

Synopsis

Spartas



General project data

Name of building project: Spartas

Address data:

Name of developer: --
 Street of project, house no.: --
 ZIP or Post code, Town/City: --
 Climatic region: LT-Vilnius
 Planning phase: --
 Planning serial number: --
 Comment on planning: --

Areas summary

	Comp. A	Comp. B	Comp. C	Total
Treated floor area:	142.20 m ²	0.00 m ²	0.00 m ²	142.20 m ²
Envelope areas:				
Exterior walls:	191.46 m ²	0.00 m ²	0.00 m ²	191.46 m ²
Exterior walls to ground:	0.00 m ²	0.00 m ²	0.00 m ²	0.00 m ²
Roof area / top floor ceiling:	72.25 m ²	0.00 m ²	0.00 m ²	72.25 m ²
Cellar ceiling / floor slab:	71.10 m ²	0.00 m ²	0.00 m ²	71.10 m ²
Window/doors:				
Windows facing east:	3.69 m ²	0.00 m ²	0.00 m ²	0.00 m ²
Windows facing south:	0.00 m ²	0.00 m ²	0.00 m ²	0.00 m ²
Windows facing west:	0.00 m ²	0.00 m ²	0.00 m ²	0.00 m ²
Windows facing north:	0.00 m ²	0.00 m ²	0.00 m ²	0.00 m ²
Horizontal window area:	0.00 m ²	0.00 m ²	0.00 m ²	0.00 m ²
Exterior door:	0.00 m ²	0.00 m ²	0.00 m ²	0.00 m ²
Total of all building envelope areas:	338.50 m ²	0.00 m ²	0.00 m ²	338.50 m ²

Summary of constructional U-values

	AF 1 (m ²)	U-value 1 (W/m ² K)	AF 2 (m ²)	U-value 2 (W/m ² K)	AF 3 (m ²)	U-value 3 (W/m ² K)	Mean U-value (W/m ² K)
EW - AA:	123.00	0.10	0.00	0.00	0.00	0.00	0.100
EW - G:	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RA / TFC:	71.85	0.10	0.00	0.00	0.00	0.00	0.100
CC / FF:	71.54	0.10	0.00	0.00	0.00	0.00	0.100

Summary of glazing U-values

U-value for easterly orientation:	0.49	W/m ² K
U-value for southerly orientation:	0.49	W/m ² K
U-value for westerly orientation:	0.49	W/m ² K
U-value for northerly orientation:	0.49	W/m ² K
Mean U-value:	0.49	W/m ² K

Summary of window frame/exterior door U-values

U-value for easterly orientation:	0.65	W/m ² K
U-value for southerly orientation:	0.65	W/m ² K
U-value for westerly orientation:	0.65	W/m ² K
U-value for nrtherly orientation:	0.65	W/m ² K
Mean U-value:	0.65	W/m ² K
U-value exterior door:	0.65	W/m ² K

Thermal bridge-free:

Yes:

Airtightness:

Yes:

Ventilation system:

Effective Heat Recovery Efficiency: 20.00 Percent

Calculations:

Heat Losses:

1. Transmission Heat Losses per m ² and year:	21.51 kWh/(m ² a)
2. Ventilation Heat Losses per m ² and year:	8.75 kWh/(m ² a)
3. Total Heat Losses per m ² and year:	30.25 kWh/(m ² a)

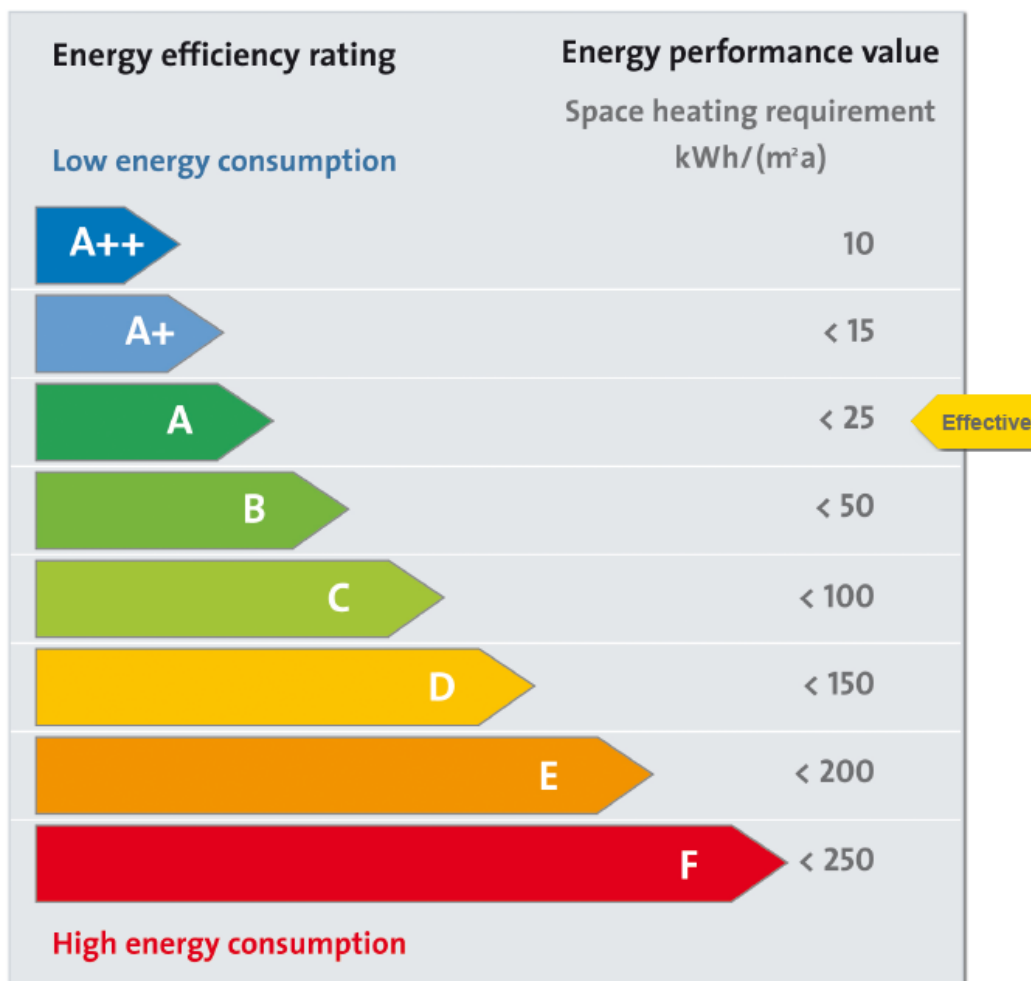
Heat Gains:

4. Internal Heat Gains per m ² and year:	11.34 kWh/(m ² a)
5. Available Solar Heat Gains per m ² and year:	1.21 kWh/(m ² a)
6. Total Heat Gains (Free Heat) per m ² and year:	12.46 kWh/(m ² a)

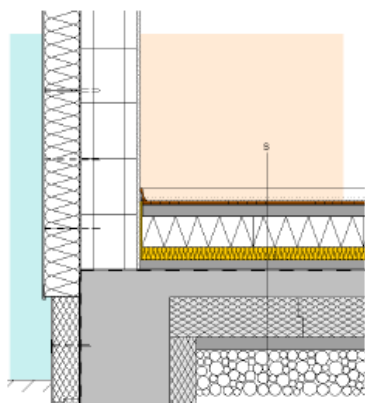
Annual Heat Demand (kWh/m²): 2530.80 kWh/m²

Specific Annual Heat Demand (kWh/m²): 17.80 kWh/(m²a)

Specific Annual Heat Demand < 15 kWh/(m²a) achieved: NO



Selected constructions



Floating floor above ground

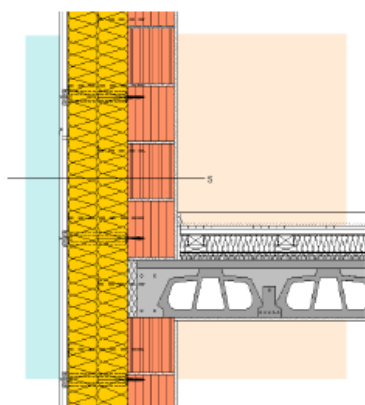
Composition S in cm

- 1,5 Parquet
- Floating layer
- 5,0 Cement screed
- 0,02 Vapour barrier
- ▶ 14,0 EPS-W 20 (expanded polystyrene)
- ▶ 5,5 ISOVER impact sound insulation board 55
- 4,0 Protective concrete
- Separating layer
- 0,05 Separating layer (water barrier)
- 12,0 Sub-concrete
- Separating layer
- ▶ 18,0 XPS Extruded Polystyrene foam board
- Protective concrete
- Round gravel

Ventilated outer wall with reinforced cement facade-cladding

Composition S in cm

- 1,5 Lime cement rendering
- 25,0 Perforated brick
- ▶ 16,0 ISOVER facade insulation board
- plug anchor
- ▶ 16,0 ISOVER facade insulation board
- plug anchor
- 3,0 Ventilation area
- 1,0 Reinforced cement facade-cladding on aluminium construction



Mono-pitch roof structure

Composition S in cm

- Tin roof covering
- Layer roof skin (e.g. polymer bitumen roll roofing)
- 2,4 Under roof - rough formwork
- 8,0 Counter battens min. 8/8
- Layer of vapour diffusion-permeable spunbonded web
- 1,5 OSB chipboard panel
- ▶ 40,0 ISOVER lightweight glass wool between TJI roof framing (2-layered)
- 1,5 OSB chipboard panel
- Water vapour barrier - Climatic membrane, ISOVER VARIO KM Duplex
- ▶ 5,0 ISOVER lightweight glass wool between counter battens 5/5
- 1,5 Plaster board - fire protection board

