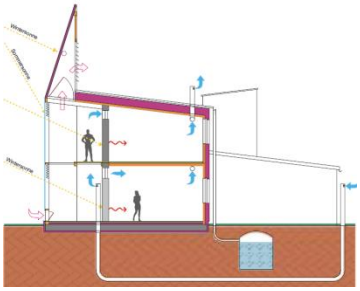
AT_Gleisdorf_Officebuilding AEE Intec

Image 01: Exterior view ©AEE Intec	**Image 02:** Ventilation concept ©AEE Intec	**Image 03:** Inner walls with thermal mass ©AEE Intec
		

Building Specifications

Address	Feldgasse 19, 8200 Gleisdorf
Building Category	Office
Year of Construction	1998
Special Qualities	Solar prefabricated house
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)

n/a

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

Form & Morphology: The design of the building is mainly deduced by energy efficiency and Ventilative Cooling. Towards south, a big glass facade in front of a winter garden enables solar gains in winter. During summer a shading system prevents the sun to get in. On top of the winter garden big thermal solar panels form a steep spike which is used for natural ventilation.

Construction & Material: The building is a wooden prefabricated house. To gain more thermal mass, large concrete elements were integrated as inner walls.

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

Airflow Guiding Components: The heat of the winter garden can flow up into the spike through flaps. Two of these flaps open automatically at a set temperature the whole year trough. Other flaps are opened manually from spring until autumn. A second wind and insect protected opening leading from the spike to the outside, opens automatically is also temperature driven. At the bottom of the winter garden cool air can flow through a flap into the building and is controlled the same way as the flaps into the spike (two openings automatically, the rest manual). The employees of AEE Intec open their doors during night, so night ventilation can also cool down the offices until the next morning.

Airflow Enhancing Components: An air exhaust ventilator discharges stale air from the offices.

Actuators, Sensors and Control Strategies

Sensors and Control Strategy: Two flaps at the bottom and at the top of the winter garden open automatically, if the inner temperature rises above a certain level and if the outside temperature is below the inner temperature.

Building Energy Systems (Heating, Ventilation, Cooling, Electricity)

Heating: 70% by solar thermal panels, peaks by biomass district heating
Cooling: Cross ventilation and precooled air by air-soil-heat-exchanger

Building Ownership and Building Facility Management Structures

Building Owner: AEE Intec
Facility Management: AEE Intec
Architect: G.W. Reinberg; Energy Concept: AEE Intec; Housing Technologies: TB Hammer

Aknowledgements

n/a

Datasheet Source:
e7, Institute of Building Research & Innovation