

VOLMA Gypsum Blocks are produced in accordance to EN 12859

Volma gypsum tongue-and-groove blocks have a rectangular parallelepiped shape. The joint and support surfaces have groove and tongue on corresponding sides. There exist standard and waterproof gypsum blocks. The waterproof gypsum blocks have bluish colour marking. The gypsum blocks can be either hollow or solid.

APPLICATION AREA

Standard gypsum blocks are produced for installation of constructions (partitions, internal lining of walls purposed to obtain the additional heat and acoustic insulation conforming to the currently applicable standards) in premises with dry and normal humidity conditions.

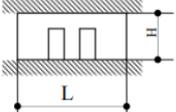
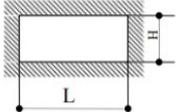
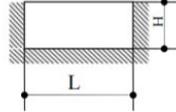
Waterproof gypsum blocks are used for erecting of constructions in premises with high humidity. In the process of these blocks' production the special water-repellent agents are being added to reduce water absorption.

TECHNICAL FEATURES						
Thickness, mm	100 (standard) solid	100 (waterproof) solid	80 (standard) solid	80 (waterproof) solid	80 (standard) hollow	80 (waterproof) hollow
Visual appearance						
Length x height, mm	(667 ±3)*(500 ±2)*100	(667 ±3)*(500 ±2)*100	(667 ±3)*(500 ±2)*80	(667 ±3)*(500 ±2)*80	(667 ±5)*(500 ±2)*80	(667 ±3)*(500 ±2)*80
Colour	natural	bluish	natural	bluish	natural	bluish
Density, kg/m ³	≤1,100	≤1,250	≤1,100	≤1,250	≤1,100	≤1,250
Block weight, kg	≤37	≤37	≤30	≤30	≤23	≤23
Strength class	A	A	A	A	A	A
Bending strength, kN	≤4.0	≤4.0	≤2.7	≤2.7	≤1.7	≤1.7
Moisture content (% by weight)	≤8	≤8	≤8	≤8	≤8	≤8
pH level	6.5–10.5	6.5–10.5	6.5–10.5	6.5–10.5	6.5–10.5	6.5–10.5
Water absorption class	H3	H2	H3	H2	H3	H2
Fire resistance (DIM 4102)	non-combustible	non-combustible	non-combustible	non-combustible	non-combustible	non-combustible
Thermal conductivity λ_A λ_B (W/mK)	0.29 0.35	0.29 0.35	0.29 0.35	0.29 0.35	0.29 0.35	0.29 0.35
Water vapor permeability (μ)	0.11	0.11	0.11	0.11	0.11	0.11
Packaging	Stretch wrap	Stretch wrap	Stretch wrap	Stretch wrap	Stretch wrap	Stretch wrap

TOLERANCES ON BLOCK DEFECTS:

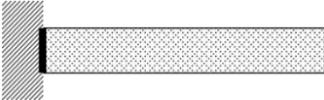
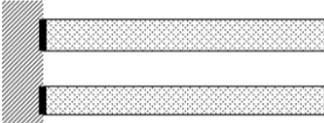
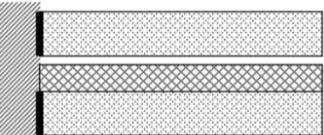
- deviation from the perpendicularity of adjacent edges should not exceed 2 mm;
- deviation from the plane surface should not exceed 2 mm

The parameters of VOLMA gypsum blocks (including the section dimensions, connections and joints with other constructions, fastening of hinged structures) may be implemented without additional design calculations, provided, however, that dimensions of partition structures do not exceed the values below

Scheme of partition fastening to loadbearing constructions	Max. permissible height H, mm	Max. permissible length L, mm
 <p>Two-sided: the blocks are fastened along the whole length at the top and bottom</p>	3,200	7,600
	4,000	3,600
 <p>Four-sided: the blocks are fastened at 4 sides</p>	3,600	6,000
	4,000	4,500
 <p>Three-sided: the blocks are fastened at 3 sides</p>	2,500	5,000

Gypsum blocks are applied for the construction of single-board and double-board partition walls. Single-board walls are designed for partitions inside apartment, whereas double-board walls are designed for separations between different apartments, creating an air gap and additional layer of sound-proofing material. The lining of external walls made of gypsum blocks is usually performed as single-boarded with a layer of heat-insulating material.

PARTITION STRUCTURES

Design	Structure	Gypsum block type	Weight 1m ² , kg
	Single-board (80)	Solid	87
		Hollow	66
	Double-board (80x2)	Solid	174
		Hollow	132
	Double-board, with a layer of sound insulation (80x2M)	Solid	181
		Hollow	137

INDEX OF AIRBORNE SOUND INSULATION

Partition type	Index of airborne sound insulation, R_w (dB)
Single-board	42
Double-board, with an air gap of at least 40 mm filled with fibrous sound-insulating material up to at least 50%	53

The standard gypsum blocks should be designed for wall partitions in premises with dry and normal humidity conditions, and waterproof gypsum blocks should be designed for premises with high humidity conditions.

INSTALLATION

The adhesive putty based on gypsum binder "VOLMA-Montaj" is applied when laying the standard and waterproof gypsum block and attaching the elastic gaskets to cladding constructions.

When working with gypsum blocks:

- avoid any impact on gypsum blocks;
- avoid wetting of gypsum blocks;
- in open areas, store gypsum blocks on pallets packed in a wrap following safety requirements;
- in case of a large difference between the outdoor and indoor temperatures, hold gypsum boards indoors for at least 4 hours prior to installation.

Dust and dirt must be removed from the base floor, walls, and ceiling prior to installation.

When laying the gypsum boards with the groove up, remove the tongue with a roughing plane from all blocks in the first row.

Use floating rule and level when installing and aligning the first-row gypsum blocks. When laying the subsequent rows, apply the adhesive to the groove of the lower row and the vertical end groove.

The tightly joined gypsum blocks in the last row must be made with beveled edges. The cavity between the top blocks and ceiling is filled with adhesive. If necessary, cut the gypsum blocks to fit the ceiling configuration.

For door (window) openings, an auxiliary wooden mounting element must be installed above the intended opening to secure the right position of gypsum blocks before the adhesive setting in the joints. The mounting element may be removed after the adhesive drying.

The wooden, steel (corrosion protected), aluminum or plastic frames may be installed in wall partitions. It is recommended to install frames of all types during the erection of partitions.

In corners and places of partitions intersection, the gypsum blocks must be laid so that they alternately overlap the joints of the lower rows. Do not allow open vertical joints.

Outer corners must be reinforced with a perforated angle bar which is pressed into the previously applied putty.

Internal corners must be reinforced with a reinforcing tape. The tape is placed into the putty which was previously applied to the corner, followed by another leveling layer.

In double-board walls, install first one partition, then the same another one, with the air gap separation. For better acoustic insulation, install a layer of a sound-proofing material onto the first partition prior to erection of the second partition, fixing the material with adhesive inside the air gap.