

**External wall****1) PERMANENT LOAD**

<b>1.1) Roof and Ceiling of First Floor</b>	thickness [m]	unit load [kN/m3]	loading width [m]	load [kN]
Reinforced concrete attic	0,25	25	0,3	1,87500
Vegetation substrate	0,07	0,09	4,12	0,02596
Geotextile	0,002	0	4,12	0,00000
Drainage	0,02	1	0	0,00000
Geotextile	0,002	0	4,12	0,00000
SBS bitumen felt	0,004	0,0454	4,12	0,00075
SBS bitumen felt	0,004	0,0454	4,12	0,00075
Thermal insulation EPS 200	0,14	0,19	0	0,00000
Thermal insulation EPS 200	0,1	0,19	4,12	0,07828
Vapour barrier SBS bitumen felt	0,004	0,0454	4,12	0,00075
Concrete grouting	0,06	25	4,12	6,18000
Concrete slab	0,19	15,5	4,12	12,13340
Reinforced concrete ring	0,25	25	0,3	1,87500
Dropped ceiling	0,025	7,5	4,12	0,77250
<b>TOTAL</b>				<b>22,942</b>

<b>1.2) Ceiling of Ground Floor</b>	thickness [m]	unit load [kN/m3]	loading width [m]	load [kN]
Tiles	0,01	20	4,12	0,824
Adhesive	0,004	15	4,12	0,247
Waterproofing	0,001	22	4,12	0,091
Concrete grouting	0,07	25	4,12	7,21000
Step insulation	0,04	0,18	0	0,00000
Concrete grouting	0,06	25	4,12	6,18000
Concrete slab	0,19	15,5	4,12	12,13340
Reinforced concrete ring	0,25	25	0,3	1,87500
Dropped ceiling	0,025	7,5	4,12	0,77250
<b>TOTAL</b>				<b>29,333</b>

**1.3) Floor of Ground Floor**

	thickness [m]	unit load [kN/m3]	loading width [m]	load [kN]
Tiles	0,01	20	4,12	0,824
Adhesive	0,004	15	4,12	0,247
Waterproofing	0,001	22	4,12	0,091
Concrete grouting	0,07	25	4,12	7,21000
Thermal insulation EPS 200	0,04	0,19	4,12	0,03131
Thermal insulation EPS 200	0,08	0,19	4,12	0,06262
SBS bitumen felt	0,004	0,0454	4,12	0,00075
SBS bitumen felt	0,004	0,0454	4,12	0,00075
Concrete slab with kari net	0,1	25	4,12	10,30000
<b>TOTAL</b>				<b>18,767</b>

**1.4) VERTICAL STRUCTURES**

	thickness [m]	unit load [kN/m3]	loading width [m]	load [kN]
Heluz 2in1	0,5	0,65	0,25	0,081
Dropped ceiling	0,013	7,5	0,013	0,00127
Mortar exterior	0,01	20	0,01	0,00200
Mortar interior	0,001	20	0,001	0,00002
<b>TOTAL</b>				<b>0,085</b>

**1.5) FOUNDATIONS SELF-WEIGHT**

	thickness [m]	unit load [kN/m3]	loading width [m]	load [kN]
Block Wall, 2x 400x400x250	0,25	25	0,5	3,125
Foundation strip	1	25	1,2	30
<b>TOTAL</b>				<b>33,125</b>

**SUM OF PERMANENT LOADS**

	gk	γ	gd	
Permanent load	104,252	1,35	<b>140,7401061</b>	kN
Safety overcharge = 15%	15,63778957	1,35	<b>21,11101592</b>	kN

**TOTAL PERMANENT LOAD****161,851122 kN****2) VARIABLE LOAD**

	[kN/m2]	γ	LW [m]	
2.1) var. load from 1st floor	3	1,5	2,46	3,69
2.2) var. load from 2nd floor	3	1,5	2,46	3,69
2.3) var- load from roof - snow	1	0,7	2,46	1,722

**TOTAL VARIABLE LOAD****9,102 kN****TOTAL ACTING LOAD (PERMANENT+VARIABLE)****170,953 kN**

## Internal wall 2

### 1) PERMANENT LOAD

1.1) Roof and Ceiling of First Floor	thickness [m]	unit load [kN/m3]	loading width [m]	load [kN]
Vegetation substrate	0,07	0,09	7,548	0,04755
Geotextile	0,002	0	7,548	0,00000
Drainage	0,02	1	0	0,00000
Geotextile	0,002	0	7,548	0,00000
SBS bitumen felt	0,004	0,0454	7,548	0,00137
SBS bitumen felt	0,004	0,0454	7,548	0,00137
Thermal insulation EPS 200	0,14	0,19	0	0,00000
Thermal insulation EPS 200	0,1	0,19	7,548	0,14341
Vapour barrier SBS bitumen felt	0,004	0,0454	7,548	0,00137
Concrete grouting	0,06	25	7,548	11,32200
Concrete slab	0,19	15,5	7,548	22,22886
Reinforced concrete ring	0,25	25	0,3	1,87500
Dropped ceiling	0,025	7,5	7,548	1,41525
<b>TOTAL</b>				<b>37,036</b>

1.2) Ceiling of Ground Floor	thickness [m]	unit load [kN/m3]	loading width [m]	load [kN]
Tiles	0,01	20	7,548	1,510
Adhesive	0,004	15	7,548	0,453
Waterproofing	0,001	22	7,548	0,166
Concrete grouting	0,07	25	7,548	13,20900
Step insulation	0,04	0,18	0	0,00000
Concrete grouting	0,06	25	7,548	11,32200
Concrete slab	0,19	15,5	7,548	22,22886
Reinforced concrete ring	0,25	25	0,3	1,87500
Dropped ceiling	0,025	7,5	7,548	1,41525
<b>TOTAL</b>				<b>52,179</b>

<b>1.3) Floor of Ground Floor</b>	thickness [m]	unit load [kN/m3]	loading width [m]	load [kN]
Tiles	0,01	20	7,548	1,510
Adhesive	0,004	15	7,548	0,453
Waterproofing	0,001	22	7,548	0,166
Concrete grouting	0,07	25	7,548	13,20900
Thermal insulation EPS 200	0,04	0,19	7,548	0,05736
Thermal insulation EPS 200	0,08	0,19	7,548	0,11473
SBS bitumen felt	0,004	0,0454	7,548	0,00137
SBS bitumen felt	0,004	0,0454	7,548	0,00137
Concrete slab with kari net	0,1	25	7,548	18,87000
<b>TOTAL</b>				<b>34,382</b>

<b>1.4) VERTICAL STRUCTURES</b>	thickness [m]	unit load [kN/m3]	loading width [m]	load [kN]
Heluz AKU	7,548	0,98	0,5	3,699
Dropped ceiling	7,548	7,5	0,013	0,73593
Mortar interior	7,548	20	0,001	0,15096
<b>TOTAL</b>				<b>4,585</b>

<b>1.5) FOUNDATIONS SELF-WEIGHT</b>	thickness [m]	unit load [kN/m3]	loading width [m]	load [kN]
Block Wall, 2x 400x400x250	0,25	25	0,5	3,125
Foundation strip	1,4	25	1,4	49
<b>TOTAL</b>				<b>52,125</b>

<b>SUM OF PERMANENT LOADS</b>	gk	γ	gd	
Permanent load	180,308	1,35	<b>243,4152794</b>	kN
Safety overcharge = 15%	27,04614216	1,35	<b>36,51229191</b>	kN

<b>TOTAL PERMANENT LOAD</b>	<b>279,9275713</b>	<b>kN</b>
-----------------------------	--------------------	-----------

<b>2) VARIABLE LOAD</b>	[kN/m2]	γ	LW [m]	
2.1) var. load from 1st floor	3	1,5	2,46	3,69
2.2) var. load from 2nd floor	3	1,5	2,46	3,69
2.3) var- load from roof - snow	1	0,7	2,46	1,722
<b>TOTAL VARIABLE LOAD</b>			<b>9,102</b>	<b>kN</b>

<b>TOTAL ACTING LOAD (PERMANENT+VARIABLE)</b>	<b>289,030</b>	<b>kN</b>
---	----------------	-----------

**Internal wall 1****1) PERMANENT LOAD**

<b>1.1) Roof and Ceiling of First Floor</b>	thickness [m]	unit load [kN/m3]	loading width [m]	load [kN]
Vegetation substrate	0,07	0,09	6,76	0,04259
Geotextile	0,002	0	6,76	0,00000
Drainage	0,02	1	0	0,00000
Geotextile	0,002	0	6,76	0,00000
SBS bitumen felt	0,004	0,0454	6,76	0,00123
SBS bitumen felt	0,004	0,0454	6,76	0,00123
Thermal insulation EPS 200	0,14	0,19	0	0,00000
Thermal insulation EPS 200	0,1	0,19	6,76	0,12844
Vapour barrier SBS bitumen felt	0,004	0,0454	6,76	0,00123
Concrete grouting	0,06	25	6,76	10,14000
Concrete slab	0,19	15,5	6,76	19,90820
Reinforced concrete ring	0,25	25	0,3	1,87500
Dropped ceiling	0,025	7,5	6,76	1,26750
<b>TOTAL</b>				<b>33,365</b>

<b>1.2) Ceiling of Ground Floor</b>	thickness [m]	unit load [kN/m3]	loading width [m]	load [kN]
Tiles	0,01	20	6,76	1,352
Adhesive	0,004	15	6,76	0,406
Waterproofing	0,001	22	6,76	0,149
Concrete grouting	0,07	25	6,76	11,83000
Step insulation	0,04	0,18	0	0,00000
Concrete grouting	0,06	25	6,76	10,14000
Concrete slab	0,19	15,5	6,76	19,90820
Reinforced concrete ring	0,25	25	0,3	1,87500
Dropped ceiling	0,025	7,5	6,76	1,26750
<b>TOTAL</b>				<b>46,927</b>

<b>1.3) Floor of Ground Floor</b>	thickness [m]	unit load [kN/m3]	loading width [m]	load [kN]
Tiles	0,01	20	6,76	1,352
Adhesive	0,004	15	6,76	0,406
Waterproofing	0,001	22	6,76	0,149
Concrete grouting	0,07	25	6,76	11,83000
Thermal insulation EPS 200	0,04	0,19	6,76	0,05138
Thermal insulation EPS 200	0,08	0,19	6,76	0,10275
SBS bitumen felt	0,004	0,0454	6,76	0,00123
SBS bitumen felt	0,004	0,0454	6,76	0,00123
Concrete slab with kari net	0,1	25	6,76	16,90000
<b>TOTAL</b>				<b>30,793</b>

<b>1.4) VERTICAL STRUCTURES</b>	thickness [m]	unit load [kN/m3]	loading width [m]	load [kN]
Heluz AKU	6,76	0,98	0,5	3,312
Dropped ceiling	6,76	7,5	0,013	0,65910
Mortar interior	6,76	20	0,001	0,13520
<b>TOTAL</b>				<b>4,107</b>

<b>1.5) FOUNDATIONS SELF-WEIGHT</b>	thickness [m]	unit load [kN/m3]	loading width [m]	load [kN]
Block Wall, 2x 400x400x250	0,25	25	0,5	3,125
Foundation strip	1,3	25	1,4	45,5
<b>TOTAL</b>				<b>48,625</b>

<b>SUM OF PERMANENT LOADS</b>	gk	γ	gd	
Permanent load	163,817	1,35	221,152996	kN
Safety overcharge = 15%	24,57255511	1,35	33,1729494	kN

<b>TOTAL PERMANENT LOAD</b>	<b>254,3259454 kN</b>
-----------------------------	-----------------------

## 2) VARIABLE LOAD

	[kN/m2]	γ	LW [m]	
2.1) var. load from 1st floor	3	1,5	2,46	3,69
2.2) var. load from 2nd floor	3	1,5	2,46	3,69
2.3) var- load from roof - snow	1	0,7	2,46	1,722

<b>TOTAL VARIABLE LOAD</b>	<b>9,102 kN</b>
----------------------------	-----------------

<b>TOTAL ACTING LOAD (PERMANENT+VARIABLE)</b>	<b>263,428 kN</b>
---	-------------------