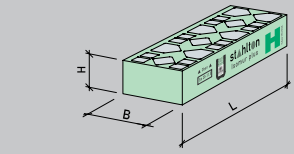
# STRUCTURAL DIMENSIONING

## BRICK COMPRESSIVE STRENGTH CLASS 20

| ISOMUR® Plus elements perspective | ISOMUR® Plus type | Width W [mm] | Height H [mm] | Length L [mm] | Load-bearing capacity kN/m | Thermal conductivity[1] [W/mK] |
|---|---|---|---|---|---|---|
|  High-strength lightweight concrete<br>Rigid polystyrene foam | 20-11.5 | 115 | 113 | 600 | In accordance with approval | 0.245 |
| | 20-15.0 | 150 | | | | |
| | 20-17.5 | 175 | | | | |
| | 20-20.0 | 200 | | | | |
| | 20-24.0 | 240 | | | | |
| | 20-30.0* | 300 | | | | |

* without approval

Dimensioning of brick walls using ISOMUR® Plus is carried out in accordance with DIN 1053, part 1. All regulations that deviate from this standard are listed in the approval Z-17.1-811.
These concern:

- **Lateral earth pressure:** ISOMUR® Plus is only used in walls that are not subject to long-term lateral earth pressure loads
- **Spatial rigidity:** Brick walls with ISOMUR® Plus do not require mathematical verification for multi-storey buildings up to two full stories plus loft conversion if the conditions stated in DIN 1053 part 1, section 6.4 have been met
- **Earthquake zones 3 and 4:** Verification that buildings are sufficiently braced is performed on the basis of interior walls, as walls with ISOMUR® Plus are not taken into account for calculations in the stated zones

## BASIC VALUES $\sigma_o$ FOR THE PERMITTED COMPRESSIVE STRESS IN ACCORDANCE WITH APPROVAL [2]

| ISOMUR® Plus type | Compressive strength class of sand-lime bricks | Basic values $\sigma_o$ for the permitted compressive stresses in N[mm²] Brickwork with mortar in accordance with DIN 1053-1 | | |
|---|---|---|---|---|
| | | Standard mortar from mortar group IIa | Standard mortar from mortar group III | Thin bed mortar |
| 20-11.5 | 12 | 1.6 | 1.6 | 1.8 |
| 20-15.0 | ≥ 20 | 1.9 | 1.9 | 2.4 |
| 20-17.5 | | | | |
| 20-20.0 | | | | |
| 20-24.0 | | | | |

1) Design value for thermal conductivity, equivalent λ value on a homogeneous body
2) Brickwork: Sand-lime bricks or sand-lime blocks in accordance with DIN 106, part 1; solid brick in accordance with DIN 105, part 1 or 2 (proportion of holes ≤ 15%)