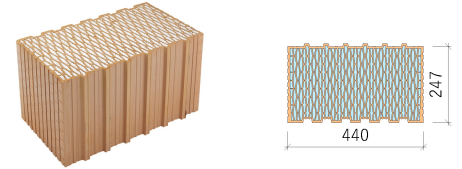


# HELUZ FAMILY 44 2in1 grinded

## USE

Thermal insulation ground bricks filled with expanded polystyrene laid on system thin-layer mortar designed for protected single-layer perimeter brickwork of nearly zero-energy and passive buildings.



## GENERAL INFORMATION

Manufacturing plant	Hevlín II.
Compressive strength (MPa)	10
$\lambda_{10, dry, unit}$ (W/(m.K))	0,059
Dimensions l x w x h (mm)	247 x 440 x 249
Reaction to fire class	B-s1,d0
Bulk density (kg/m <sup>3</sup> )	660
Average weight inf. (kg)	17,9
Additional brick production (yes/no)	Yes

## MASONRY PROPERTIES ON MORTAR

	SBC	SB	PU	SIDI
Bricks consumption per 1 m <sup>2</sup> (pcs)	16	-	16	16
Bricks consumption per 1 m <sup>3</sup> (pcs)	36,4	-	36,4	36,4
Mortar consumption (kg/m <sup>2</sup> , m <sup>2</sup> /dose, kg/m <sup>2</sup> )	4,68	-	5,0	2,20

## THERMAL PROPERTIES

$\lambda_{design, mas}$ (W/(m.K))	0,061	-	0,061	0,062
$U_{design, mas}$ (W/(m <sup>2</sup> .K)) without plasters	0,14	-	0,14	0,14
$U_{design, mas}$ (W/(m <sup>2</sup> .K)) with plasters	0,13	-	0,13	0,13
$U_{dry, mas}$ (W/(m <sup>2</sup> .K)) with plasters	0,13	-	0,13	0,13
Diffusion resistance factor $\mu$ (-)	9,7	-	9,7	9,7
Specific heat capacity c (kJ/(kg.K))	1,0	-	1,0	1,0

## FIRE RESISTANCE

Wall plastered on both sides	REI 90	-	REI 90	REI 30
Wall utilisation degree $\alpha$	0,6	-	0,6	0,6

## STATIC SPECIFICATIONS

Surface weight of walls with plasters (kg/m <sup>2</sup> )	346	-	346	346
A group of masonry elements	3	-	3	3
Masonry element strength (MPa)	10	-	10	10
Compressive strength of masonry $f_k$ (MPa)	3,6	-	2	2,7
Coefficient of elasticity $K_E$	900	-	600	700
Initial shear strength of masonry $f_{vk0}$ (MPa)	0,3	-	0,06	0,3

## SOUNDPROOFING

Weighted sound reduction index $R_w$ (dB)	44	-	43	43
Measured/informative value	indicative	-		indicative
Surface weight of walls with plasters (kg/m <sup>2</sup> )	NPD	-	342	NPD
Bulk density of mortar min. (kg/m <sup>3</sup> )	NPD	-	NPD	NPD
Bulk density of plaster min. (kg/m <sup>3</sup> )	NPD	-	1700	NPD
Plaster thickness (mm)	2x15	-	2x15	2x15

**General information:** The masonry properties are determined by the combination of the masonry element, mortar and surface treatment. It is therefore necessary to respect the principles for designing and building structures in accordance with the HELUZ documents and general regulations and technical standards. Detailed and up-to-date information, which always takes precedence over the technical specification, is available at [constructionselector.heluz.com](http://constructionselector.heluz.com). The technical specifications contain a summary of selected product and structure properties to provide basic information for structure design. Unless otherwise stated, the individual data is based on harmonised European standards and their localisation for the Czech Republic.

**Product properties** are given according to the harmonised EN 771-1:2011+A1:2015 standard. All of the declared product parameters are listed in the declaration of performance.

**Masonry properties for mortar** are given for the selected mortar types in the individual columns. The mortar consumption corresponds to the execution of the masonry in accordance with the technological regulations - HELUZ Performance Manual. Indicative labour content excludes scaffolding.

**Thermal properties.** The values are stated in accordance with EN 1745.  $\lambda_{design, mas}$  and  $U_{design, mas}$  correspond to the design values. Coating is considered for external thermal insulation rendering with  $\lambda = 0.11$  W/m.K thickness of 40 mm, and for internal plastering with  $\lambda = 0.88$  W/m.K thickness of 10 mm. The external and internal heat transfer resistances are  $R_{se} = 0.04$  m<sup>2</sup>.K/W and  $R_{si} = 0.13$  m<sup>2</sup>.K/W, respectively.  $U_{dry, mas}$  indicates the values for coated brickwork with the bricks and mortar in the dry state.

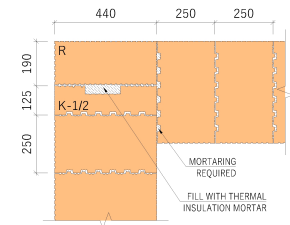
**Fire resistance** is stated for walls with rendering on both sides. The HELUZ SBC and HELUZ SB mortar values are stated in accordance with EN 1996-1-2, Annex B or based on test results. HELUZ Foam (PU) and HELUZ SIDI mortars are determined based on test results.

**Statics:** The group of masonry elements is specified according to EN 1996-1-1. The mechanical properties of the brickwork are based on calculations according to EN 1996-1-1 and test results. The HELUZ Foam (PU) and HELUZ SIDI mortars are determined based on test results.

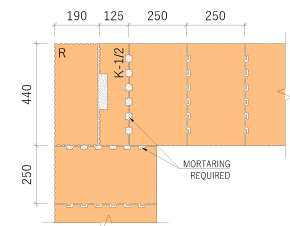
**Soundproofing:**  $R_w$  values are determined by both wall measurement in an accredited laboratory at the specified material composition of the wall and surface weight of the masonry. The indicative values correspond to a qualified estimate based on test results of a similar brick type and material composition of the structure.

## CORNER AND LINING CONNECTION

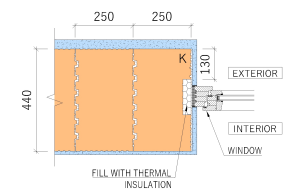
- CORNER BONDING, 1ST ROW OF BRICKWORK



- CORNER BONDING, 2ND ROW OF BRICKWORK



- BONDING AT THE WINDOW REVEAL, 1ST ROW OF BRICKWORK



- BONDING AT THE WINDOW REVEAL, 2ND ROW OF BRICKWORK

