

Kindertagesstätte Calarasi

by Construction21 Communication / 2021-04-02 15:34:45 / International / 505 / EN



Building Type : Preschool, kindergarten, nursery
Construction Year :
Delivery year :
Address 1 - street : MD - 4400 CALARASI, Other countries
Climate zone : [Dfa] Humid Continental Hot Summer, Wet All Year

Primary energy need :

107 kWhpe/m².year

(Calculation method :)

Net Floor Area : 817 m² Other

Description

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 day care 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

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Envelope performance

Envelope U-Value : 0,10 W.m⁻².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

U d-value = 1.24 W/(m2K)

Air Tightness Value : 0,47

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



