

Environmental Product Declaration

according to EN 15804 and ISO 14025

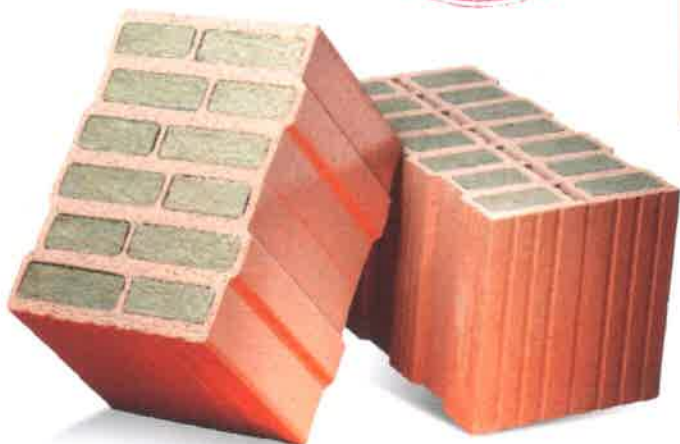
Porotherm Profi
Porotherm T Profi
Porotherm EKO+
Porotherm EKO+ Profi
Porotherm P+D
Porotherm AKU
Porotherm AKU Profi
Porotherm VT
Porotherm VT Profi
CSN clay blocks
MIAKO

Approval number: 3013EPD-20-0094

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1. General information

Manufacturing company	Wienerberger s.r.o. Registration No.: 00015253 VAT No.: CZ00015253
Production sites	3217 - Řepov, Řepov 43, 293 01, Mladá Boleslav, Czech Republic 3220 - Novosedly 365, 691 82 Novosedly na Moravě, Czech Republic 3222 - Týn nad Vltavou, K Jihotvaru 418, 375 01 Týn Nad Vltavou, Czech Republic 3227 - Holice, 534 01 Holice, Czech Republic 3240 - Kostelec, Hálkova 1359, 517 41 Kostelec nad Orlicí, Czech Republic 3241 - Jezernice, 751 31 Jezernice, Czech Republic 3276 - Šlapanice, Hřbitovní 1643, 664 51 Šlapanice, Czech Republic
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EPD Program	National Environmental Labelling Program. For more information see www.cenia.cz  CENIA, Czech Environmental Information Agency, Vršovická 1442/65, Prague 10, 100 10 Czech Republic
Approval number	3013EPD-20-0094
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PCR identification	EN 15804:2012+A1:2013 Sustainability of construction works – Environmental product declarations (Core rules for the product category of construction products)
LCA prepared by	Lubos Nobilis, ECO trend s.r.o., Na Dolinách 128, 140 00 Prague 4, Czech Republic, nobilis@ecotrend.cz

CEN standard EN 15804+A1 serves as the core PCR
Independent verification of the declaration and data, according to EN ISO 14025

Internal

External

Third party verifier:

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Building Research Institute – Certification Company Ltd.

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About the company

Wienerberger s.r.o. is a part of the Wienerberger AG group, which is the world's largest manufacturer of clay blocks and Europe's largest manufacturer of clay tiles. The company's headquarters is in České Budějovice 1, Plachého 388/28, PSČ 370 01, Czech Republic. The company is registered in the Business Register kept by the Regional Court in České Budějovice, Section C, rider 27563 dated 29 December 1990.

- Business Reg. No. 00015253
- VAT No. CZ00015253
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In its seven manufacturing plants / brickworks, Wienerberger s.r.o. makes a complex portfolio of Porotherm products, which consists of porous clay wall materials, ceiling clay blocks or other brick products required to manufacture ceramic-concrete prefabricated elements (brick shapes – U-shaped semi-products), i.e. lintels and ceiling beams.

The headquarters of the company is located in the historical centre of České Budějovice. The Porotherm brick product manufacturing plants are situated near Řepov (at Mladá Boleslav), Novosedla na Moravě, Týn nad Vltavou, Holice, Kostelec nad Orlicí, Šlapanice (near Brno) and Jezernice. The Jezernice manufacturing plant, which is the only Wienerberger building in the Czech Republic built as a greenfield project, was commissioned in 2005 as one of the most advanced clay blocks manufacturing plants in Europe. Since 1995, the other manufacturing plants have been undergoing renovations and modernizations one by one in order to reduce the power demands of the manufacturing and the environmental impact. All the manufacturing plants are equipped with a stilling station used to process the fumes at the outlet of the manufacturing process and using the waste heat from the oven aggregate to dry pressings prior to the brick burning itself.

Brickworking has more than a hundred years of tradition in the Řepov facility. The brick plant manufactures transverse clay blocks, slab edge blocks, ceiling clay blocks and semi-products for the ceramic-concrete lintel and ceiling beam manufacturing plant, which was built in 1999 in close proximity to the brick plant. These products of plant Řepov - lintels and ceiling beams - are subject to a separate EPD.

2. Product

2.1 Product description

Clay blocks belong to the group of burnt clay building materials. This EPD concerns the average brick produced at seven production plants in the Czech Republic – Holice, Kostelec nad Orlicí, Týn nad Vltavou, Řepov, Jezernice, Novosedly na Moravě and Šlapanice brick plant. Values were calculated separately for bricks from each individual plant. The different recipes and the efficiency of the individual plant technologies were taken into account. The T Profi bricks from Novosedly plant, which are infilled by mineral wool, are represented separately. These are all extruded bricks.

Technical lifetime of bricks is 150 years.

2.2 Application

Clay blocks are of different types for external and internal loadbearing and non-loadbearing walls and building elements, in combination with masonry mortar or with masonry PU-glue.

Porotherm

The **Porotherm** brick blocks are masonry units with the height of 238 mm, designated for setting on a mortar bed joint with an average thickness of 12 mm, whereas their beds are not ground. The headers are fitted with the tongue and groove system so that the bricks interlock and the joints do not need to be filled with the joint mortar. They are designated for protected bearing and non-bearing masonry, for thermally insulating or interior masonry, they are made for the wall thickness from 80 to 440 mm.





Photo 1 - Water jet cutting of mineral wool thermal insulation boards for pads inserted into bricks



Photo 2 - Thermal insulating pads prepared at carousel



Photo 3 - Industrial robot for inserting thermal insulation pads into brick blocks



Photo 4 - Inserting thermal insulation into brick blocks

Porotherm Profi

The **Profi** brick blocks are high-precision masonry units with the height of 249 mm, designated for setting on a thin bed joint with the thickness of 0.5 to 1.0 mm, whereas their beds are ground so that the brick height is achieved with the precision of ± 0.3 mm. The headers are fitted with the tongue and groove system so that the bricks interlock and the joints do not need to be filled with the joint mortar. They are designated for protected bearing and non-bearing masonry, for thermally insulating or interior masonry, the intended use thereof is given by the brick type (Profi, AKU Profi, EKO+ Profi, T Profi, VT Profi - see below). They are made for the wall thickness from 80 to 500 mm.

Porotherm AKU (SYM)

The **Porotherm AKU** (with toothed joints) or **Porotherm AKU SYM** (with mortar pockets in joints) brick blocks are masonry units with the height of 238 mm, designated for setting on a mortar bed joint with an average thickness of 12 mm, whereas their beds are not ground. They are designated for protected bearing and non-bearing masonry used for protection against both external and internal noise. They have excellent acoustic and heat-accumulation properties and are made for the wall thickness from 115 to 300 mm.

Porotherm AKU Profi

The **Porotherm AKU Profi** brick blocks are designated for protected bearing and non-bearing masonry, for single-layer wall with the thickness of 115 to 300 mm (without rendering), for double walls between terraced houses or semi-detached houses, as well as for external walls with the thickness of 250 and 300 mm, fitted with contact thermal insulation system in places with higher noise levels.

Porotherm EKO+ Profi

The **Porotherm EKO+ Profi** brick blocks are masonry units with very fine structure of webs, made of highly porous brick material and with special toothing shape in joints. Thanks to their excellent thermally insulating properties, they are designated for protected bearing and non-bearing external thermally insulating masonry.

Porotherm T Profi

The **Porotherm T Profi** brick blocks are masonry units with robust webs and shells of highly porous brick material with large internal voids, fully filled with pads of hydrophobic mineral wool. Thanks to their excellent thermally insulating properties, they are designated for protected bearing and non-bearing external thermally insulating masonry.

Porotherm VT

The **Porotherm VT** brick blocks are masonry units with the thickness of 80 mm, designated for walling in the reinforced wall beams of the external brickwork. The thermal insulation with thickness corresponding to the thermal insulation properties of the external wall is inserted between these bricks and the wall beam. They are set in the outer face of the wall onto the mortar bed joint with an average thickness of 12 mm.

Porotherm VT Profi

Unlike the Porotherm VT bricks, the **Porotherm VT Profi** brick blocks are ground to the height of 249 mm, application thereof in construction is identical. An advantage is to set them on the polyurethane masonry foam.

MIAKO PTH

The **MIAKO PTH** clay ceiling blocks are used in the ceiling beam-and-block system where they are dry-suspended between the ceiling beams with their nibs. They are made in the height of 150, 190, 230 and 80 mm for two distances between the beam axis - 625 and 500 mm.

2.3 Technical Data

Product group name	T Profi, EKO+ Profi, Profi, AKU etc.
Bed surface type	grinded (G) x non-grinded (NG)
Wall thickness	cm
Recommended use	TI – thermal insulating one layer masonry LB – load-bearing masonry NLB – non load-bearing masonry AC – acoustic masonry CC – ceiling construction CCB – ceiling clay block



Plant Kostelec nad Orlicí

Product group name	Bed surface type	Wall thickness	Recommended use
Porotherm	NG	44	TI, LB, NLB
		40	
		38	
		36,5	
		30	LB, NLB
		24	
		17,5	
		14	
Porotherm AKU	NG	11,5	NLB
		8	NLB

Plant Řepov

Product group name	Bed surface type	Wall / CCB thickness / height	Recommended use
Porotherm Profi	G	11,5	NLB
		8	
Porotherm VT Profi	G	8/21	TI, LB, NLB
		8/25	
		8/29	
Porotherm	NG	11,5	NLB
		8	
Porotherm VT	NG	8/19,5	TI, LB, NLB
		8/23,8	
		8/27,5	
MIAKO 62,5 PTH	NG	15	CC
		19	
		23	
		8	
MIAKO 50 PTH	NG	15	CC
		19	
		23	
		25	
MIAKO 62,5 BNK	NG	25	CC
MIAKO 50 BNK		25	

Plant Novosedly na Moravě

Product group name	Bed surface type	Wall thickness	Recommended use
Porotherm T Profi	G	50	TI, LB, NLB
		44	
		38	
		30	
Porotherm EKO+ Profi	G	44	TI, LB, NLB
		40	
Porotherm Profi	G	30	LB, NLB
		24	
		14	NLB
		11,5	
Porotherm AKU Profi	G	19	
Porotherm	NG	30	AC, LB, NLB
		24	LB, NLB
		14	NLB
		11,5	NLB
Porotherm AKU	NG	19	AC, LB, NLB

Plant Týn nad Vltavou

Product group name	Bed surface type	Wall thickness	Recommended use
Porotherm Profi	G	44	TI, LB, NLB
		40	
		38	
		36,5	
		30	LB, NLB
		24	
		17,5	
		14	
		11,5	NLB
Porotherm	NG	40	TI, LB, NLB
		36,5	LB, NLB
		30	
		24	
		17,5	
		14	
			11,5

Plant Holice

Product group name	Bed surface type	Wall thickness	Recommended use
Porotherm AKU Profi	G	30	AC, LB, NLB
		25	
		19	
		11,5	AC, NLB
Porotherm AKU SYM	NG	30	AC, LB, NLB
		25	
Porotherm AKU	NG	30	AC, LB, NLB
		25	
		19	
		11,5	AC, NLB

Plant Jezernice

Product group name	Bed surface type	Wall thickness	Recommended use		
Porotherm EKO+ Profi	G	50	TI, LB, NLB		
		44			
		40			
Porotherm Profi	G	44	TI, LB, NLB		
		40			
		38			
		36,5			
		30	LB, NLB		
		25			
		24			
		17,5			
				14	NLB
				11,5	
Porotherm	NG	38	TI, LB, NLB		
		30	LB, NLB		
		24			
		17,5			
		14			
			11,5	NLB	

Plant Šlapanice

Product group name	Bed surface type	Wall thickness	Recommended use
Porotherm Profi	G	30	LB, NLB
		24	
		17,5	
		11,5	
Porotherm AKU	NG	19	AC, LB, NLB



2.4 Base materials / Ancillary materials

Product does not contain Substance of Very High Concern.

Products content declaration

Materials / components	Substances	CAS number	weight			
			Holice site	Jezernice site	Kostelec site	Šlapanice site
Clay	-	-	63,55 %	72,50 %	94,80 %	83 %
Slag	-	-	19,14 %	7,70 %	5,20 %	-
Sand	-	-	9,45 %	19,80 %	-	17 %
Ash	-	-	6,24 %	-	-	-
Inert dust	-	-	1,62 %	-	-	-

Ancillary materials: Ancillary materials are used to create an optimal internal structure and burn out during production. The lignite, sludge from paper production or wooden chips are used for this purpose.

Materials / components	Substances	CAS number	weight			
			Novosedly site	Novosedly T PROFI	Řepov site	Týn site
Clay	-	-	100 %	97,34 %	59,74 %	96,61 %
Slag	-	-	-	-	20,96 %	1,17 %
Sand	-	-	-	-	19,23 %	-
Ash	-	-	-	-	-	2,22 %
Inert dust	-	-	-	-	0,07 %	-
Mineral wool	-	-	-	-	2,66 %	-

Ancillary materials: Ancillary materials are used to create an optimal internal structure and burn out during production. The lignite, sludge from paper production or wooden chips are used for this purpose.



Photo 5 - Manufacturing plant Jezernice