

ENVIRONMENTAL PRODUCT DECLARATION TYPE III ITB NO. 952/2026
ISSUANCE DATE: 14.04.2026 | VALIDATION DATE: 06.05.2026 | INVALIDITY DATE: 14.04.2031

WATERSTOP-RX, BENTOSEAL & WATERSTOPPAGE

ACCESSORIES



Owner of the EPD

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ITB is the verified member of
The European Platform
for EPD program
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MANUFACTURER

CETCO-Poland, Cetco Sp. z o.o. S.K.A. is an enterprise based in Poland. Its headquarters is located in Korpele. The enterprise operates in the Abrasive Product Manufacturing industry. It was first established on June 01, 2010. CETCO is an international company belonging to the AMCOL International corporation, established in 1927.

BASIC INFORMATION

This declaration is the type III Environmental Product Declaration (EPD) based on PN-EN 15804+A2 and verified according to ISO 14025 by an external auditor. It contains the information on the impacts of the declared construction materials on the environment. Their aspects were verified by the independent body according to ISO 14025. Basically, a comparison or evaluation of EPD data is possible only if all the compared data were created according to PN-EN 15804 (see point 5.3 of the standard).

Life cycle analysis (LCA):

A1-A4 and C1-C4 +D according to PN-EN 15804+A2(Cradle to Gate with options)

The year of preparing the EPD:

2026

Product standard:

ITB-KOT-2019/1174

Service Life:

25 years for standard products

PCR:

ITB-PCR A (PCR based on PN-EN 15804)

Declared unit:

1 kg

Reasons for performing LCA:

B2B

Origin:

Polish product



PRODUCTS DESCRIPTION AND APPLICATION

WATERSTOP-RX is a hydrophilic insulating bentonite based tape designed for sealing technological breaks in concreting. The tape swells when in contact with water which creates an active barrier waterproof. **WATERSTOP-RX**® is available in two sizes: 25 x 20 mm (RX-101), 20 x 10 mm (RX-103).

Applications include both vertical, as well as horizontal technological breaks in concreting, new and existing concrete structures, irregular surfaces and installation transitions through walls, such as water and sewage pipes. The **WATERSTOP-RX** product can be used around penetrations, at palisades and around profile steel girders I-beam passing through the plate. The product works under conditions constant and transient hydrostatic pressure.

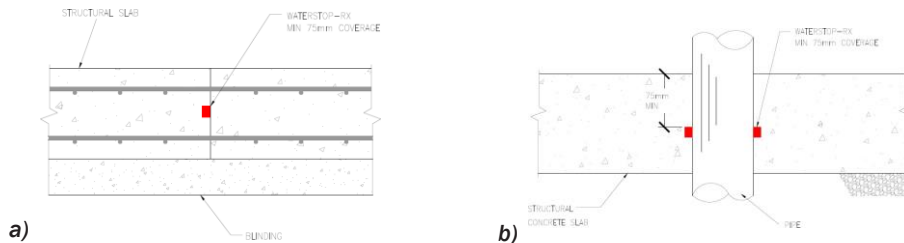


Fig. 1. Installation transitions in: a) monolithic elements and b) pipe cover

BENTOSEAL is a sealing compound based on sodium bentonite and rubber butyl, designed for preparation of surfaces and finishing works related to protection against water using selected waterproofing membranes CETCO. The **BENTOSEAL** product swells in contact with water, ensuring a seal preventing water penetration. Product **BENTOSEAL**, with the consistency of a thick grease, allows easy application and adheres to most substrates.

The **BENTOSEAL** product is intended for below ground level and is designed for the following applications:

- facets in horizontal and vertical corners,
- sealing at the joint around drainage pipes, culverts, curbs and window sills,
- sealing at the ends of waterproofing below ground level,
- supplementing or repairing concrete substrates before laying waterproofing membranes.

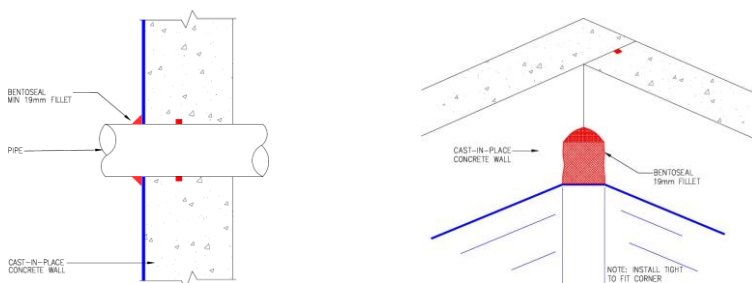


Fig. 2. Application of **BENTOSEAL** product.

WATERSTOPPAGE is chemically treated, granular sodium bentonite used as a detailing accessory product for CETCO Waterproofing Systems. When wetted, **WATERSTOPPAGE** forms into a dense, low permeable material that combines with the sodium bentonite in the waterproofing products to form a seamless waterproofing membrane. Mineralogical composition of **WATERSTOPPAGE** is a minimum 90% Montmorillonite with a maximum 10% native sediments and unaltered volcanic ash. Typical sieve analysis is 90% through a 20 mesh sieve and 10% through a 200 mesh sieve. Free swell rating of **WATERSTOPPAGE** is: two grams sifted into deionized water swells to occupy a minimum volume of 16 cc.

WATERSTOPPAGE is used to fill cavities and voids in the substrate prior to installing the main bentonite waterproofing course. It is also used to seal around slab penetrations to form a continuous waterproofing system. A fillet of **WaterstoppageE** can be poured at the footing/wall junction to provide additional waterproofing protection. A 1/8" (3 mm) thick layer of **WATERSTOPPAGE** is also applied to the top of tunnels and earth-covered roofs prior to the main waterproofing material course. **WATERSTOPPAGE** is not an expansion joint sealant.

LIFE CYCLE ASSESSMENT (LCA) – GENERAL RULES APPLIED

Allocation

The allocation rules used for this EPD are based on general ITB PCR A. Production of the Waterstop-RX, Bentoseal and Waterstoppage products is a line process in one factory of CETCO-Poland, Cetco Sp. zo.o. S.K.A. in Korpele (Poland). Allocation of environmental burdens was done on product mass basis. All impacts from raw materials extraction and processing were allocated in module A1 of the LCA. The packaging materials were included in the system boundaries. Impacts from the line production of CETCO-Poland, Cetco Sp. zo.o. S.K.A were inventoried and were allocated. Module A2 includes maritime transport of bentonite from the minigs sites to CETCO-Poland, Cetco Sp. zo.o. S.K.A. in Korpele as well as impacts associated with the transport of semi-products, additives, ancillary and packaging materials from their suppliers to the factory. Water consumption, generated wastes and emissions (including emissions resulting from the production of the electricity and consumption of energy resources) and were allocated to module A3.

System Limits

The life cycle analysis of the declared products covers “Product Stage”, A1-A4 and C1-C4 +D modules (Cradle to Gate with options) in accordance with PN-EN 15804+A2 and ITB PCR A. The details of the system limits are provided in the background report. Energy and water consumption, emissions to air, soil and water as well as information on generated wastes were inventoried and were included in the calculations. It can be assumed that the total sum of omitted processes does not exceed 5% of all impact categories. In accordance with PN-EN 15804+A2, machines and facilities (capital goods) required for and during production are excluded, as is transportation of employees.

A1 and A2 Modules: Raw materials supply and transport

Bentonite used in the analyzing period of 2014 originated from i.a. Turkish and Moroccan mining sites. Rubber, resins, polymers, additives, packaging and ancillary materials come from both local and foreign suppliers. Means of transport include trucks with load: <10t, 10 – 16t and >16 and ships with load 100-550t, 500 – 3000t and > 3000t. For calculation purposes Polish and European fuel averages are applied.

A3 Module: Production

The production process of the Waterstop-RX, Bentoseal and Waterstoppage by CETCO-Poland, Cetco Sp. zo.o. S.K.A. is presented in Fig. 3.

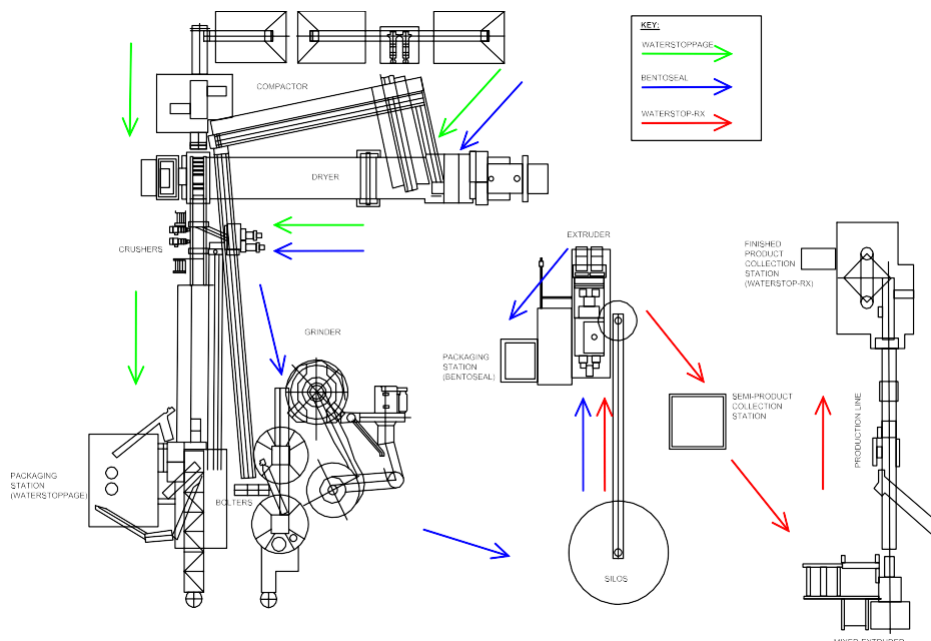


Fig. 3. A scheme of manufacturing of WATERSTOP-RX, BENTOSEAL AND WATERSTOPPAGE by CETCO-Poland, Cetco Sp. zo.o. S.K.A..

C1-C4 Modules : End-of-life (EoL)

The WATERSTOP-RX, BENTOSEAL and WATERSTOPPAGE products are intended to be used as overlap seams, terminations of CETCO geotextile waterproofing barriers, construction joints, pipe penetrations or filling of cavities and voids. In consequence, at the end-of-life the products can either remain under the ground or be forwarded to a landfill in the form of mixed construction wastes. In the proposed scenario 100% of the products undergo landfilling. Environmental burdens occurring in module C4 are associated with exchanges to process-specific burdens (energy, land use), emissions to air via landfill gas incineration and landfill leachate. Impacts of packaging materials were not taken into consideration.

LIFE CYCLE ASSESSMENT (LCA) – GENERAL RULES APPLIED

Data Collection Period

The data for manufacture of the declared products refer to a period between 01.01.2024– 31.12.2024 (1 year). The life cycle assessments were prepared for Poland as reference area.

Data Quality

The data selected for LCA originate from ITB-LCI questionnaires completed by manufacturer and verified during data audit. No data collected is older than five years and no generic datasets used are older than ten years. The representativeness, completeness, reliability, and consistency is judged as good. The background data for the processes come from the following resources database Ecoinvent v.3.11 (polymers, addons, rubber, bentoite, foils, textile, iron oxide). Specific (LCI) data quality analysis was a part of the input data verification. Where no background data was available, data gaps were complemented by manufacturer information and literature research.

Assumptions and Estimates

The impacts of the representative the Waterstop-RX, Bentoseal and Waterstoppage products were aggregated using weighted average. Impacts were inventoried and calculated for all the Waterstop-RX, Bentoseal and Waterstoppage products.

Calculation Rules

LCA was done in accordance with ITB PCR A document. LCA was performed using ITB-LCA tool developed in accordance with EN15804+A2. Emission of greenhouse gases was calculated using the IPCC GWP method with a 100-year horizon. Emission of acidifying substances, emission of substances to water contributing to oxygen depletion, emission of gases that contribute to the creation of ground-level ozone, abiotic depletion, and ozone depletion emissions where all calculated with the EF 3.1. method. No mass balance approach was used. Biogenic content less than 5%.

Additional information

Polish electricity mix used is 0.553 kg CO₂/kWh (KOBiZE 2024). European electricity mix used is 0.43 kg CO₂/kWh (Ecoinvent v3.11, RER). As a general rule, no particular environmental or health protection measures other than those specified by law are necessary.

Databases

The data for the processes come from the following databases: Ecoinvent v.3.11, specific EPDs, ITB-Data. Specific data quality analysis was a part of external audit.

LIFE CYCLE ASSESSMENT (LCA) – GENERAL RULES APPLIED

LIFE CYCLE ASSESSMENT (LCA) – RESULTS

Declared Unit

The declaration refers to declared unit (DU) – 1 kg of the WATERSTOP-RX, BENTOSEAL and WATERSTOPPAGE products manufactured by CETCO-Poland, Cetco Sp. zo.o. S.K.A.

Environmental Assessment Information

(MNA – Module not assessed, MD – Module Declared, INA – Indicator Not Assessed)

Product stage	Raw material supply	A1	MD
	Transport	A2	MD
	Manufacturing	A3	MD
Construction process	Transport to construction site	A4	MD
	Construction-installation process	A5	MNA
Use stage	Use	B1	MNA
	Maintenance	B2	MNA
	Repair	B3	MNA
	Replacement	B4	MNA
	Refurbishment	B5	MNA
	Operational energy use	B6	MNA
	Operational water use	B7	MNA
End of life	Deconstruction demolition	C1	MD
	Transport	C2	MD
	Waste processing	C3	MD
	Disposal	C4	MD
Benefits and loads beyond the system boundary	Reuse-recovery-recycling potential	D	MD

Table 1. System boundaries for the environmental characteristic the WATERSTOP-RX, BENTOSEAL and WATERSTOPPAGE products manufactured by CETCO-Poland, Cetco Sp. zo.o. S.K.A.

WATERSTOPPAGE

Table 4. Life cycle assessment (LCA) results for specific product – environmental impacts (DU: 1 kg)

Indicator	Unit	A1	A2	A3	A1-A3	A4	C1	C2	C3	C4	D
Consumption of renewable primary energy - excluding renewable primary energy sources used as raw materials	MJ	8.54E-01	1.77E-02	2.69E-02	8.99E-01	4.48E-03	1.69E-02	3.61E-03	1.80E-03	2.18E-03	-2.06E-02
Consumption of renewable primary energy resources used as raw materials	MJ	6.77E-01	0.00E+00	0.00E+00	6.77E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total consumption of renewable primary energy resources	MJ	1.65E+00	3.30E-02	2.70E-02	1.71E+00	4.48E-03	1.69E-02	3.61E-03	1.80E-03	2.18E-03	-2.06E-02
Consumption of non-renewable primary energy - excluding renewable primary energy sources used as raw materials	MJ	1.92E+01	6.43E-01	3.63E-01	2.02E+01	2.75E-01	2.29E-01	2.52E-01	1.26E-01	1.34E-01	-1.79E-01
Consumption of non-renewable primary energy resources used as raw materials	MJ	9.80E+00	0.00E+00	0.00E+00	9.80E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total consumption of non-renewable primary energy resources	MJ	3.30E+01	1.91E+00	4.15E-01	3.54E+01	2.75E-01	2.29E-01	2.52E-01	1.26E-01	1.34E-01	-1.79E-01
Consumption of secondary materials	kg	4.38E-03	3.38E-04	3.69E-05	4.75E-03	1.23E-04	2.09E-05	8.43E-05	4.22E-05	0.00E+00	-1.08E-04
Consumption of renew. secondary fuels	MJ	1.17E-02	3.69E-06	1.86E-07	1.17E-02	1.61E-06	1.16E-07	9.29E-07	4.65E-07	0.00E+00	-6.59E-06
Consumption of non-renewable secondary fuels	MJ	0.00E+00	0.00E+00	2.92E-04	2.92E-04	0.00E+00	1.85E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net consumption of freshwater	m3	1.84E-02	1.23E-04	2.93E-04	1.88E-02	3.32E-05	6.20E-05	3.16E-05	1.58E-05	1.93E-05	-3.25E-04

Table 5. Life cycle assessment (LCA) results for specific product – environmental impacts (DU: 1 kg)

Indicator	Unit	A1	A2	A3	A1-A3	A4	C1	C2	C3	C4	D
Hazardous waste	kg	7.57E-02	1.13E-03	4.70E-04	7.73E-02	3.94E-04	2.36E-06	2.82E-04	1.41E-04	1.95E-07	-1.25E-03
Non-hazardous waste	kg	3.18E-01	3.02E-02	6.64E-04	3.49E-01	8.45E-03	1.23E-04	5.01E-03	2.51E-03	5.11E-01	-3.49E-02
Radioactive waste	kg	1.11E-05	8.70E-06	2.87E-07	2.01E-05	8.09E-08	1.71E-07	1.88E-08	9.39E-09	7.54E-07	-4.73E-07
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	4.16E-04	1.07E-05	2.65E-03	3.08E-03	3.29E-06	2.36E-07	7.79E-07	3.89E-07	0.00E+00	-2.43E-06
Materials for energy recovery	kg	5.29E-07	4.18E-08	1.84E-02	1.84E-02	1.75E-08	2.07E-09	6.30E-09	3.15E-09	0.00E+00	-2.25E-07
Exported Energy	MJ	1.83E-02	4.44E-04	1.08E-03	1.99E-02	1.20E-04	6.81E-04	0.00E+00	0.00E+00	0.00E+00	-4.87E-04

Verification

The process of verification of this EPD is in accordance with ISO 14025. After verification, this EPD is valid for a 5-year-period. EPD does not have to be recalculated after 5 years, if the underlying data have not changed significantly.

The basis for LCA analysis was EN 15804 and ITB PCR A

Independent verification corresponding to ISO 14025 (subclause 8.1.3.)

● external

internal

External verification of EPD: Ph.D. Halina Prejzner

LCI data, audit and verification: M.Sc. Eng. Michał Chwedaczuk

LCA data verification: PhD., D.Sc., Eng. Michał Piasecki

Note 1: The declaration owner has the sole ownership, liability, and responsibility for the information provided and contained in EPD. Declarations of construction products may not be comparable if they do not comply with EN 15804+A2. For further information about comparability, see EN 15804+A2 and ISO 14025.

Note 2: ITB is a public Research Organization and Notified Body (EC Reg. no 1488) to the European Commission and to other Member States of the European Union designated for the tasks concerning the assessment of building products' performance. ITB acts as the independent, third-party verification organization (see ISO 17025/17065/17029). ITB-EPD program is recognized and registered member of The European Platform - Association of EPD program operators and ITB-EPD declarations are registered and stored in the international ECO-PORTAL.

Normative references

- ITB PCR A General Product Category Rules for Construction Products
- ISO 14025:2006, Environmental labels and declarations – Type III environmental declarations – Principles and procedures
- ISO 21930:2017 Sustainability in buildings and civil engineering works – Core rules for environmental product declarations of construction products and services
- ISO 14044:2006 Environmental management – Life cycle assessment – Requirements and guidelines
- ISO 15686-1:2011 Buildings and constructed assets – Service life planning – Part 1: General principles and framework
- ISO 15686-8:2008 Buildings and constructed assets – Service life planning – Part 8: Reference service life and service-life estimation
- PN-EN 15804 - Zrównoważoność obiektów budowlanych – Deklaracje środowiskowe wyrobu – Podstawowe zasady kategoryzacji wyrobów budowlanych
- PN-EN 15804 Zrównoważenie robót budowlanych – Deklaracje środowiskowe wyrobu – Podstawowe zasady kategoryzacji wyrobów budowlanych
- PN-EN 15942:2012 Sustainability of construction works – Environmental product declarations – Communication format business-to-business
- Department for Business, Energy & Industrial Strategy. Calorific values and density of fuels, 2021. <https://www.gov.uk/>
- KOBIZE Wskaźniki emisyjności CO₂, SO₂, NO_x, CO i pyłu całkowitego dla energii elektrycznej. Grudzień 2024
- ITB-KOT-2019/1174 Kauczukowo-bentonitowe taśmy uszczelniające WATERSTOP-RX (issued: 2019-12-05)

LCA LCI, input data verification
Michał Piasecki, PhD. D.Sc.

Qualified electronic signature

Head of Thermal Physic, Acoustic and Environment Department
Agnieszka Winkler-Skalna, PhD.

Qualified electronic signature





Owner of the EPD

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CERTIFICATE № 952/2026
of TYPE III ENVIRONMENTAL DECLARATION

Product:
WATERSTOP-RX, BENTOSEAL & WATERSTOPPAGE ACCESSORIES

Manufacturer:
CETCO-Poland, Cetco Sp. z o.o. S.K.A

Korpele No. 13A - Zone, 12-100 Szczytno, Poland

confirms the correctness of the data included in the development of
Type III Environmental Declaration and accordance with the requirements of the standard

EN 15804+A2

Sustainability of construction works.
Environmental product declarations.
Core rules for the product category of construction products.

This certificate, issued for the first time on
14th April 2026
is valid for 5 years or until amendment of mentioned Environmental Declaration

Head of the Thermal Physic, Acoustics
and Environment Department

Agnieszka Winkler-Skałna, PhD


Instytut Techniki Budowlanej

Deputy Director
for Research and Innovation

Krzysztof Kaczyński, PhD

Warsaw, April 2026

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OUR STANDARDS. YOUR PEACE OF MIND.

