



Certified building - Passive House refurbishment



Building type office | administration building

Location UK - 39100 Bozen - Bolzano (Südtirol - Alto Adige)

Description The "Ex-Post" building next to the Bolzano train station was completed in 2006 for the use of the South Tyrolean state administration. The refurbishment and extension of the 20,000 cubic meter building was planned in passive house standard. It is the first public and largest passive house in Italy with an energy index of 12 kWh per square meter per year. Due to the high energy savings of more than 90 percent on the original existing building, the operating and follow-up costs for heating and cooling are reduced by only 4% additional investment costs (in relation to the then prescribed energy efficiency of 70 kWh / m²a for new buildings). Emphasized is also the role model function, which took over here the state administration. The energy index is 12 kWh / m²a. The building is the first certified administration building in the passive house standard worldwide. It is the largest passive house in Italy (April 2013).

Treated Floor Area according to PHPP 3015 m²

Construction type masonry construction

Year of construction 2004

Thermal envelope

Exterior wall U-value = 0.127 W / (m²K)

Basement floor / floor slab Base plate to the adjacent basement: U-value = 0.668 W / (m²K)

Roof U-value = 0.129 W / (m²K)

Frame wooden window frame U_f value: [0.90 W / (m²K)] U_w-value = 0.81 W / (m²K)

Glazing U g-value = 0.6 W / (m²K) g -value = 48%

Mechanical systems

Ventilation central ventilation system for the supply and exhaust air, Heat recovery rate specific 80%, electrical efficiency 0.45 Wh / m³,

Heating installation condensing boiler - 60kW power

Domestic hot water condensing boiler - 60kW power

Cooling requirement: 4 [kWh / (m²a)]

PHPP values

Air tightness n₅₀ = 0.6/h press. test value

Annual heating demand 12 kWh / (m²a) calculated according to PHPP

Heating load 13 W/m²

Primary energy requirement 118 kWh / (m²a) on heating installation, domestic hot water, household electricity and auxiliary electricity calculated according to PHPP