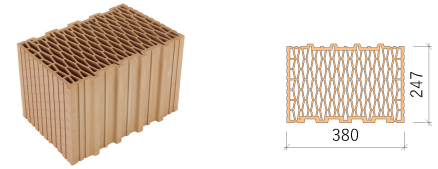


# HELUZ PLUS 38

## USE

Thermal insulation bricks laid on lightweight or regular mortar designed for protected single-layer perimeter brickwork and for insulated perimeter brickwork.



## GENERAL INFORMATION

|                                      |                 |  |  |
|--------------------------------------|-----------------|--|--|
| Manufacturing plant                  | Hevlín II.      |  |  |
| Compressive strength (MPa)           | 10              |  |  |
| $\lambda_{10, dry, unit}$ (W/(m.K))  | 0,1             |  |  |
| Dimensions l x w x h (mm)            | 247 x 380 x 238 |  |  |
| Reaction to fire class               | A1              |  |  |
| Bulk density (kg/m <sup>3</sup> )    | 595             |  |  |
| Average weight inf. (kg)             | 13,3            |  |  |
| Additional brick production (yes/no) | No              |  |  |

## MASONRY PROPERTIES ON MORTAR

|   | LM5  | M5   | M10  |
|---|------|------|------|
| Bricks consumption per 1 m <sup>2</sup> (pcs) | 16   | 16   | 16   |
| Bricks consumption per 1 m <sup>3</sup> (pcs) | 42,1 | 42,1 | 42,1 |
| Mortar consumption (kg/m <sup>2</sup> )       | 22,5 | 62,6 | 62,6 |

## THERMAL PROPERTIES

|  | LM5   | M5   | M10  |
|--|-------|------|------|
| $\lambda_{design, mas}$ (W/(m.K))                          | 0,116 | NPD  | NPD  |
| $U_{design, mas}$ (W/(m <sup>2</sup> .K)) without plasters | 0,29  | NPD  | NPD  |
| $U_{design, mas}$ (W/(m <sup>2</sup> .K)) with plasters    | 0,26  | NPD  | NPD  |
| $U_{dry, mas}$ (W/(m <sup>2</sup> .K)) with plasters       | 0,24  | NPD  | NPD  |
| Diffusion resistance factor $\mu$ (-)                      | 5/10  | 5/10 | 5/10 |
| Specific heat capacity c (kJ/(kg.K))                       | 1,0   | 1,0  | 1,0  |

## FIRE RESISTANCE

|                                  | LM5     | M5      | M10     |
|----------------------------------|---------|---------|---------|
| Wall plastered on both sides     | REI 120 | REI 120 | REI 120 |
| Wall utilisation degree $\alpha$ | 1,0     | 1,0     | 1,0     |

## STATIC SPECIFICATIONS

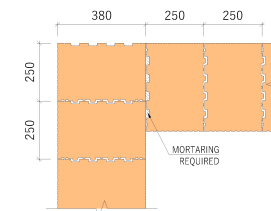
|  | LM5  | M5   | M10  |
|--|------|------|------|
| Surface weight of walls with plasters (kg/m <sup>2</sup> ) | 320  | 320  | 320  |
| A group of masonry elements                                | 3    | 3    | 3    |
| Masonry element strength (MPa)                             | 10   | 10   | 10   |
| Compressive strength of masonry $f_k$ (MPa)                | 2,2  | 3,1  | 3,8  |
| Coefficient of elasticity $K_E$                            | 1000 | 1000 | 1000 |
| Initial shear strength of masonry $f_{vko}$ (MPa)          | 0,15 | 0,2  | 0,3  |

## SOUNDPROOFING

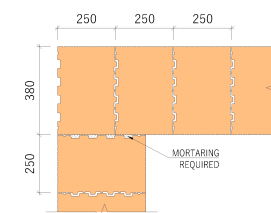
|  | LM5        | M5         | M10        |
|--|------------|------------|------------|
| Weighted sound reduction index $R_w$ (dB)                  | 43         | 44         | 44         |
| Measured/informative value                                 | indicative | indicative | indicative |
| Surface weight of walls with plasters (kg/m <sup>2</sup> ) | NPD        | NPD        | 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        | NPD        | NPD        |
| Plaster thickness (mm)                                     | 2x15       | 2x15       | 2x15       |

## CORNER AND LINING CONNECTION

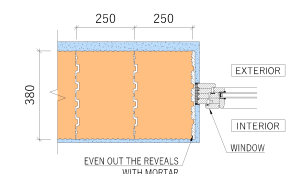
- CORNER BONDING, 1ST ROW OF BRICKWORK



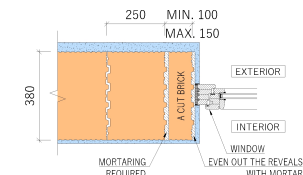
- CORNER BONDING, 2ND ROW OF BRICKWORK



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



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



- NEVER INSERT A BRICK WITH THE CUT SIDE TOWARDS THE REVEAL

**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.