

**Frigel AG**  
**Refrigeration**  
**systems – design –**  
**service**

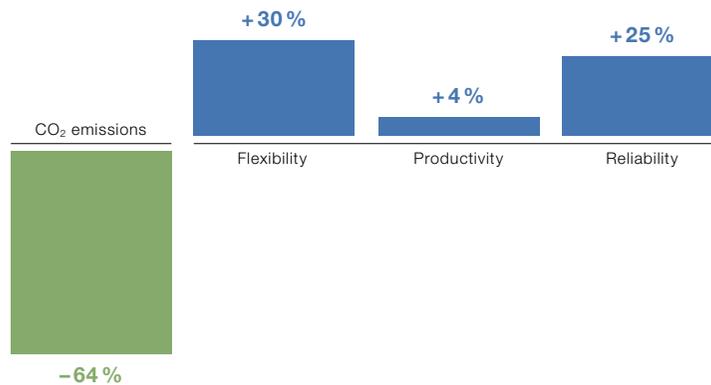




### **Low temperatures, high-ceilinged rooms, and a wide variety of visual tasks**

Frigel AG, which was established in 1994, designs and manufactures refrigeration and air-conditioning systems for industrial and commercial use. So far, the construction of the company's new building comprising four storeys and an underground car park is the highlight of its success story. Customised solutions and the related flexibility, high productivity and reliability play an essential role in the company's strategy. Moreover, Frigel continuously strives for maximum energy efficiency. These corporate standards were also applied to the lighting solution, which is why only a 100 % LED solution was considered. Today, the Zumtobel luminaires installed in the underground car park, the assembly bay, the warehouse and the offices provide a valuable contribution to a pleasant working atmosphere for the approximately 50 employees and the company's continuing success.

[zumtobel.com/industrialighting](https://www.zumtobel.com/industrialighting)



**Frigel AG für Kälte – Planung – Service, Zuzwil | CH**

Electrical installations: Frigel AG für Kälte – Planung – Service, Zuzwil | CH

Lighting solution: CRAFT high-bay LED luminaires, TECTON Basic continuous-row LED lighting system, MELLOW LIGHT V recessed LED luminaires, CREDOS LED downlights, PERLUCE ceiling-mounted LED luminaires, RESCLITE escape and antipanic LED emergency luminaires, PURESIGN 150, CROSSIGN 160, SQUARESIGN 300 and CUBESIGN 210 LED escape sign luminaires, ONLITE central eBox emergency lighting system, presence and daylight-based lighting control system

# 1. CO<sub>2</sub> efficiency and cost efficiency

**-64% CO<sub>2</sub>**

## High energy efficiency despite rooms with high ceilings

LED luminaires by Zumtobel have been consistently installed throughout the newly erected building of Frigel AG, from the basement up to the fourth floor. For every challenge posed, for instance, in the high-ceilinged production areas or in the offices, appropriate LED luminaires from the Zumtobel range were selected.

A calculation comparing the solution in place with a conventional lighting system using T16 fluorescent lamps, for example, indicates the energy savings achieved in the warehouse and the assembly bay: thanks to the LED lighting solution implemented, the change to state-of-the-art luminaires alone saves 41 % of electricity costs. An intelligent lighting control system reduces energy consumption even further, by 64 per cent.

## TECTON Basic continuous-row LED system: energy-efficient lighting of warehouses and the underground car park



High-quality LED luminaires for warehouses make it easier to find products while keeping electricity costs low.



Parking areas properly illuminated by TECTON Basic make people feel safe.

## 2. Flexibility

# +30 %

### Flexibility thanks to luminaires installed on TECTON trunking

Simply hook in – done: Mounting Zumtobel luminaires on TECTON trunking is child's play. At a click the luminaires are safely connected electronically and mechanically. "It is so easy that I was able to install the luminaires myself," this is how the client sums up the benefits of the pre-wired 11-pole trunking system. Easy handling also ensures a high degree of flexibility for the future when luminaires will need to be relocated or new luminaires will have to be added. In order to be able to shift the TECTON trunking even at a later date, the concrete ceilings at Frigel AG were specially fitted with lay-in mounting tracks.

### Installation on TECTON trunking: high flexibility when relocating luminaires and adding new ones



High-bay LED luminaires installed on TECTON trunking can be easily relocated, if required.



CRAFT high-bay LED luminaires with TECTON adapter are simply suspended from the trunking.



Many TECTON LED continuous-row luminaires are labelled as especially resource-friendly products. For more information on eco+, please visit [zumtobel.com/eco](http://zumtobel.com/eco)

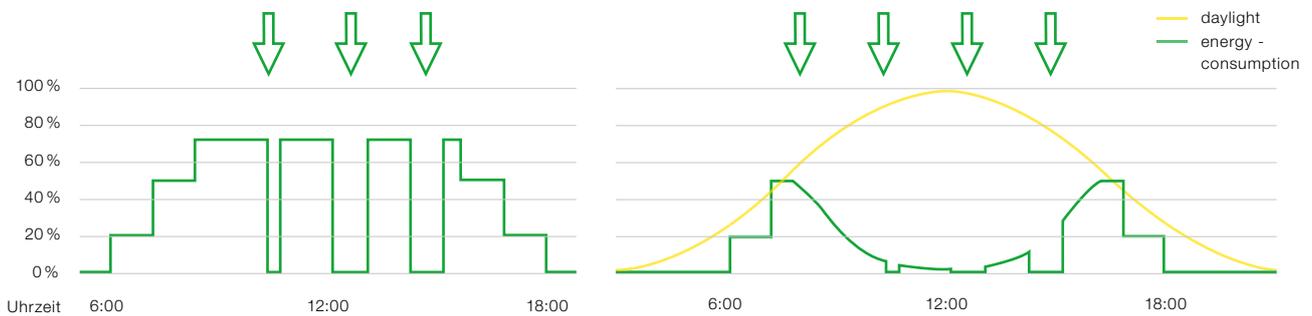
### 3. Productivity

# +4%

#### Good and pleasant light for employees

The customer's claim in terms of lighting quality was expressed from the employees' perspective: they wanted light that would enable them to do their job properly and create a pleasant lighting atmosphere. The key criteria for perfect working conditions are high illuminance levels and absolutely glare-free lighting. The offices, training and conference rooms have therefore been fitted with MELLOW LIGHT V recessed luminaires. The lighting effect they create is very similar to that of daylight. Combined with CREDOS LED downlights in circulation areas, the light they provide also ensures guidance and structure to the rooms. The lighting control system, too, helps to increase productivity. There are no light switches in the building of Frigel AG. The luminaires are switched on automatically via presence detectors and controlled on the basis of daylight.

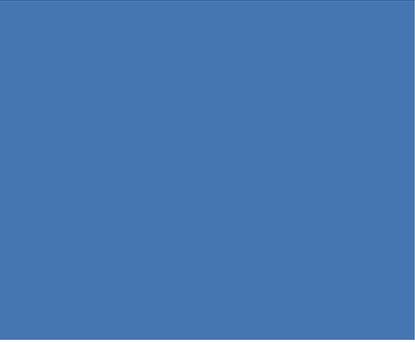
#### Lighting control systems increase energy efficiency and convenience



Lighting that is reasonably based on daylight achieves maximum lighting quality and saves a lot of energy.

Lighting that is only switched on when it is actually needed is the most economically efficient of all. Presence detectors make a major contribution to cutting electricity costs.

## 4. Reliability



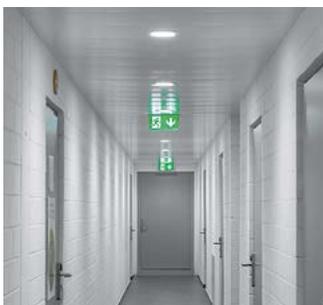
# +25%

### High safety in all areas

Frigel AG has used two strategies to provide safety in an emergency while using as few luminaires as possible: on the one hand, RESCLITE escape and anti-panic LED emergency luminaires were installed in the manufacturing area. These unique compact luminaires have been optimised for performing escape route and anti-panic lighting tasks. On the other hand, the emergency luminaires were integrated in the corridors' general lighting system. Therefore, no separate emergency luminaires were needed in these areas. The luminaires are supplied via a central ONLITE eBox.

Another safety aspect is the luminaires' high reliability, even below the projecting roof. For both general lighting luminaires and escape sign luminaires, Zumtobel provides the perfect solution – always with a five-year guarantee.

### Durable and reliable thanks to LED



Escape sign luminaires point the way to safety in an emergency.



The high quality of Zumtobel luminaires is evident anywhere, even in damp or low-temperature areas.



# IP 65



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## zumtobel.com



### Top quality – with a five-year guarantee.

As a globally leading luminaire manufacturer, Zumtobel provides a five year manufacturer's guarantee on all Zumtobel branded products subject to registration within 90 days from the invoice date and in accordance with the terms of guarantee at [zumtobel.com/guarantee](http://zumtobel.com/guarantee).

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