IEA EBC Annex 62 Ventilative Cooling

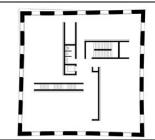


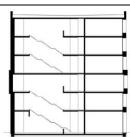


AT_Lustenau_2226

Image 01: Exterior view west ©Baumschlager Eberle Image 02: Floor plan © Baumschlager Eberle Image 03: Vertical section ©Baumschlager Eberle







Building Specifications

Address	Millennium Park 20, 6890 Lustenau, Austria
Building Category	Office
Year of Construction	2013
Special Qualities	Low tech house
Location	47° northern latitude, 10° eastern longitude, 404 m above sea level, located in a new build district with green spaces separating the buildings.
Climate	Cfb (warm temperate, fully humid, warm summer), monthly mean temperature below 19 °C, at least six 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)

Small trees were planted in rows on site, south sided they provide shade.

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

Morphology: High ceilings (approx. 3,4 m), minimal use of partition walls, free flow of air through each floor. Envelope: Deep window soffits (70 cm) act as shading slats and minimize passive solar gains during the summer months Construction & Material: The thermal storage capacity lays in the brick inner- and outer walls as well as the concrete ceilings.

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

Airflow Guiding Components: Ventilation openings at each window can be opened mechanically.

Airflow Enhancing Components: Utilization of cross ventilation.

Actuators, Sensors and Control Strategies

Sensors: CO2-, In- and exterior temperature sensors.

Control Strategies: The ventilation flaps are controlled based on the CO2-concentration during the day and by in- and exterior temperature during the night.

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

Heating: The main source of heating are the internal thermal gains from users, IT and lighting. Additionally lighting and IT can be turned on by the building control system for heating purposes.

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Building Ownership and Building Facility Management Structures

The building is owned by AD Vermietung OG.

Architect: Baumschlager Eberle

Aknowledgements

n/a

Datasheet Source:

Institute of Building Research & Innovation

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