The daycare centre for 100 children in Calarasi, which was officially opened by Prime Minister Pavel Filip in June 2017, was the first passive house in the greater region of Moldova, Romania, and Ukraine. On behalf of KfW, we advised and supported the local planners from Chişinău from the preliminary design to the completion of the project. The design and implementation planning were jointly developed in several weekend workshops. The MSIF (Moldova Social Investment Fund), which was responsible for the financing coordination in Moldova, initially had a hard time with the decision to realise this daycare centre as a passive house. The concern that they would not be able to bear the costs despite generous KfW funding proved to be unfounded, as the result shows. Despite the high motivation of the Moldovan craftsmen, extensive improvements had to be made several times, especially in the roof area, in order to pass the blower door test. Our recommendation to the MSIF to purchase its own blower door test measuring device and to work towards the required result proved to be correct.

See more details about this project

https://passivehouse-database.org/#d_5361

Photo credit

Igor Rotari

Stakeholders
Contractor

Name: Axis Mundi S.R.L. / RoA RONGEN ARCHITEKTEN PartG mbB

Construction Manager

Name: Axis Mundi S.R.L.

Stakeholders

Function: Certification company
Polski Instytut Budownictwa Pasywnego i Energii Odnawialnej

Function: Other consultancy agency
RoA RONGEN ARCHITEKTEN PartG mbB + Dipl.-Ing Günter Schlagowski

Owner approach of sustainability

This pioneering project was officially opened in June 2017 by Pavel Filip, Prime Minister of Moldova, in the presence of the German Ambassador Ms. Kuntz. A milestone for further expansion in this region.

Energy

Energy consumption

Primary energy need: 107,00 kWhpe/m² year
Breakdown for energy consumption:
Primary energy needs to PER values.

Annual heating demand: 15 kWh/(m²a) calculated according to PHPP
Heating load: 12 W/m²

Envelope performance

Envelope U-Value: 0.10 W m² K⁻¹

More information:
Exterior wall
40cm Airbrick
30cm Isover TF Profi WLG 033
U-value = 0.097 W/(m²K)
Basement floor / floor slab
10cm Estrich
12cm XPS WLG 038
8cm XPS WLG 036
10cm Beton
U-value = 0.175 W/(m²K)
Roof
15cm Stahlbeton
30cm Isover TF Profi
U-value = 0.107 W/(m²K)
Frame
Gemini, Thermo Classic 88
U w-value = 0.74 W/(m²K)
Glazing
Unitop Premium 0.5
U g-value = 0.54 W/(m²K)
g -value = 34 %
Entrance door
Ug_Wert=0.54
g-Wert 34%
Glas Unitop-Premium 0.5
Renewables & systems

Systems

Heating system:
- Heat pump
- Low temperature floor heating

Hot water system:
- Solar Thermal
- Wood boiler

Ventilation system:
- Double flow heat exchanger

Atera, Duplex 3600 Flexi + Duplex 3400 Basic
Heat recovery 85%

Heating installation
Brine-water heat pump with 500l buffer tank, inside the thermal envelope
Distribution via underfloor heating

Domestic hot water
Wood pellet boiler + solar thermal system (13m² vacuum tube collectors)
Coverage: Pellet furnace indirect 93% - therm. Solar system 7%

Contest

Contest categories

Energy & Temperate Climates

Health & Comfort