

AT_Gleisdorf_Stadtsaal / Forum Kloster

Image 01: Forum Gleisdorf ©forumkloster.at	Image 02: Air inlet socket ©regiomusik.de	Image 03: Ventilative Cooling Concept ©AEE-Intec
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Building Specifications

Address	Rathausplatz 5, 8200 Gleisdorf
Building Category	Other
Year of Construction	Renovation 2001
Special Qualities	Historical building
Location	47° northern latitude, 15° eastern longitude 362 m above sea level
Climate	Cfb (warm temperate, fully humid, warm summer), monthly mean temperature below 20 °C, at least seven months with a monthly mean temperature above 10 °C

Vent. Cooling Site Design Elements (Solar Site Design and Wind Exposure Design, Evaporative Effects from Plants or Water)

The building is a historical building with green yards. No special site design concerning Ventilative Cooling has been applied.

Vent. Cooling Architectural Design Elements (Form, Morphology, Envelope, Construction&Material)

Form: The architectural concept follows the existing historical structure. The main new part of the building is a 500m² hall with a south facing facade. This hall is the main part of the building for natural night ventilation.
 Construction & Material: Due to the historical structure of the building, extensive thermal mass available.

Vent. Cooling Technical Components (Airflow Guiding Components, Airflow Enhancing Components, Passive Cooling Components)

Passive Cooling Components: High internal loads, due to numerous events, lead to a high cooling demand. An air-soil-heat exchanger preconditions the incoming air and thus covers the base load. Therefore the conventional cooling system could be realised much smaller. The precooled air is sucked in by four air inlet sockets and influxes at different positions on the floor and on the walls. The exhaust air will be collected at the top of the hall. At the highest point a shed opens automatically triggered by temperature.
 Airflow Guiding Components: To realise night ventilation in the hall, the inlets at the floor open to let the cold air into the hall. In the other parts of the building an extended air change rate cools down the building

Actuators, Sensors and Control Strategies

Sensors and Control Strategies: The natural ventilation and the mechanical ventilation are controlled by time and by temperature differences.

IEA EBC Annex 62 Ventilative Cooling

Building Energy Systems (Heating, Ventilation, Cooling, Electricity)
Heating: Preheating of air by air-soil-heat exchanger, a gas boiler and district heating Cooling: Precooling of air by air-soil-heat exchanger and air conditioning
Building Ownership and Building Facility Management Structures
Building Owner: Municipality Gleisdorf Architect: Lidl & Lechner; Calculation air-soil-heat exchanger: AEE-Intec; Housing Technology: TB Herbst
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n/a
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