

Press release  
Dornbirn, October 2011

## Impressive refurbishment

Lighting refurbishment of industrial enterprise results in energy savings of up to 45%



B1a | The pre-post comparison clearly shows that the previous lighting system using high-bay reflector luminaires can no longer be compared with today's options of saving energy and enhancing lighting quality.

B1b | Thanks to the new lighting system incorporating Zumtobel's Valuea high-bay reflector luminaires, the entire manufacturing bay appears brighter and more pleasant. The improvement in lighting quality is associated with annual energy savings of up to 45%.



Before refurbishment, the manufacturing bay of the Risse+Wilke cold-rolling mill used to be illuminated by conventional metal halide lamps. Until quite recently, they were the perfect solution for large industrial bays with high ceilings to ensure the necessary quantities of light at the workstations. However, the importance attached to good high-bay lighting has considerably increased over recent years. Used properly, an advanced lighting solution helps to optimise conditions at the workstations, increasing motivation and preventing fatigue and, thus, industrial accidents. Therefore, after consultations with the Mark-E utility company (Energy Group) and lighting solution experts from

Zumtobel, Risse+Wilke decided to modernise the lighting system in its manufacturing bay by installing new high-bay reflector luminaires. Markus Sand, project manager of Mark-E, the company which was responsible for setting up the installation as a contracting solution and is operating it at present, explains: "Contemporary high-bay reflector luminaires save clearly more energy, thanks to numerous technical improvements concerning light sources, ballasts and luminaires. The refurbishment of its lighting system in the manufacturing bay allows our client to save as much as 45% of energy per year!"



B3 | Zumtobel's Valuea high-bay luminaires are fitted with state-of-the-art fluorescent lamps and high-performance reflectors, ensuring a high-quality lighting effect.

The installation of 545 high-bay reflector luminaires of Zumtobel's Valuea product range results not only in a significant reduction of energy consumption, but also in an improvement of the lighting quality for the staff members. The luminaires were fitted with the most advanced fluorescent lamps and high-performance reflectors. Their superior lighting quality is corroborated by a very good colour rendering index (> 80) and more uniform illumination as compared to the previous solution. The luminous flux is virtually constant, and even ambient temperatures of 35°C pose no problem. "We opted for these high-bay luminaires mainly because of the numerous light distribution options they offer and the possibility to control the system as a group solution. In general, we found Valuea a high-quality product perfectly meeting the technical requirements and ensuring particularly high potential savings", says Markus Sand.

During the decision-making process, special focus was placed on the integration and use of a daylight-based lighting control system, in order to be able to save as much energy as possible. Since the major part, i.e. more than 90%, of energy is consumed during a luminaire's service

life, this is where most energy can be saved. In order to facilitate the energy-saving use of luminaires, integrating a state-of-the-art lighting management system is the perfect solution. When the Valuea high-bay reflector luminaire was presented, it was especially the fact that it makes use of advanced ballasts which are also compatible with a lighting management system that was highly appreciated. Even simple dimming cuts energy consumption by 30% compared with a non-dimmable lighting solution. By integrating a daylight-based control system, additional energy can be saved. Another benefit for the client was the "flicker-free" illumination of rotating machines. Compared to conventional high-bay projectors operated with 50 Hz technology, the fluorescent lamps are operated with 22 KHz, which prevents a stroboscopic effect.

The Zumtobel Dimlite lighting management system installed allows easy commissioning by a plug-and-play mechanism. The required components are simply linked to a basic module and started via auto setup. Thus, with only little effort the client was able to achieve even more energy savings. It was easy to implement the required group control option, so that individual



luminaire groups can be dimmed on their own as well as based on available daylight. Thus, artificial lighting is used only to the amount required for a lighting solution that conforms with relevant standards. The maximum illuminance level of 300 lx required for industrial bays is not affected by this, with optimum assistance by Valuea. It is also conceivable to integrate a presence detector into the lighting control system.

As Risse+Wilke Managing Director Dr. Kai Wilke sums up so appropriately: "The refurbishment of the lighting system has greatly enhanced the job quality for our staff members, saving resources and facilitating our every-day work. A perfect combination – in particular because thanks to the lighting control system, we are now able to respond flexibly to changes in the warehouse or manufacturing area."

## Fact box:

## Risse + Wilke Kaltband GmbH & Co.

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### Client:

Risse + Wilke Kaltband GmbH & Co., Iserlohn/D

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### Electrical consultants:

Mark-E, Hagen/D

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### Lighting solution:

Zumtobel  
Hallenreflektorleuchte Valuea  
Lichtmanagement Dimlite

More information:



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