

TECHNICAL CARD

ELEMENTS 3E EKO+

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



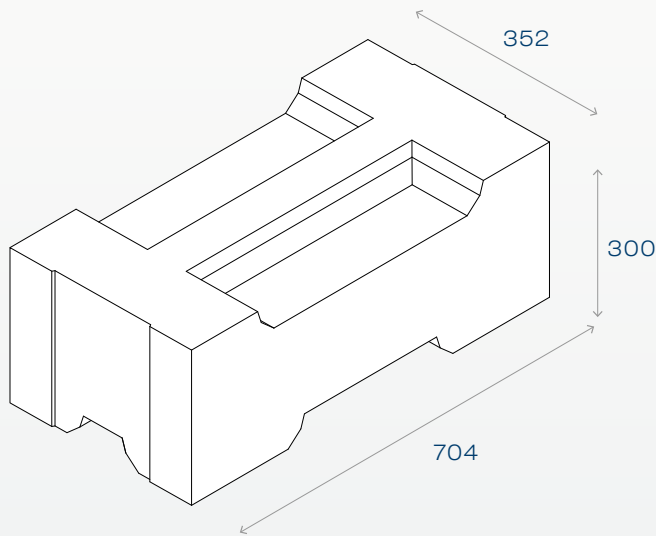
ECO-FRIENDLY CONSTRUCTION

THE JOINTLESS SYSTEM COMPRISES 70 TYPES OF ELEMENTS GROUPED ACCORDING TO THEIR PURPOSE.

6 BASIC ELEMENTS

DIMENSIONS OF THE BASIC ELEMENT

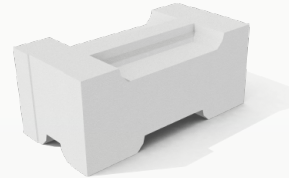
S1 WP



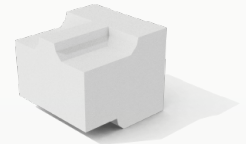
Deviations:
 Flatness of the laying surface: $\leq 1,0$ mm
 Parallelism of the laying surface: $\leq 1,0$ mm
 Mass of a single piece: 32 kg/el.

D4

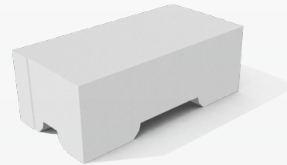
Declaration of Performance (DoP) S3E EKO+.../01/23



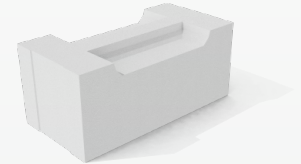
BASIC ELEMENT **S1 WP**
purpose: infill



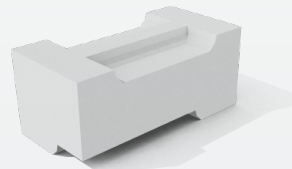
HALF ELEMENT **S½ W**
purpose: infill



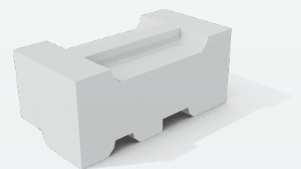
ENDING ELEMENT **SZ/EO WP**
purpose: top structure end



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



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



RIGHT 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



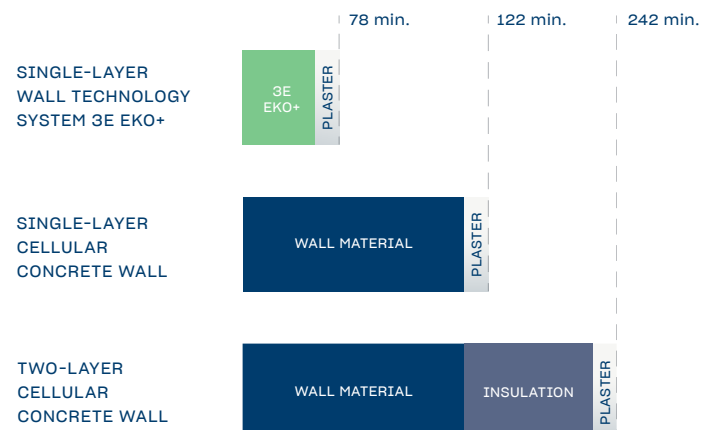
BONDING WITHOUT MORTAR AND GLUE



CONSTRUCTION OF 1 m² WALL IN 4.5 MINUTES

U=0,198 W/m²K

Building time comparison of a 1 m² wall



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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+ RT2023/03/01

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+ RT2023/03/01

LOGISTICAL DATA

| | |
|----------------------------------|-------------------------|
| Consumption of 1 m ² | 5,71 el./m ² |
| Wall area per pallet | 4,2 m ² |
| Number of elements per pallet | to 24 el. |
| Approximate weight of the pallet | 800 - 900 kg |
| 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+ RT2023/03/01
*Wall covered with 1 cm thick gypsum plaster ($\lambda=0,39 \text{ W/(m}^2\cdot\text{K)}$) on the inside and with 1 cm thick cement-lime plaster ($\lambda=0,46 \text{ W/(m}^2\cdot\text{K)}$) on the outside

ACOUSTIC PROPERTIES

| | $R_w (C, C_{tr})$ [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+ RT2023/03/01
*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 |
|--|-------------|

Source: Technical recommendation SYSTEM 3E EKO+ RT2023/03/01
*Non-plastered wall

