

Product data SILKA large format elements

Description

Silka calcium silicate elements are a dense, high strength, load bearing, large format block. Silka elements are suitable for application in load bearing and non-load bearing walls, inner leaf cavity walls, boundary walls or other wall constructions. Silka elements are available in various sizes and requirements. Silka calcium silicate products are white-grey in colour and have a smooth surface. Silka is a robust, durable and environmentally sustainable product.

Composition

Raw material: mixture of mainly slaked lime and sand. Method of manufacture: the mixture is pressed into blocks and after that hardening takes place by means of steam under high pressure.





Practical density (included 4% moisture)

1725 – 1950 kg/m³

Shape, size

Shape: rectangular blocks with tongue and groove.

Size:

Type	Size
E 100	1000 x 645/545 x 100 mm
E 150	1000 x 645/545 x 150 mm
E 175	1000 x 645/545 x 175 mm
E 215	1000 x 645/545 x 215 mm
E 240	1000 x 645/545 x 240 mm
E 300	1000 x 645/545 x 300 mm

Accessories: for the kicker course blocks are produced. Fitting pieces are cut to the correct size out of whole blocks at the factory.

Large format blocks tolerances: length, width, and height of +/-1 mm.

Cut blocks, length and height of: from - 4 mm to + 2 mm.

Maximum dimensional variation in one shipment: +/-1 mm.

Appearance

Surface structure: smooth.
Colour: white-grey

Mean compressive strength:

CS12 = 12,0 N/mm²

CS20 = 20,0 N/mm²

CS28 = 28,0 N/mm²

Initial shear strength:

≥ 0,30 N/mm²

Reaction to fire:

Euro class A1

Water absorption:

Not determend

Water vapour permability:

5/25

Mechanical characteristics

fb in accordance with EN 771-2.

Acoustic qualities

Sound absorption coefficient:
= 0.03 (500 – 1000 Hz).

The noise reduction of a wall with fully filled joints and finished:

Single wall Construction	Rw (ISO 717)	Anchorless wall construction	Rw (DIN 4109)
E 100	45 dB	E100 – 50 - E100	61 dB
E 150	50 dB	E150 – 50 - E150	66 dB
E 175	52 dB	E175 - 50 - E175	68 dB
E 215	55 dB	E215 - 50 - E215	70 dB
E 240	56 dB		
E 300	58 dB		

Quality versus characteristic compressive strength in F_k

Normal : CS 20

High strength: CS 28

Fire

SILKA blocks are fireproof. The fire resistance values of a wall with fully filled joints are:

E 100 mm = 90 min

E 150 mm = 200 min

≥ E 215 mm = 360 min



Watervapour diffusion coefficient μ

Vapour resistance: $\mu = 12$

Thermal characteristics

Linear coefficient of expansion:

$\alpha = 9 - 12 \times 10^{-6} \text{ m/(m.K)}$.

Thermal conductivity: $\lambda = 0,86 \text{ W/m.K}$.

Specific heat $c = 840 \text{ J/(kg.K)}$.

Durability (freeze/thaw resistance):

Not determend

Application, design

E 100 to E 300: inner leaf cavity walls and (non) load bearing constructions in masonry back-up.

E 150, E 215: leaves of a cavity wall in anchorless cavity walls in masonry back-up.

Usability, requirements: SILKA large format elements meet the EN772-1 requirements.

Building Process

Storage: on stable, even and non-contaminated surface.

Preparation: pre-processing check (by client) of the working wall drawings supplied by XELLA. Large format blocks, cut blocks and kicker course blocks, which are too dry for processing, should be moistened one day before use.

Application/erection: consult the SILKA application instructions. The large blocks are mechanically stacked, according to the wall drawings supplied with every wall, with calcium silicate thin bed mortar, bed joint thickness 2 mm, perpend joint thickness 3 mm. Both perp ends and bed joints must be fully filled with mortar.

Accessories: SILKA thin bed mortar applicators, mortar scoops, clamping devices and cranes were developed especially for the processing of SILKA large format blocks.

Movement joints: movement joints are indicated on the wall drawings supplied by SILKA/XELLA.

Finishing: SILKA large format elements are applied as masonry walls and can be made ready for wallpaper by means of thin finishing skim plaster.

Workability: machine sawing

silka

Other information

Xella's technical staff are on hand to render assistance with written or telephone enquiries.

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