



Certified building - Passive House



Building type kindergarten | day care
Location BG - 5300 Gabrovo (Gabrovo)

Description The concept of the project is to cover Energy Class “A” for net energy demand according to the Bulgarian and at the same time following the concept and complying to the Passive House standards for provision of all-season comfort at minimum exploitation costs. The municipality intends to provide monitoring of the building after commissioning. The results will be compared with the results of the other local kinder garden of the same size, built on the level of the national regulations. As the very first of its kind – and not only in the region of Gabrovo – the project is drawing the attention of many of the professionals. Specific info sessions are planned onsite with the support of the PassREg project, in addition to regular communication initiatives by the Municipality. Using the positive experiences from this partnerships, Gabrovo Municipality is also joining the EU initiative Covenant of Mayors, which will further support its communication activities.

Treated Floor Area according to PHPP 734 m²
Construction type masonry construction
Year of construction 2013

Thermal envelope

Exterior wall U-value = 0.144 W/(m²K)

Basement floor / floor slab U-value = 0.16 W/(m²K)

Roof U-value = 0.145 W/(m²K)

Frame U_f-/ U_w- values about [0,8 (W/(m²K))] are recommended. U_w-value = 1.06 W/(m²K)

Glazing U g-value = 0.8 W/(m²K) g -value = 50 %

Mechanical systems

Ventilation TANGRA, EVB 10 2 heat recovery units (with 71% eHRE specific re cooperation)

Heating installation Heat pump air to water 16kW- heating, 14kW- cooling; floor heating/cooling,

Domestic hot water improved flat plate solar collector - 12.5 m²

PHPP values

Air tightness n₅₀ = 0.55/h press test value

Annual heating demand 15 kWh / (m²a) calculated according to PHPP

Heating load 14 W/m²

Primary energy requirement 102 kWh / (m²a) on heating installation, domestic hot water, household electricity and auxiliary electricity calculated according to PHPP