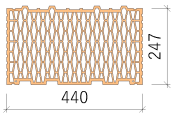
HELUZ

HELUZ PLUS 44



USE

Thermal insulation bricks laid on lightweight or regular mortar designed for protected single-layer perimeter brickwork of nearly zero-energy buildings.

GENERAL INFORMATION

Manufacturing plant	Hevlín II.
Compressive strength (MPa)	10
$\lambda_{10,dry,unit}$ (W/(m.K))	0,099
Dimensions l x w x h (mm)	247 x 440 x 238
Reaction to fire class	A1
Bulk density (kg/m^3)	600
Average weight inf. (kg)	15,5
Additional brick production (yes/no)	Yes

MASONRY PROPERTIES ON MORTAR

	LM5	M5	M10
Bricks consumption per 1 m^2 (pcs)	16	16	16
Bricks consumption per 1 m^3 (pcs)	36,4	36,4	36,4
Mortar consumption (kg/m^2)	26,2	73,0	73,0

THERMAL PROPERTIES

$\lambda_{design, mas}$ (W/(m.K))	0,115	NPD	NPD
$U_{design, mas}$ (W/(m^2.K)) without plasters	0,25	NPD	NPD
$U_{design, mas}$ (W/(m^2.K)) with plasters	0,23	NPD	NPD
$U_{dry, mas}$ (W/(m^2.K)) with plasters	0,21	NPD	NPD
Diffusion resistance factor μ (-)	5/10	5/10	5/10
Specific heat capacity c (kJ/(kg.K))	1,0	1,0	1,0

FIRE RESISTANCE

Wall plastered on both sides	REI 180	REI 180	REI 180
Wall utilisation degree α	1,0	1,0	1,0

STATIC SPECIFICATIONS

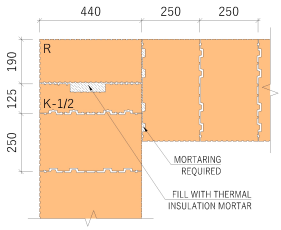
Surface weight of walls with plasters (kg/m^2)	366	366	366
A group of masonry elements	3	3	3
Masonry element strength (MPa)	10	10	10
Compressive strenght of masonry f_k (MPa)	2,2	3,1	3,8
Coefficient of elasticity K_E	1000	1000	1000
Initial shear strength of masonry f_{vk0} (MPa)	0,15	0,2	0,3

SOUNDPROOFING

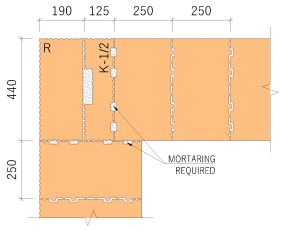
Weighted sound reduction index R_w (dB)	46	47	47
Measured/informative value	indicative	indicative	indicative
Surface weight of walls with plasters (kg/m^2)	NPD	NPD	NPD
Bulk density of mortar min. (kg/m^3)	NPD	NPD	NPD
Bulk density of plaster min. (kg/m^3)	NPD	NPD	NPD
Plaster thickness (mm)	2x15	2x15	2x15

CORNER AND LINING CONNECTION

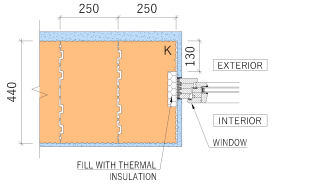
- CORNER BONDING, 1ST ROW OF BRICKWORK



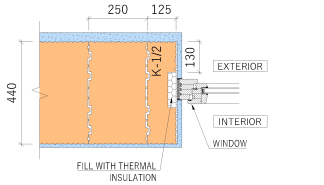
- CORNER BONDING, 2ND ROW OF BRICKWORK



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



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



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. 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 λ = 0.11 W/m.K thickness of 40 mm, and for internal plastering with λ = 0.88 W/m.K thickness of 10 mm. The external and internal heat transfer resistances are R_{se} = 0.04 m^2.K/W and R_{si} = 0.13 m^2.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.