SYSTEM3E

TECHNICAL CARD

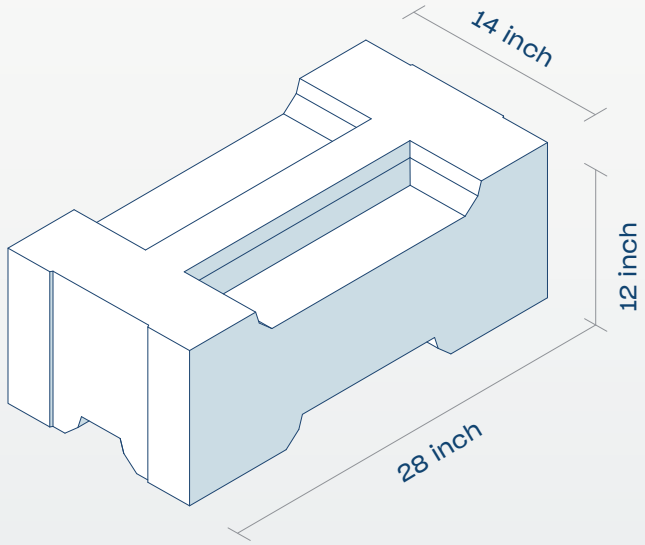
ELEMENTS 3E EKO+

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

ECO-FRIENDLY CONSTRUCTION

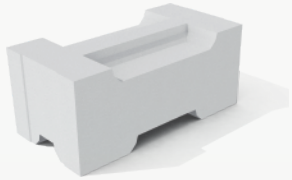
THE SYSTEM COMPRISES 6 TYPES OF ELEMENTS GROUPED ACCORDING TO THEIR PURPOSE.

DIMENSIONS OF THE BASIC ELEMENT

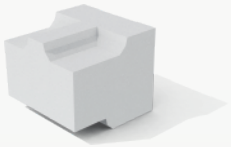


Flatness of the laying surface:	< 0.04 inch
Parallelism of the laying surface:	< 0.04 inch
Mass of a single piece:	70,5 lbs/block

6 BASIC ELEMENTS

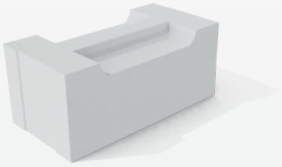


BASIC ELEMENT S1 WP
purpose: infill

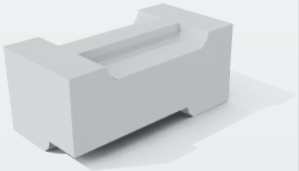


HALF ELEMENT S½ W
purpose: infill

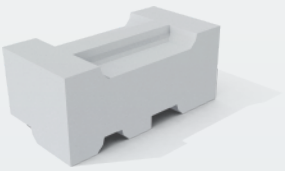
ENDING ELEMENT SZ/EO WP
purpose: top structure end



STARTING ELEMENT SO WP
purpose: foundation slab surface



LEFT CORNERELEMENT 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.

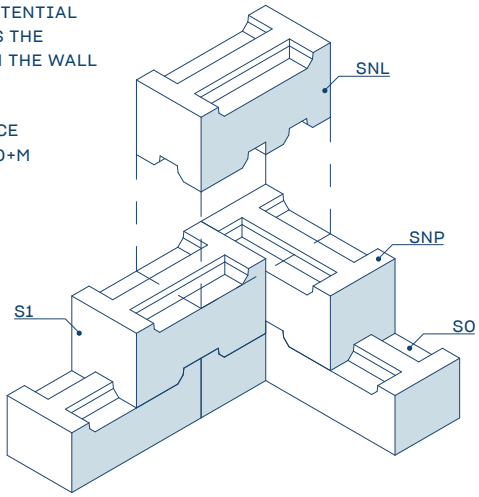
WITHOUT INSULATION

BONDING WITHOUT MORTAR AND GLUE

R = 28.7

CONSTRUCTION OF 10 SQ FT. OF WALL IN 4.1 MINUTES

- NO SKILLED LABOUR REQUIRED AS IT IS SELF-INTERLOCKING
- ANTI-SEISMIC POTENTIAL AS IT ELIMINATES THE WEAKEST LINK IN THE WALL
- THE 3E WALL HAS A FIRE RESISTANCE CLASS OF REI 240+M



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ECO-FRIENDLY CONSTRUCTION

PERFORMANCE CHARACTERISTICS

Density	19.35 pcf
Characteristic compressive strength	≥ 217.56 psi
Water absorption due to capillary rise	0,008 lb/ft² · $s^{0,5}$
Dimensional stability. Moisture expansion	< 0.0036 inch/ft
Reaction to fire	non-combustible
Water vapour permeability, diffusion resistance factor	< 15 μ
Freeze/thaw durability 20 cycles	no damage

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

TECHNICAL CONSTRUCTION PARAMETERS

Characteristic compressive strength of masonry	f_k = 147.94 psi
Characteristic value of the tensile strength (when the upper edge is restrained) at bending in the case of failure in the perpendicular plane	$f_{xk\perp}$ = 15.95 psi
Characteristic value of the tensile strength (when the upper edge is restrained) at bending for failure in the parallel plane	$f_{xk\parallel}$ = 44.96 psi
Characteristic shear strength of masonry	f_{vk} = 10.15 psi

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

LOGISTICAL DATA

Consumption of 10,8 sq. ft	5,30 block/sq. ft
Wall area per pallet	45,21 sq. ft
Number of blocks per pallet	to 24
Approximate weight of the pallet	126 - 142 st/pallet
Weight of a single element	5.03 st/element
Weight of 1 sq. ft	26.73 st/sq.ft

THERMAL PROPERTIES

Thermal conductivity coefficient (λ)	0,49932 Btu/h·ft·°F
Thermal resistance coefficient R	28.7 (sq. ft K)/W

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+ 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*	4 Fire rating hours (REI240 + M)

Source: Technical recommendation SYSTEM 3E EKO+ RT2021/10/22
* Non-plastered wall

Harmonised standard EN 771-3:2011+A1:2015, recognised by PKN as the Polish standard PN-EN 771-3+A1:2015-10, design with the requirements of the Eurocode 6 set of standards.

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