

TECHNICAL CARD

ELEMENTS 3E EKO+

Elements designed for the erection of single-layer structural walls.



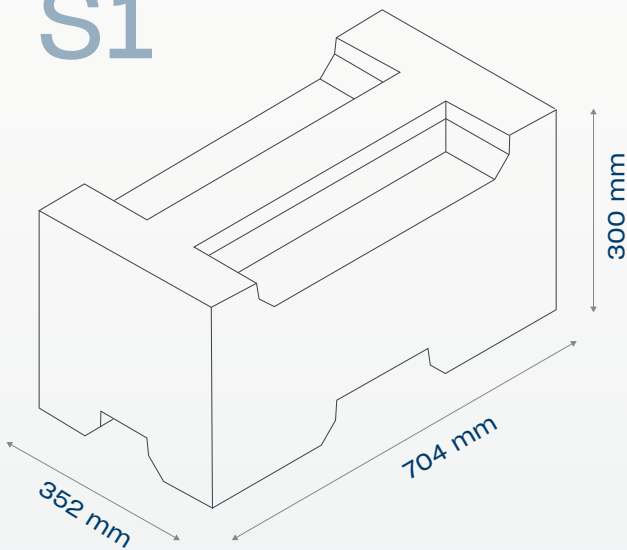
ECO-FRIENDLY
CONSTRUCTION

THE SYSTEM COMPRISES 37 TYPES OF ELEMENTS GROUPED ACCORDING TO THEIR PURPOSE.

6 BASIC ELEMENTS

DIMENSIONS OF THE BASIC ELEMENT

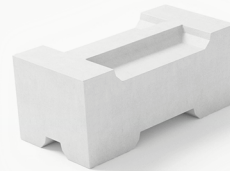
S1



Deviations:
Flatness of the laying surface: $\leq 1,0$ mm
Parallelism of the laying surface: $\leq 1,0$ mm
Mass of a single piece: 32 kg/el.

D4

DoP S3E EKO+.../02/21



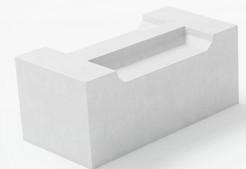
BASIC ELEMENT **S1**
purpose: infill



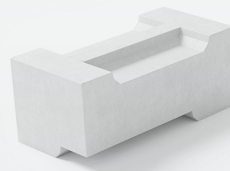
HALF ELEMENT **S $\frac{1}{2}$**
purpose: infill



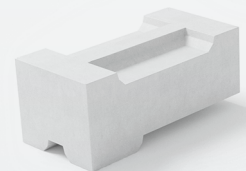
ENDING ELEMENT **SZ/EO**
purpose: top structure end



STARTING ELEMENT **SO**
purpose: foundation slab surface



LEFT CORNER ELEMENT **SNL**
purpose: corner laying



LEFT CORNER ELEMENT **SNP**
purpose: corner laying

SYSTEM 3E EKO+ is currently the warmest material for building:

- ✓ energy-saving,
- ✓ zero-energy,
- ✓ plus-energy,
- ✓ passive houses.



WITHOUT INSULATION



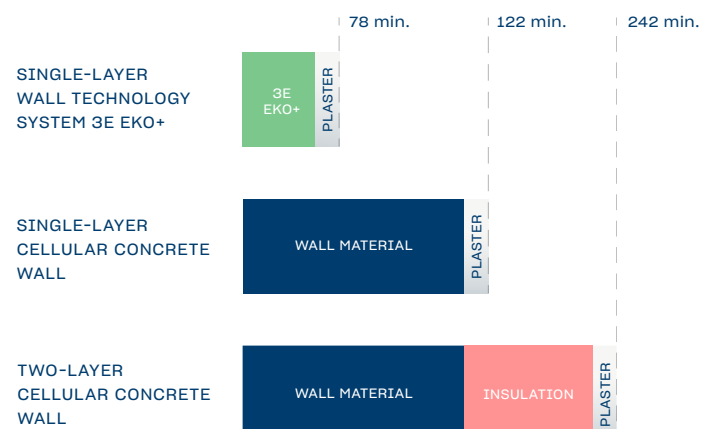
BONDING WITHOUT MORTAR AND GLUE



CONSTRUCTION OF 1 M² OF WALL IN 4.5 MINUTES

U=0,198 W/m²K

Building time comparison of a 1 m² wall



ELEMENTS 3E EKO+

Elements designed for the erection of single-layer structural walls.



ECO-FRIENDLY
CONSTRUCTION

PERFORMANCE CHARACTERISTICS

Density	310 ± 10% kg/m ³
Characteristic compressive strength	≥ 1,5 N/mm ²
Water absorption due to capillary rise	after 10': ≤ 40 g/m ² · s ^{0,5}
Dimensional stability. Moisture expansion	≤ 0,30 mm/m
Reaction to fire	A1
Water vapour permeability, diffusion resistance factor	≤ 15
Freeze/thaw durability	20 cycles

Source: Technical recommendation SYSTEM 3E EKO+ RT2021/10/22

TECHNICAL CONSTRUCTION PARAMETERS

Characteristic compressive strength of masonry	$f_k = 1,02 \text{ N/mm}^2$
Characteristic value of the tensile strength (when the upper edge is restrained) at bending in the case of failure in the perpendicular plane	$f_{xk \perp} = 0,11 \text{ N/mm}^2$
Characteristic value of the tensile strength (when the upper edge is restrained) at bending for failure in the parallel plane	$f_{xk \parallel} = 0,31 \text{ N/mm}^2$
Characteristic shear strength of masonry	$f_{vk} = 0,07 \text{ N/mm}^2$

Source: Technical recommendation SYSTEM 3E EKO+ RT2021/10/22

LOGISTICAL DATA

Consumption of 1 m ² [el./m ²]	5,71 el./m ²
Wall area per pallet	4,2 m ² /pallet
Number of elements per pallet	to 24 el./pallet
Approximate weight of the pallet	800 - 900 kg/pallet
Weight of a single element	32 kg/el.
Weight of 1 m ²	182,7 kg/m ²

THERMAL PROPERTIES

Thermal conductivity coefficient (λ)	0,072 W/(m·K)
Thermal resistance coefficient R	4,89 (m ² K)/W
Heat transfer coefficient for unrendered walls U	0,198 W/(m ² K)
Heat transfer coefficient for rendered walls U*	0,196 W/(m ² K)

* Source: Technical recommendation SYSTEM 3E EKO+ RT2021/10/22
Wall covered with 1 cm thick gypsum plaster ($\lambda=0,39 \text{ W/(m}^2\text{-K)}$) on the inside and with 1 cm thick cement-lime plaster ($\lambda=0,46 \text{ W/(m}^2\text{-K)}$) on the outside

ACOUSTIC PROPERTIES

	R_w (C, C _v), dB	$R_{A,1}$, dB	$R_{A,2}$, dB
Non-plastered wall	45 (-1;-4)	44	41
Plastered wall*	45 (-1;-4)	44	41

Source: Technical recommendation SYSTEM 3E EKO+ RT2021/10/22
* Wall covered on both sides with 1 cm thick cement-lime plaster

FIRE RESISTANCE CLASS

Loaded to 100% of the design resistance*	REI 240 + M
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Source: Technical recommendation SYSTEM 3E EKO+ RT2021/10/22
* Non-plastered wall



TECHNICAL CARD

INTERNAL 115

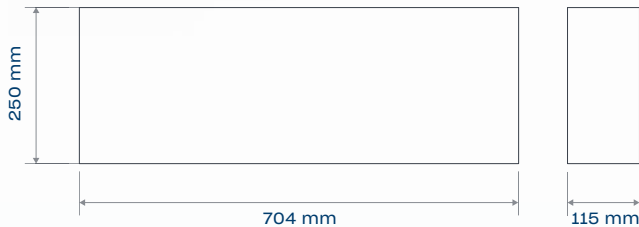
Elements designed for the erection of interior walls in houses and commercial buildings.



ECO-FRIENDLY
CONSTRUCTION

INTERNAL WALL
BASE ELEMENT

D1 115

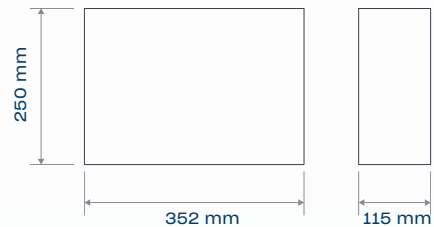


Properties of the D1 115 element

Length:	704 mm
Height:	250 mm
Width:	115 mm
Weight of single piece:	10,8 kg/el.
Deviations:	D4
Flatness of laying surface:	≤ 1,0 mm
Parallelism of laying surface:	≤ 1,0 mm

INTERNAL WALL
HALF ELEMENT

D½ 115





Properties of the D½ 115 element

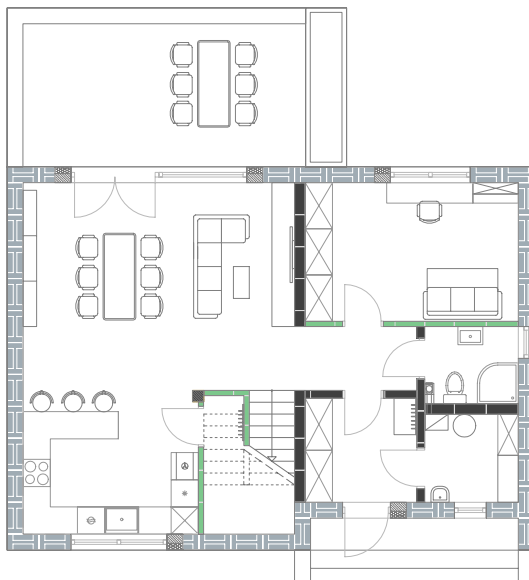
Length:	352 mm
Height:	250 mm
Width:	115 mm
Weight of single piece:	5,4 kg/el.
Deviations:	D4
Flatness of laying surface:	≤ 1,0 mm
Parallelism of laying surface:	≤ 1,0 mm

Source: Declaration of performance S3E.D1 115/I/01/21 and S3E.D1/2 115/I/01/21

 SYSTEM 3E
external wall

 SYSTEM 3E
INTERNAL 175
internal walls

 SYSTEM 3E
INTERNAL 115
internal walls



SYSTEM 3E technology in practice



QUICK ASSEMBLY



ACOUSTIC COMFORT



ECOLOGICAL MATERIAL



LOW CEILING LOAD

INTERNAL 115

Elements designed for the erection of interior walls in houses and commercial buildings.



ECO-FRIENDLY
CONSTRUCTION

PERFORMANCE CHARACTERISTICS

Density	390 kg/m ³
Thermal conductivity coefficient (λ)	0,084 W/(m·K)
Characteristic compressive strength	$\geq 2,0$ N/mm ²
Water absorption due to capillary rise	after 10': ≤ 50 g/m ² · s ^{0,5}
Dimensional stability. Moisture expansion	$\leq 0,35$ mm/m
Reaction to fire	A1
Water vapour permeability, diffusion resistance factor	≤ 15
Freeze/thaw durability	20 cycles

Source: Declaration of Performance S3E.D1 115/I/01/21 and S3E.D1/2 115/I/01/21

TECHNICAL CONSTRUCTION PARAMETERS

Characteristic value of the tensile strength (when the upper edge is restrained) at bending in the case of failure in the perpendicular plane	$f_{xk \perp} = 0,14$ N/mm ²
Characteristic value of the tensile strength (when the upper edge is restrained) at bending for failure in the parallel plane	$f_{xkl} = 0,10$ N/mm ²
Characteristic shear strength of masonry	$f_{vk} = 0,10$ N/mm ²

Source: Declaration of Performance S3E.D1 115/I/01/21 and S3E.D1/2 115/I/01/21

LOGISTICAL DATA

Consumption of 1 m ²	5,65 el./m ²
Wall area per pallet	8,85 m ²
Number of elements per pallet	to 50 el./pallet
Approximate weight of the pallet	550 kg/pallet
Weight of a single element D1 115	10,8 kg/el.
Weight of a single element D½ 115	5,4 kg/el.
Weight of 1 m ²	61,02 kg/m ²

ACOUSTIC PROPERTIES

	R_w (C, C _{tr}), dB	$R_{A,1}$, dB	$R_{A,2}$, dB
Non-plastered wall	39 (-1;-2)	38	37
Plastered wall*	40 (-1;-4)	39	36

* Wall covered with 1 cm thick gypsum plaster on both sides

FIRE RESISTANCE CLASS

Non-load bearing wall	EI 120
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TECHNICAL CARD

INTERNAL 175

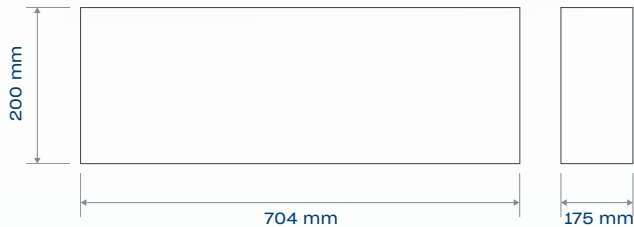
Elements designed for the erection of interior walls in houses and commercial buildings.



ECO-FRIENDLY
CONSTRUCTION

INTERNAL WALL
BASE ELEMENT

D1 175



Properties of the D1 175 element

Length:	704 mm
Height:	200 mm
Width:	175 mm
Weight of single piece:	13,31 kg/el.
Deviations:	D4
Flatness of laying surface:	≤ 1,0 mm
Parallelism of laying surface:	≤ 1,0 mm

INTERNAL WALL
HALF ELEMENT

D½ 175



Properties of the D½ 175 element

Length:	352 mm
Height:	200 mm
Width:	175 mm
Weight of single piece:	6,66 kg/el.
Deviations:	D4
Flatness of laying surface:	≤ 1,0 mm
Parallelism of laying surface:	≤ 1,0 mm

Source: Declaration of performance S3E.D1 175/I/01/21 and S3E.D1/2 175/I/01/21



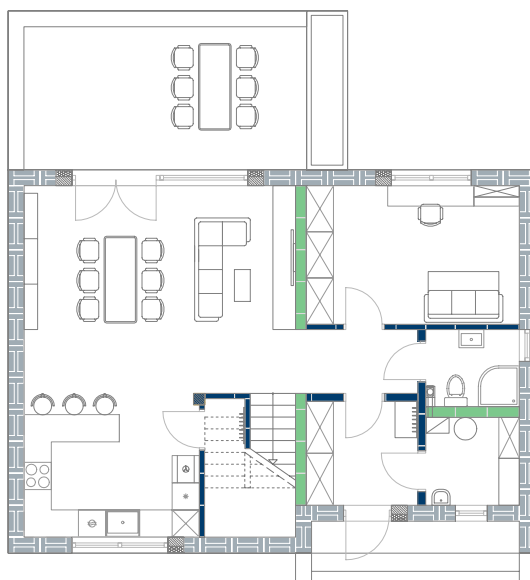
SYSTEM 3E
external wall



SYSTEM 3E
INTERNAL 175
internal walls



SYSTEM 3E
INTERNAL 115
internal walls



SYSTEM 3E technology in practice



QUICK ASSEMBLY



ACOUSTIC COMFORT



ECOLOGICAL MATERIAL



LOW CEILING LOAD

INTERNAL 175

Elements designed for the erection of interior walls in houses and commercial buildings.



ECO-FRIENDLY
CONSTRUCTION

PERFORMANCE CHARACTERISTICS

Density	390 kg/m ³
Thermal conductivity coefficient (λ)	0,084 W/(m·K)
Characteristic compressive strength	$\geq 2,0$ N/mm ²
Water absorption due to capillary rise	after 10': ≤ 50 g/m ² · s ^{0,5}
Dimensional stability. Moisture expansion	$\leq 0,35$ mm/m
Reaction to fire	A1
Water vapour permeability, diffusion resistance factor	≤ 15
Freeze/thaw durability	20 cycles

Source: Declaration of Performance S3E.D1 175/I/01/21 and S3E.D1/2 175/I/01/21

TECHNICAL CONSTRUCTION PARAMETERS

Charakterystyczna wartość wytrzymałości na rozciąganie, przy zginaniu, w przypadku zniszczenia w płaszczyźnie prostopadłej	$f_{xk \perp} = 0,14$ N/mm ²
Charakterystyczna wartość wytrzymałości na rozciąganie, przy zginaniu, w przypadku zniszczenia w płaszczyźnie równoległej	$f_{xkl} = 0,10$ N/mm ²
Charakterystyczna wytrzymałość muru na ścinanie	$f_{vk} = 0,11$ N/mm ²

Source: Declaration of Performance S3E.D1 175/I/01/21 and S3E.D1/2 175/I/01/21

DANE LOGISTYCZNE

Consumption of 1 m ² [el./m ²]	7,02 el./m ²
Wall area per pallet	5,98 m ²
Number of elements per pallet	to 40 el./pallet
Approximate weight of the pallet	550 kg/pallet
Weight of a single element D1 115	13,31 kg/el.
Weight of a single element D½ 115	6,66 kg/el.
Weight of 1 m ²	93,4 kg/m ²

WŁAŚCIWOŚCI AKUSTYCZNE

	Rw (C, Ctr), dB	RA,1, dB	RA,2, dB
Non-plastered wall	42 (-1;-5)	41	37
Plastered wall*	43 (-1;-3)	42	39

* Wall covered with 1 cm thick gypsum plaster on both sides

