





WE DO MORE, TO EMIT LESS





Table of contents

EPD Declarations - relevance and benefits). 4
CO ₂ emission factors and ITB certification). 5
Vertua® Ultra CEM III/A 42,5 N-LH/HSR/NA). 6
Vertua® Plus CEM II/A-V 52,5 R-NA). 7
CEM II/A-V 42,5 R). 8
Group of cements CEM II/B). 9
Group of cements CEM I 42,5 and CEM I 52,5). 10
Comparison of group of cements CEM I and source data). 11



Dear Sirs,

we are pleased to inform you that CEMEX Poland has obtained Environmental Product Declaration Type III (EPD) for all groups of consumers produced in our plants in Chełm, Rudniki and Gdynia.

EPD declarations are a very important document based on the analysis of the product's life cycle, describing its properties and environmental impact throughout its life cycle.

Aware of the importance of saving the natural environment, as well as of the current state and the future of our planet, we are proud to present to our stakeholders with objective and reliable declarations and certificates proving that our products meet the requirements of sustainable construction.

The full documentation accompanying the declaration, concerning the cements produced by CEMEX Poland, was approved by an independent, renowned research unit with 75 years of experience – the Institute of Construction Technology (ITB). The declarations are based on EN 15804 standard and have been verified by an external auditor in accordance with ISO 14025. ITB is a certified member of the European Platform for EPD Program Operators and an entity conducting LCA.

2170 Rafał Gajewski

Director of the Commercial Department, Member of the Management Board CEMEX Poland Sp. z o.o.



EPD Declarations - Importance and Benefits

Thanks to the EPD Declarations, it is possible to get acquainted with the parameters describing the environmental impact and resource consumption and other information describing the production process of our cements and its impact on the environment.

One of the key aspects for which we decided to apply for Type III Environmental Declarations for our cements was the awareness of the essence of design and construction of buildings in accordance with the idea of sustainable development. Thanks to the EPD declarations obtained by CEMEX Poland, it is possible to compare the environmental profile of our products and make an objective assessment or selection of products in terms of ecological efficiency.

As a responsible manufacturer of construction materials, CEMEX Poland constantly adapts its products to new requirements and expectations, which results in the fact that they become environmentally friendly and safe for the contractor and for the end user. We are aware that more and more often investors are trying to obtain socalled green certificates for their investments. Products with EPD certificates are important for the evaluation processes in certification, such as: LEED, BREEAM or DGNB.



What are the benefits of having environmental declarations:

- certified products increase the number of points in the process of green certification of buildings;
- the information contained in the declaration makes it possible to assess the life cycle of the building, design in terms of environmental impact, durability and adaptability;
- for producers of concrete, precast elements and construction chemicals, the use of products with EPD environmental declarations supports the positive image of the brand, gives the opportunity to introduce new, market-expected ecological product lines, more environmentally friendly, which may contribute to the increase in sales in the perspective;
- customers gain the opportunity to obtain the EPD Declaration for their products using CEMEX Poland cements with a declared carbon footprint;
- the possibility of a real and conscious impact on the environment by comparing and selecting cement products with the lowest carbon footprint in terms of their impact on the global warming potential without losing the expected properties of the final product.

CO₂ emission Indicators and ITB Certification

The most important indicator confirmed by the Type III EPD

Declaration is the amount of CO_2 emissions defined in EPD as the global warming potential or as the carbon footprint of the product. What is behind this and why do we use two values: gross and net?

The emission of carbon dioxide in the cement industry concerns both the production of cement clinker, energy for the functioning of cement and grinding plants and the transport of raw materials and fuels to the plant gates.

The gross value includes CO_2 emissions from process emissions, combustion of hard coal, electricity, transport as well as from the combustion of alternative fuels (waste), excluding biomass fractions.

The net value does not include CO₂ emissions from the combustion of alternative fuels (waste).



Combustion of fuels -Biomass and biogenic fraction kg eq $CO_{2} = 0$



Certificates awarded by the Institute of Construction Technology for cements manufactured by CEMEX Poland Sp. z o.o.

Certificate No.	Description on the certificate
236/2021	Group of cements CEM I 42,5:
	CEM I 42,5 R Chełm
	CEM I 42,5 R Gdynia
	CEM I 42,5 R Rudniki
	CEM I 42,5 R-NA Chełm
	CEM I 42,5 R-NA Rudniki
	CEM I 42,5 N-SR 3 /NA Chełm
	CEM I 42,5 N-SR 3 /NA Gdynia
237/2021	Group of cements CEM I 52,5:
	CEM I 52,5 R Chełm
	CEM I 52,5 R-NA Chełm
	CEM I 52,5 R-NA Rudniki
238/2021	CEM II/A-V 42,5 R Chełm
239/2021	Group of cements CEM II/B:
	CEM II/B-V 32,5 R-HSR Chełm
	CEM II/B-V 32,5 R-HSR Gdynia
	CEM II/B-V 32,5 R-HSR Rudniki
	CEM II/B-S 42,5 N-NA Rudniki
240/2021	CEM III/A 42,5 N-LH/HSR/NA Rudniki
241/2021	CEM II/A-V 52,5 R-NA Chełm

Vertua[®] Ultra CEM III/A 42,5 N-LH/HSR/NA

EPD declarations enable the use of reliable, verified environmental data referring to cements produced by CEMEX Poland. This improves reliability and allows for comparison of products with their market equivalents.

Further in the document, we present the amount of CO₂ emissions for CEMEX Poland cements and the percentage differences in comparison with the available data for the cement industry in Poland and Europe.

Low carbon produce

Vertua

ULTRA

Vertua[®] Ultra CEM III/A 42,5 N-LH/HSR/NA cement is an excellent choice for applications in commercial concretes, specialty concretes, requiring pre-fabrication or in "green" bridge concretes.

Features:

- · Good cooperation with admixtures and additives
- Very low contraction
- Very good workability and consistency over time
- High segregation resistance and high mix consistency compared to group of cements CEM I (without additives)
- Low Heat of Hydration (LH)
- Very high resistance to environmental aggression
- Very high resistance to sulphate aggression (HSR)

Reduction of CO₂ emissions by more than 40% compared to CEM I

CEMEX Poland carbon footprint - Vertua® Ultra CEM III/A 42,5 N-LH/HSR/NA Rudniki



Vertua[®] Plus CEM II/A-V 52,5 R-NA

Vertua[®] Plus CEM II/A-V 52,5 R-NA is a new cement in the CEMEX product portfolio in Poland, which confirms our commitment to the further development of ecological construction solutions. It is the cement with the lowest carbon footprint offered by CEMEX Poland, characterized by the rapid development of early strength.

Vertua® Plus CEM II/A-V 52,5 R-NA – cement with reduced CO₂ emissions - has unique properties for applications in prefabrication segments and in ready-mixed concrete.

Features:

- Special raw material composition ensuring obtaining the parameters so far reserved for cements from the CEM I group
- Good cooperation with admixtures and additives
- Can be used in low-temperatures
- Limited shrinkage compared to CEM I
- Resistance to chemically aggressive environment higher than CEM I
- Minimising the risk of alkaline reaction due to the use of mineral additives and low alkali content (NA)
- The use of functional additives enabling to obtain very high strengths of early particularly important during prefabrication



\bigcirc Reduction of CO₂ emissions by more than 20%

Carbon footprint of CEMEX Poland – Vertua® Plus CEM II/A-V 52,5 R-NA Chełm



CEM II/A-V 42,5 R

Portland-fly ash cement CEM II/A-V 42,5 R is a universal common cement used in the production of:

- ready-mixed concrete in a wide range of compressive strength classes
- pre-fabricated elements
- flooring concretes and concretes used in infrastructure construction

Features:

- Good workability and consistency of the concrete mix made on this cement
- Optimal cooperation with admixtures and additives
- Moderate contraction
- Very high resistance to environmental aggression

Reduction of CO_2 emissions by more than 10% compared to the industry average for Poland.

Carbon footprint of CEMEX Poland cement CEM II/A-V 42,5 R



net value





Group of cements CEM II/B

Cements from the CEM II/B group are universal products for use in all segments and for most applications. Thanks to their unique properties, they are qualified as special cements.

CEM II/B-V 32,5 R-HSR is a special sulfate-resistant HSR cement. It is characterized by moderate early and standard strength, it is intended mainly for the execution of sub-bases and stabilization in transport construction and the production of ready-mixed concrete and special concretes.

CEM II/B-S 42,5 N–NA is a special low-alkaline NA cement. It is characterized by a bright color and moderate early strength. Designed especially for the production of commercial concrete and special purpose concretes, e.g. flooring concrete or concrete used in infrastructure.

Reduction of CO_2 emissions by above 25% compared to the industry average for Poland.



Carbon footprint for cements by CEMEX Poland - group of cements CEM II/B

Carbon footrint for cements by CEMEX Poland of CEM II/B group





Group of cements CEM I 52,5 and CEM I 42,5

For the production of CEM I 52,5 cements by CEMEX Poland, the gross emission value of carbon dioxide equivalent amounts to 701 kg CO_2 /ton. Thanks to the reduction of the use of fossil fuels from non-renewable natural resources and the use of alternative fuels, we obtained a net value of carbon dioxide equivalent 561 kg CO_2 /ton CEM I 52,5 - thus reducing the emissivity of the process by 20%.



Carbon footprint for cements by CEMEX Poland – Group of cements CEM I 52,5

The gross carbon dioxide equivalent emission value for CEM I 42,5 averaged (weighted average) production by CEMEX Poland is 694 kgCO,/ton CEM I 42,5.

Thanks to the reduction of the use of fossil fuels from non-renewable natural resources and the use of alternative fuels, we obtained a net value of carbon dioxide equivalent 561 kg CO_2 /ton of CEM I 42,5 - thus reducing the emission rate of the process by 10%.



CEMEX Poland Cement Carbon Footprint - Group of cements CEM I 42,5

Comparison of CEM I 52,5 and CEM I 42,5 groups of cement

CO

The carbon footprint of cement is significantly affected by the following factors:

- high clinker content in CEM I cement (95-100%),
- fuel mix and high share of alternative fuels in clinker production,
- specific process emission in clinker production,
- electricity from renewable energy sources used in individual cement production plants.

CEMEX Poland Cement Carbon Footprint - Group of cements CEM I 42,5 and CEM I 52,5





gross value
net value

The CO₂ emmissions value for CEM I 42,5 was lower by 15% in comparison with the industry average for Poland.

Reduction of CO_2 emmissions for CEM I 52,5 by 14% in comparison with the industry average for Poland.

Source data for graphs:

- CEM and CEMBUREAU Europe average for the cement industry in Europe prepared for the European Cement Association (CEMBUREAU) based on data from 2016.
- CEM I SPC Poland average for the cement industry in Poland prepared for the Association of Cement Manufacturers (SPC) on the basis of data from 2017 - Certificate No. 116/2020
- CEM I 42,5 CEMEX Poland average (weighted) for cements from CEM I 42,5 group manufactured by CEMEX Poland on the basis of data from 2020.
- CEM I 52,5 CEMEX Poland average (weighted) for cements from the CEM I 52,5 group manufactured by CEMEX Poland on the basis of data from 2020.
- CEM II CEMBUREAU Europe average for the cement industry in Europe prepared for the European Cement Association (CEMBUREAU) on the basis of data from 2016.
- CEM I SPC Poland average for the cement industry in Poland prepared for the Association of Cement Manufacturers (SPC) on the basis of data from 2017 - Certificate No. 116/2020
- CEM II/A-V 42,5 R Chelm value for CEM II/A-V 42,5 R cement produced by CEMEX Poland on the basis of data from 2020.
- CEM II/A-V 52,5 R-NA Chelm value for CEM II/A-V 52,5 R-NA cement produced by CEMEX Poland on the basis of data from 2020.
- CEM II/B CEMEX Poland average (weighted) for cements from the CEM II/B group produced by CEMEX Poland on the basis of data from 2020.
- CEM II CEMBUREAU Europe average for the cement industry in Europe prepared for the European Cement Association (CEMBUREAU) on the basis of data from 2016.
- CEM I SPC Poland average for the cement industry in Poland prepared for the Association of Cement Manufacturers (SPC) on the basis of data from 2017 - Certificate No. 116/2020
- CEM III/A 42,5 N-LH/HSR/NA Rudniki value for CEM III/A 42,5 N-LH/HSR/NA Rudniki cement produced by CEMEX Poland on the basis of data from 2020.







If you are interested in additional materials concerning EPD cards and certificates and you want to get more information about low-emission cements available in the CEMEX Poland's offer, we encourage you to visit <u>www.cemex.pl</u> or scan the QR code.



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