

Building Assessment Report For Office and Seminar Building SOL4 in Mödling, Austria

1. GENERAL INFORMATION



SOL4 – Office and
Seminar Building



The **Office and Seminar Building SOL4** is a mixed use building in Mödling (Austria). At the earliest stage of the design, criteria have been defined to specify a target user group. A main focus was on the chosen materials. The SOL4 building provides office space for several small companies (approx. up to 20 person staff), which are focused on sustainable construction. The modern office is designed to reflect both ecological and economical issues. A well designed interior climate and the possible use of facilities within the building allows an open design for business and social contacts. Within the building is a quite zone provided as well as a café (including a terrace) and shower / changing facilities. An adjacent nature reserve (“Eichkogel”) allows a quite and nature atmosphere nearby.

The building consists of four levels i.e. two upper floors and two stepping back roof levels. The physical building is a rectangle including an atrium within the main part of the building. At ground floor there are public retail shop units, meeting rooms and technical rooms as well as a fitness gym located. On the first floor are several office units for separate companies. The structure at this floor level consists of columns and flexible walls to allow a maximum flexibility for the interior layout. The third and the fourth floor level and the upper floors are mainly office units for smaller companies (i.e. from 1 to 20 person).

The Design Team

Client: BM Ing. Klausjürgen Kiessler GesmbH
Architect: Solar4you consulting GesmbH
Mechanical Engineer: Planungsteam E-Plus
Electrical Engineer: TB Bartmann GesmbH
Structural Engineer: DI Erich Leschnitzky
Building Physic: Solar4you Consulting GesmbH
Simulations: Drexel und Weiss

Year of construction

Start of the construction phase was in 2004 and the building was finished in 2005.

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Area & Surroundings

The total area of the site is 2.000,07m², the estate area is 1.343,73m² and the total heated area is 2.739,66m². There are 87 car park spaces provided for a maximum number of 214 users, as well as bike spaces, which are covered by a roof.

Location

The building is located within a small city (less than 50.000 occupants). Adjacent to the building is a nature reserve. Besides the building there are shopping facilities located.

The estate is located in a quiet residential street, beside several social and shopping facilities. Near the building is the railway station as well as public transport link to the city centre, which run very regular. Travel time to the city centre is approximately 5 minutes by bus and 15 minutes walking time.



Materials

The walls (part of the main structure) consist of brick material (approx. 20 cm thick). The walls at ground floor are provided with heat insulation. The upper walls are provided with a wood layer, where on top solar panels are installed on three façade sides of the building.

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Scoring

	EU wide
Overall performance rating	B
Environmental performance	B
Social performance	B
Economic performance	A

Important note: The purpose of this table is to present a developed format of scoring. Figures however are partly notional due to the limited number of actually assessed sub-issues (30 on 56) and the limited scope of weighting exercise.

2. BUILDING HIGHLIGHTS

Key amenities	A	B	C	D	E	F	G
Function Analysis	A	B	C	D	E	F	G
Whole Life Cycle - strategic	A	B	C	D	E	F	G
Whole Life Cycle – component level	A	B	C	D	E	F	G
Hazardous waste disposal	A	B	C	D	E	F	G
Provision of car pooling Facilities	A	B	C	D	E	F	G
Added value	A	B	C	D	E	F	G

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Key amenities

The building scored a final benchmark of “A”, i.e. ‘excellent’ for the sub issue ‘key amenities’. Within the building there are quite areas provided as well as a café including a terrace. A natural reserve is located near the building to establish a “Fit for work” concept. Near the building there are shopping facilities and good public transport links. There is also a nursery, a pharmacy and a medical centre located.

Those facilities are necessary for a balance for social and economic life.



Function Analysis

One of the main achievements of the building is the function analysis. At the beginning of the design process there was allowance made for possible changes of the use within the building in the future. Those impacts are reflected within possible change of electricity and water installations as well as possible cost impacts. A flexibility is given due to the individual room sizes e.g. units could be separated or joined. A management procedure was developed with focus on structural and mechanical / electrical changes. The building allows therefore a high degree of possible changes in the future.



Water saving

The building is provided with water-saving WC's. Every unit has got his own water counter. Also a rainwater collection concept was developed and included in the design process.

Reduced use of waste building material

During the planning and construction phase a main focus was on the use of materials. Within this concept no PVC should be used within the building. Also coatings, glue, paste and other paintworks have been reduced to an absolute minimum.



Lighting concept

A lighting concept was integrated in the design of the building. 80% of all work places are located near windows (less than 5m away). The interior lighting concept is based on the availability of natural light as well as on the interior design i.e. location of desk etc.

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Disabled access

The ground floor was designed in reflection of special needs for disabled access. Also a lift is serving all levels within the building to allow access to upper levels for wheel chair users.

Whole life cycle analysis

A whole life cycle analysis was taken out based on a use of the main structure of 90 years. A cost analysis includes costs for management, water, waste, electricity, maintenance and cleaning as well as costs of possible changes of the use within the building.

Energy efficiency

An overall performance analysis regarding energy efficiency has been carried out. A stepping-stone is the mechanical ventilation system serving all office and meeting rooms as well as the photovoltaic installation on three sides of the façade (south, west and east side). A cooling system is provided which is using the natural resources from the earth in connection with the concrete floors of the building ("Directcooling").



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3. FURTHER INFORMATION: www.sol4.info/index2.htm

MEDILIKKE – Immobilien- Bauträger GES.m.b.H., SOL4 Büro- und Seminarzentrum
Eichkogel, Guntramsdorferstrasse 103, 2340 Mödling – Bmst. Ing. Klaus Kiessler,
kk@mdk.at

SOLAR 4 YOU Consutling Ges.m.b.H. Planung, Bauleitung, DI Johannes Stockinger,
hs@solar4you.at

Architecture: DI Ruth König, Campus 21, 2345 Brunn a. Gebirge, r.koenig@utanet.at

Verband Österreichischer Ziegelwerke, Wienerberg City, Wienerbergstrasse 11, 1100
Wien, verband@ziegel.at

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ANNEX: COMPLETE COUNTRY SPECIFIC SCORES & RATINGS ^a

a) Overall building performance

LEnSE rating:	B
Total achieved points:	669,3
Total available points:	769 ^b

Environmental performance:	B
Social performance:	B
Economic performance:	A

	Category	Rating	Points achieved	Available points
Environmental	Climate change	B	113,1	132
	Biodiversity	B	62,9	70
	Resource use	B	95	110
	Env. & Geophysical risk	A	45,9	48
Social	Occupant wellbeing	B	133,1	169
	Accessibility	B	49,4	60
	Security	B	12	14
	Social and cultural value	B	40,2	44
Economic	Financing and management	A	44	44
	Whole life value	A	52	55
	Externalities	A	21,7	23

^a As stated before, the sole purpose of this table is to present a developed format of scoring. Figures however are partly notional due to the limited number of actually assessed sub-issues (30 on 56; see following table) and the limited scope of weighting exercise.

^b Normally, there are 1000 points available in LEnSE methodology. However certain sub-issues may not be applicable to all buildings, thus this difference in total points.

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b) Sub-Issue specific Performance

Climate change		B
* Building - depletion of non renewable primary energy	B*	
Transport - depletion of non renewable primary energy	n/a	
* Use of renewable primary energy	B*	
* Destruction of the stratospheric ozone layer	B*	
* Local tropospheric ozone formation	B*	
Biodiversity		B
* Minimise point sources of eutrophication	B*	
Land of low ecological value	A	
Mitigating impact on existing site ecology	n/a	
* Enhance native plant/animal species	B*	
* Habitat management/action plan	B*	
Resource use		B
* Depletion and use of renewable and non renewable resources (other than primary energy)	B*	
Responsible sourcing of materials	n/a	
* Non hazardous waste disposal	B*	
Hazardous waste to disposal	A	
* Use of freshwater resources	B*	
Re-use of previously developed sites	n/a	
Development footprint	C	
Contaminated land, bioremediation and soil reuse	n/a	

* As other methods or tools already include and/or assess these sub issues, it was decided not to be developed as part of the LEnSE methodology to avoid research repetition. However, they are included in this report assessment in terms of structural completion given a notional rating directly by the assessor.

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Env. management & Geophysical risk		A
Certified Environmental Management System	A	
Minimising regional specific climatological risk	A	
* Minimizing regional specific geophysical risk	B*	
Occupant wellbeing		B
* Lighting comfort (artificial & natural)	B*	
* Thermal comfort	B*	
* Ventilation conditions	B*	
* Acoustic comfort	B*	
Occupant satisfaction	B	
Internal user amenities	B	
* Outdoor space	B*	
* Materials/substance exclusion	B*	
* Indoor air quality	B*	
* Quality of drinking water	B*	
* Building safety assessment	B*	
Accessibility		B
Key amenities - provision and proximity	A	
Public transport accessibility	n/a	
* Provision of safe and adequate pedestrian route ways	B*	
Provision of safe and adequate cycle lanes and cyclist facilities	C	
Provision of car pooling facilities	B	

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Security		B
Site security and spatial arrangement	n/a	
Building security	B	
Social and cultural value		B
Community impact consultation	n/a	
* Social cost benefit analysis	B*	
* Socially responsible and ethical procurement of goods/services	B*	
Considerate Constructors	n/a	
External 'neighbourhood' impacts	n/a	
Design quality	A	
Financing and management		A
Function analysis	A	
Risk & value management	A	
Whole life value		A
WLC appraisal - Strategic level	A	
WLC appraisal - Component level	A	
* Option appraisal	B*	
Exchange value	n/a	
Added value	B	
Building adaptability	n/a	
Design for maintainable buildings / Ease of maintenance	n/a	

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Externalities		A
Local employment opportunities/use of local services	n/a	
Specification/use of locally produced materials	A	
* Branding and external expression	B*	

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