

## Case 2 - Passive house Renovation Nature Park School Zirbitzkogel Grebenzen

Location	Neumarkt, Styria (Austria)
Year of construction	1978
Year of renovation	2009 - 2011 (2 construction stages)
Building owner	Municipality of Neumarkt
Architect	Gerhard Kopeinig, ARCH+MORE ZT

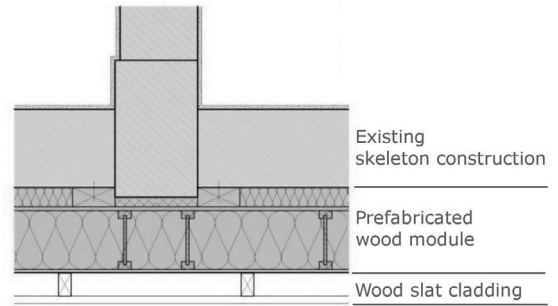
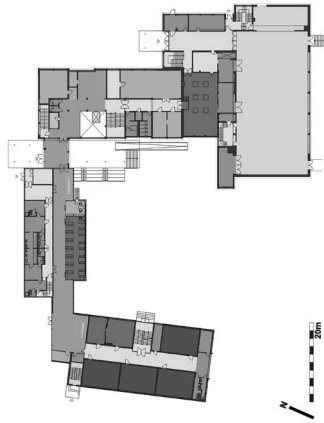
The success story of the renovation started with an open project development that integrated the intended users right from the beginning and aimed at enhancing the incorporation of the school into the region. Besides the secondary school the buildings also host the public music school, rooms for clubs and event rooms for the municipality. On the other hand a strong focus was set on wood as regional construction material.

A major part of the building complex was renovated with prefabricated wooden modules that were cladded afterwards with a wood slat façade. The installation of a centralized ventilation system with 80 % heat recovery, external venetian blinds and a very elaborate system for night ventilation were designed in order to guarantee a high indoor environmental quality.

Heating demand	160 before, 14 after renovation [kWh/m <sup>2</sup> .a]
Gross floor area (GFA)	3526 m <sup>2</sup> before and after renovation
Investment/m <sup>2</sup> GFA	950 € - 1250 € - 1450 € per m <sup>2</sup> (excl. VAT) depending on the differences with the existing building parts



Before, during and after renovation [ARCH+MORE/ Blende 16]



*Ground floor plan and construction details  
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*School entrance after renovation  
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