

AT_Graz_Bezirksgericht Graz West

Image 01:
Exterior View - West ©G.Liebmingner



Image 02:
Entrance hall ©G.Liebmingner

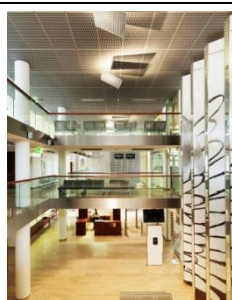


Image 03:
Section ©G.Liebmingner



Building Specifications

Address	Grieskai 88, 8020 Graz, Austria
Building Category	Others
Year of Construction	2006
Special Qualities	n/a
Location	47° northern latitude, 15° eastern longitude located along the river Mur and opposite of the Augartenpark to the south, on the crossing point of the Lagergasse, Grieskai and Hermann- Bahr- Gasse, downtown densification
Climate	Dfb (Temperate climate snow, fully humid, warm summer (monthly mean temperature always under 22 °C, at least four month 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)

Solar Site Design by alley-like leaf tree planting in front of the east western building gap, creating a new forecourt.
Wind Exposure Design with wind guiding along the east-west building gap.

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

Form: A freestanding eight-storey solitaire consists of three building sections, the interlocking building elements both open and close the building. The L-shaped floor plan was chosen to create a new forecourt to the south-east side of the building. The full storeys are terraced with 2m balconies which are used as open break rooms, sun and noise protection.

Morphology: The courtrooms are multi-functional halls that can be combined with each other and are organized around a two-storey atrium. The upper floors open towards the outdoor space by means of roof terraces. A well aerated and vented underground garage is situated in the basement.

Envelope: The external appearance is determined by a system of louvers used all over the facades that provides a screen against sun, glare and inquisitive gazes and forms a semi-transparent skin in front of the dark coloured glass and spandrel panel facade. The three-layer facade consists of the external lamella, the aluminium-glass wall and the internal sun shading system. 60% of the glass elements in the façade are openable. The lamellas consist of perforated aluminium plates which enable diffuse ambient lighting. The lamellas do react to the position of the sun, the weather, the sun-shading of neighbouring buildings as well as the shelf shading.

Construction & Material: Reinforced concrete construction, Coat-concrete construction for supporting outer and inner walls.

IEA EBC Annex 62 Ventilative Cooling

Vent. Cooling Technical Components (Airflow Guiding Components, Airflow Enhancing Components, Passive Cooling Components)
Airflow Guiding Components: The roof window in the stairwell and in the entrance hall can be opened mechanically. Night ventilation is done by window ventilation through aisle-sided ventilation flaps in the office areas. Airflow Enhancing Components: The stairwell and the entrance hall act as atria and the ventilation is driven by the resulting stack effect.
Actuators, Sensors and Control Strategies
Sensors: In-and exterior sensors for temperature and irradiation. Control Strategies: All control tasks are made by using a Direct Digital Control. The Substation is "stand alone" and can be operated by a central access point or from the substation itself via an operating device. The complete sunshade device is computer based and controlled automatically.
Building Energy Systems (Heating, Ventilation, Cooling, Electricity)
Heating: by district heating, maximizing solar gains by widely opening up shades during the cold season.
Building Ownership and Building Facility Management Structures
Client: BIG Bundesimmobiliengesellschaft m.b.H., Vienna, User: Ministry of Justice, Austria Architect: Arkan Zeytinoglu
Acknowledgements
The building was nominated for the Austrian Building Prize 2008 and the Austrian Property Developer Prize 2007.
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