Description of materials and construction elements

ISO 6946
ISO 10077
ISO 13370
ISO 10456

INDEX

1.- BUILDING ENVELOPE

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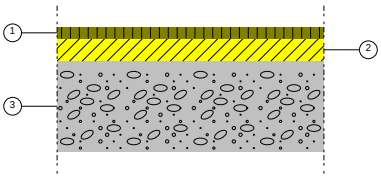
1.1.- Floors in contact with the ground

1.1.1.- Screeds

Screed — Total surface area 131.13 m²

Screed



Layer list:

1 -	F18 - Terrazzo	2.54 cm
2 -	I02 - 50 mm insulation board	5.08 cm
3 -	M15 - 200 mm heavyweight concrete	20.32 cm

Properties

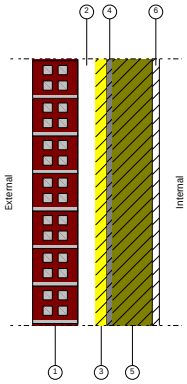
Thermal transmittance, U: 0.29 W/(m²·K)
Total thickness 27.94 cm
Characteristic length of, B': 5.616 m
Thermal resistance of the floor slab, Rf: 1.87 (m²·K)/W
Floor slab surface area, A: 144.05 m²
Floor slab perimeter, P: 51.300 m
Thermal conductivity, λ: 2.000 W/(m·K)

1.2.- Façades

1.2.1.- Opaque fraction of the façades

Brick wall 13 — Total surface area 448.70 m²

Brick wall 13



Layer list:

1 -	M01 - 100 mm brick	10.16 cm
2 -	F04 - Wall air space resistance	4.00 cm
3 -	I01 - 25 mm insulation board	2.54 cm
4 -	G03 - 13 mm fiberboard sheathing	1.27 cm
5 -	I04 - 89 mm batt insulation	8.94 cm
6 -	G01 - 16 mm gyp board	1.59 cm

Properties

Thermal transmittance, U: 0.28 W/(m²·K)
Total thickness 28.50 cm

1.2.2.- Façade openings

External door

External door

Properties

Thermal transmittance, U: 2.00 W/(m²·K)
Solar factor, g: 0.700
Opaque fraction, Ff: 0

Window 1

Window 1

Properties
Thermal transmittance, U: 2.00 W/(m²·K)
Solar factor, g: 0.700
Opaque fraction, Ff: 0

Window 2

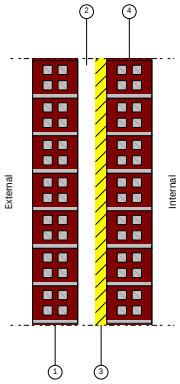
Window 2

Properties
Thermal transmittance, U: 2.00 W/(m²·K)
Solar factor, g: 0.700
Opaque fraction, Ff: 0

1.3.- Party walls

Brick wall 17 — Total surface area 159.13 m²

Brick wall 17



Layer list:

1 -	M01 - 100 mm brick	10.16 cm
2 -	F04 - Wall air space resistance	4.00 cm
3 -	I01 - 25 mm insulation board	2.54 cm
4 -	M01 - 100 mm brick	10.16 cm

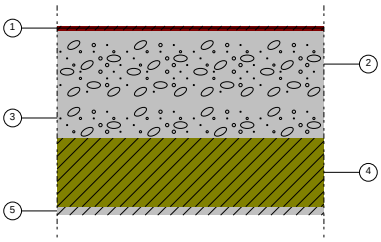
Properties
Thermal transmittance, U: 0.66 W/(m²·K)
Total thickness 26.86 cm

1.4.- Roofs

1.4.1.- Infilled part of the flat roofs

Concrete roof 19 — Total surface area 130.20 m²

Concrete roof 19



Layer list:

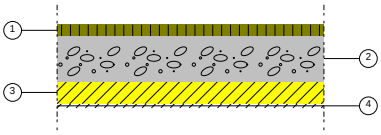
1 -	F13 - Built-up roofing	0.95 cm
2 -	M14 - 150 mm heavyweight concrete	15.24 cm
3 -	F05 - Ceiling air space resistance	9.00 cm
4 -	I05 - 154 mm batt insulation	15.44 cm
5 -	F16 - Acoustic tile	1.91 cm

Properties
Thermal transmittance, U: 0.24 W/(m²·K)
Total thickness 42.54 cm

1.5.- External floors

External floor slab	Total surface area 6.55 m²

External floor slab



Layer list:

1 -	Terrazzo	2.54 cm
2 -	100 mm lightweight concrete	10.16 cm
3 -	50 mm insulation board	5.08 cm
4 -	EIFS finish	0.95 cm

Properties

Thermal transmittance, U: 0.49 W/(m²·K)
Total thickness 18.73 cm

2.- PARTITIONING SYSTEM

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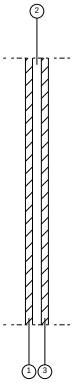
2.1.- Internal vertical partitioning

2.1.1.- Non-visible part of the internal vertical partitioning

Simple partition — Total surface area 284.05 m²

Simple partition



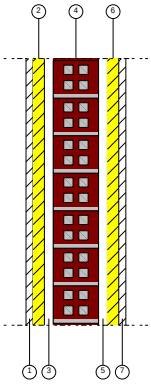
Layer list:

1 -	16 mm gyp board	1.59 cm
2 -	Wall air space resistance	2.00 cm
3 -	16 mm gyp board	1.59 cm

Properties Thermal transmittance, U: 1.64 W/(m²·K)
Total thickness 5.18 cm

Isolated partition — Total surface area 121.22 m²

Isolated partition



Layer list:

1 -	16 mm gyp board	1.59 cm
2 -	25 mm insulation board	2.54 cm
3 -	Wall air space resistance	2.00 cm
4 -	100 mm brick	10.16 cm
5 -	Wall air space resistance	2.00 cm
6 -	25 mm insulation board	2.54 cm
7 -	16 mm gyp board	1.59 cm

Properties Thermal transmittance, U: 0.39 W/(m²·K)
Total thickness 22.42 cm

2.1.2.- Internal vertical openings

Internal door

Internal door

Properties Thermal transmittance, U: 2.03 W/(m²·K)
Absorptance, α_S: 0.600 (colour intermediate)

Double door

Double door

Properties Thermal transmittance, U: 2.03 W/(m²·K)
Absorptance, α_S: 0.600 (colour intermediate)

Internal window

Internal window

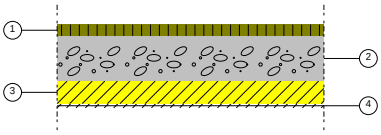
Properties

Thermal transmittance, U: 2.00 W/(m²·K)
Solar factor, g: 0.700
Opaque fraction, Ff: 0

2.2.- Internal horizontal partitioning

Floor slab	Total surface area 316.90 m²

Floor slab



Layer list:

1 -	F18 - Terrazzo	2.54 cm
2 -	M11 - 100 mm lightweight concrete	10.16 cm
3 -	I02 - 50 mm insulation board	5.08 cm
4 -	F06 - EIFS finish	0.95 cm

Properties

Thermal transmittance, U: 0.47 W/(m²·K)
Total thickness 18.73 cm

3.- MATERIALS

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Layers					
Material	e	ρ	λ	RT	Cp
M01 - 100 mm brick	10.16	1920.00	0.894	0.11	790.00
I01 - 25 mm insulation board	2.54	43.00	0.029	0.88	1210.00
G03 - 13 mm fiberboard sheathing	1.27	400.00	0.068	0.19	1300.00
I04 - 89 mm batt insulation	8.94	19.00	0.046	1.94	960.00
G01 - 16 mm gyp board	1.59	800.90	0.160	0.10	1088.00
16 mm gyp board	1.59	800.90	0.160	0.10	1088.00
25 mm insulation board	2.54	43.00	0.030	0.85	1210.00
100 mm brick	10.16	1920.00	0.890	0.11	790.00
F13 - Built-up roofing	0.95	1120.00	0.162	0.06	1460.00
M14 - 150 mm heavyweight concrete	15.24	2240.00	1.947	0.08	900.00
F05 - Ceiling air space resistance	9.00	1.00	0.500	0.18	1008.00
I05 - 154 mm batt insulation	15.44	19.00	0.046	3.36	960.00
F16 - Acoustic tile	1.91	368.00	0.061	0.31	590.00
F18 - Terrazzo	2.54	2560.00	1.803	0.01	790.00
M11 - 100 mm lightweight concrete	10.16	1280.00	0.534	0.19	840.00
I02 - 50 mm insulation board	5.08	43.00	0.029	1.75	1210.00
F06 - EIFS finish	0.95	1856.00	0.721	0.01	840.00
Terrazzo	2.54	2560.00	1.800	0.01	790.00
100 mm lightweight concrete	10.16	1280.00	0.530	0.19	840.00
50 mm insulation board	5.08	43.00	0.030	1.69	1210.00
EIFS finish	0.95	1856.00	0.720	0.01	840.00
M15 - 200 mm heavyweight concrete	20.32	2240.00	1.947	0.10	900.00

Used abbreviations			
e	*Thickness cm*	RT	*Thermal resistance (m²·K)/W*
ρ	*Density kg/m³*	Cp	*Specific heat J/(kg·K)*
λ	*Thermal conductivity W/(m·K)*		