



TWIN-C REPORT

ARCHITECTURAL

UP-TO-DATE INFORMATION ABOUT INTELLIGENT LIGHTING SOLUTIONS FROM WALDMANN | MARCH 2009



CONSISTENTLY ECOLOGICAL

"GREEN OFFICES" IN GIVISIEZ, CH,
CERTIFIED WITH THE MINERGIE-P-ECO LABEL



Almost every day we hear unsettling news about energy matters. The resources available worldwide are becoming noticeably scarcer, or are kept artificially scarce. However, the consumption or demand curves are steepening drastically. In his movie "An Inconvenient Truth", Al Gore, the former Vice President and presidential candidate, highlighted the attendant global consequences if energy consumption is not decreased. Everything points to the fact that it is about to abandon the path to catastrophe and pursue new avenues. As a trailblazer for a reasonable energy policy, our neighbors in Switzerland have distinguished themselves with their Minergie initiative. The different certifications are graded in accordance with the requirements and clearly exceed the criteria of other energy saving programs. The first one to achieve the highest level, the

Minergie-P-Eco Label, was the architect Conrad Lutz from Freiburg, CH, for his "Green Offices" in Givisiez, CH. The renowned expert for ecological construction pursued several objectives with this project. The architecture was to be in harmony with nature and counteract the progressive alienation of urban structures commonly practiced today. In addition, the goal was to implement a building with an absolutely positive ecological balance sheet, especially by integrating gray energy.

A few impressive examples illustrate what this means.



The coveted Swiss Minergie label is exclusively awarded to products and projects that sustainably meet the demanding ecological criteria. For more information go to: www.minergie.ch

1 Open space design for improved communication and more efficient work processes. Light plays a central role at all levels.

(All pictures are plant photos of Waldmann)

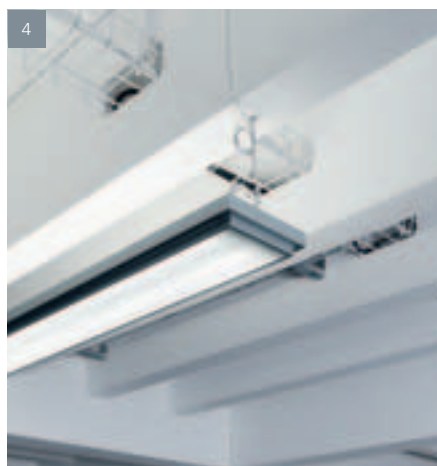
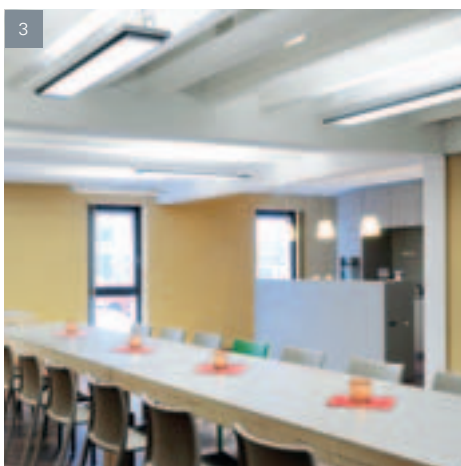


Example: For the production of a wooden window measuring 43ft² in size 1,340kWh are used, for a window made of wood and aluminum it is 5,650kWh, and for a PVC model it is 5,000kWh. The comparison is even more platant for wall paints. In order to produce a lime-based wall paint for 1,076ft² it takes 18kWh, however it takes more than 570kWh when an acrylic latex paint is used. The example is also impressive, when taking a pillar measuring 8.5ft in height, carrying a load of 90 tons. A steel version requires 967kWh for production, while a wooden beam only takes 156kWh. While the difference to a concrete pillar is small – 188kWh – it is significantly higher in terms of CO₂, because it emits 176lbs, while the wood absorbs 440lbs. This could go on and on. With the “Green Offices”, Conrad Lutz has demonstrated that an ecologically sustainable, energy-efficient building is possible without concessions. All the necessary materials and manufacturing processes are available, and contrary to the belief that an ecological building is expensive, the entire project was implemented cost-neutral compared to conventional structures.

In essence, the “Green Offices” are formed by a compact structure, offering almost 14,000ft² of office space on three floors. Interesting in this connection are the important sociocultural objectives, because in addition to the Lutz Architectural Office other ecologically-minded companies are integrated in the building. The objective is to bundle the resulting synergies and continuously expand the competencies.

The employees appreciate the pleasant atmosphere and the well-engineered configuration of the premises.

The individual workplaces are designed and equipped to create a personal sphere, which enables and promotes undisturbed work. At the same time, the open structure on the inside of the building offers numerous communication levels.

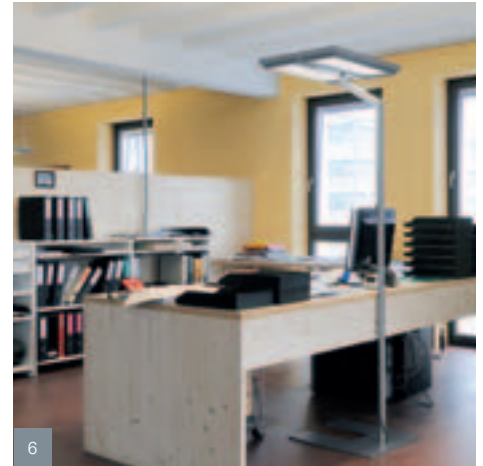


2 Instead of using conventional cubicle structures, open work floors were created.

3 Continuous interaction and communication are indispensable for increasing employee competence. Corresponding zones are provided on all floors of the “Green Offices”. The central meeting place for all employees and guests is the cafeteria on the ground floor, which is also used for meetings, presentations, and exhibitions.

4 Natural lighting comfort with intelligent technology using the example of the TYCOON suspended luminaire.

(All pictures are plant photos of Waldmann)



The illumination of the workplaces had to blend with the overall design, so that, on the one hand, the functional, individual visual tasks of each employee can be perfectly performed and, on the other hand, building management system-related requirements are covered.

In this context, the principle of sustainability was defined as a decision criterion. In concrete terms, this means system thinking, i.e. the uncompromising minimization of energy consumption, while achieving exemplary lighting comfort at the same time.

Daylight and artificial lighting are symbiotically linked in all applications by technological systems.

The ideal concept of a room without boundaries, bathed in light, which positively motivates, promotes communication and work processes, and triggers a profound sense of unity, has been consistently implemented in the office configuration.

A high level of daylight in the work rooms, however, promotes not only the sense of well-being and willingness to perform among employees, it also plays a key role from energy points of view.

In this context, the tasks formulated for artificial workplace lighting were clearly defined:

High lighting comfort, which takes the individual needs of each employee into consideration, and intelligent lighting technology, which automatically controls the light intensity at each workplace as a function of the daylight.

Based on these requirements, variants of the Waldmann TYCOON free-standing and suspended luminaires with integrated PULSE light management system were used.

The planners and users unanimously welcomed the well-defined luminaire geometry, the pleasant, glare-free light, and the special lighting design comfort. The option provided to each employee of being able to individually adjust two different lighting levels directly at the workstation, was considered unique.

For more information about the TWIN-C solutions on the Internet, visit: www.waldmann.com



5 Glare-free light enhances the concentration and performance of the employees. The installed Waldmann TYCOON free-standing luminaires with integrated PULSE light management system can be adjusted to two individual lighting levels. At the same time, they automatically regulate the luminous power, depending on incident solar radiation. The automatic presence detection, which is also activated, rounds out the energy savings program of this luminaire.

6 Light-infused rooms promote the sense of well-being and willingness to perform among employees. Daylight and intelligent indirect/direct free-standing luminaires are synergetically combined.

7 The common thread among the companies established in the "Green Offices" building is their ecological thinking. The synergies of these pooled competencies broaden the design possibilities of a new environmental awareness.

8 Exterior view of "Green Offices"

(All pictures are plant photos of Waldmann)