 (Biocidal Products Regulation)

**Publisher**

Institut Bauen und Umwelt e.V.  
Hegelplatz 1  
10117 Berlin  
Germany

+49 (0)30 3087748- 0  
info@ibu-epd.com  
www.ibu-epd.com

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**Programme holder**

Institut Bauen und Umwelt e.V.  
Hegelplatz 1  
10117 Berlin  
Germany

+49 (0)30 3087748- 0  
info@ibu-epd.com  
www.ibu-epd.com

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**Author of the Life Cycle Assessment**

FIT-Umwelttechnik GmbH  
Westerstr. 13  
38442 Wolfsburg  
Germany

05362 72 69 474  
bertram@fit-umwelttechnik.de  
www.fit-umwelttechnik.com

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**Owner of the Declaration**

ICCONS Pty Ltd  
Frankston Dandenong Road 383  
3175 Dandenong South  
Australia

+ 61 3 9706 4344  
info@iccons.com.au  
www.iccons.com.au