PRESS RELEASE

RÖHM
TRADITIONALLY INNOVATIVE

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Top performance in lighting too

Innovative Sirius® high-performance floodlight combines great brightness with pleasant glare control – also thanks to PLEXIMID® optics

- energy-efficient alternative to traditional floodlight systems
- ideally matched LED system comprising reflectors and high-performance optics made from PLEXIMID® TT50
- PLEXIMID® TT50 is highly heat-resistant and alongside its good optical properties, it also has precise mold surface reproduction

High contrasts for athletes and audience, flicker-free brightness for super-slow-motion replays, intense colors for emotional moments – the lighting in sports arenas and event locations has to fulfill different demands. “Our new Sirius® high-performance floodlight combines great brightness with pleasant glare control and excellent color rendering,” says Wieland Rödel, Head of Sport & Area Lighting at Siteco Beleuchtungstechnik GmbH. “This is quite revolutionary when it comes to LED systems and the first energy-efficient alternative to traditional 2000-watt floodlights.” Core element of the innovative light is a perfectly matched LED system comprising reflectors and high-performance optics made from PLEXIMID® TT50, a highly heat-resistant polymethyl methacrylimide (PMMI) from Röhm.

Efficiently guide light

Along with its good optical properties, PLEXIMID® also provides precise mold surface reproduction, thereby enabling the easy three-dimensional design of injection-molded lenses. This contributes to the highly efficient and precise projection of light onto the playing field. “The optics are a significant element in our new floodlight system as they focus the light, thereby increasing the efficiency,” Rödel explains. To do so, it is vital that each lens is perfect and there are no streaks on the inside or any uneven areas on the surface which would scatter the light. “Although we have known and used PLEXIGLAS® and the higher heat-resistant PLEXIMID® variant for many years, developing the lenses was a challenge,” Rödel details. Following many tests and taking advantage of the expertise from specialist fabricator, Karl Jungbecker GmbH & Co. KG and support from Röhm, the quality of the lenses ultimately met the high requirements of the innovative floodlight system.

Light quality surpasses the standards

“The interplay of LEDs, optical materials and optics design in Sirius® minimizes the scattered light,” Rödel explains, adding, “thus the stands and the area above the light are not illuminated.” This means that without any latent and disruptive scattered light, the audience can see the action on the field more directly, in greater focus and in more intensive color. And for outdoor arenas, there is no light pollution, meaning nature and neighbors both remain unaffected. “Instead, a very pleasant so-called stage effect is created, which results in greater contrast for the spectators,” Rödel says. Twelve different light distributions, ranging from narrow to wide, are available, enabling custom planning for almost every type of stadium – from traditional 4-mast systems, up to World Cup stadiums – with lighting quality that surpasses the standards set by FIFA and UEFA, as well as enabling television broadcasts in Ultra HD and 8K.

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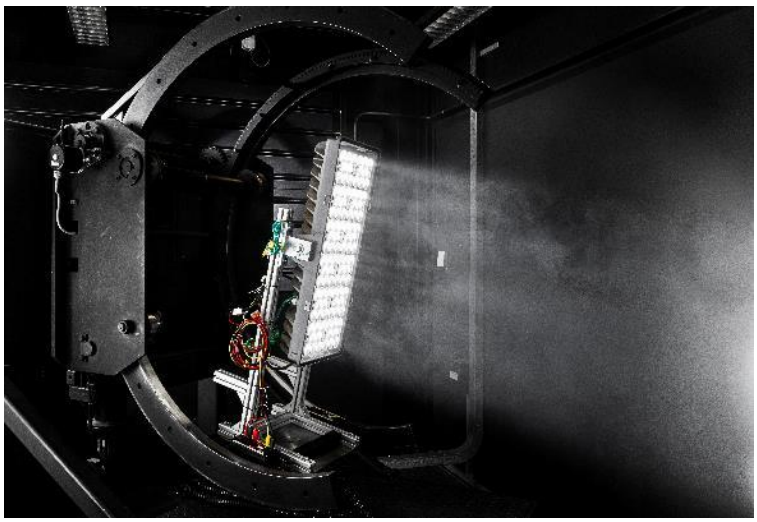
Listed area meets floodlight of the future

Arguments which also impressed the operators of the Olympic Stadium in Helsinki, which is a listed building. While new buildings and other renovation projects enable steep angles of light incidence on the playing field, it was not possible to install lights on the roof of the stadium in Helsinki. “We had to use the existing low installation heights and work with relatively flat angles of incidence,” says Sami Laakso, the local Siteco project supervisor. The number of floodlights was also limited by the available installation options. Despite these issues, Sirius® achieves an illumination level in the stadium which is 45 percent higher than before. Tero Männikkö, project manager from the city of Helsinki, confirms: “The main benefits of the new illumination solution are the improved light output, the lighting quality and the energy efficiency.” The facts and figures are as follows: around 30 percent more efficient operation compared to equivalent old systems and over 300 tons of CO_2 saved over the next 20 years[1]. “PLEXIMID® TT50 is ideal for long-term projects such as this one, as our material is highly weather- and heat-resistant, thereby enabling consistent lighting quality over a very long time,” explains René Kogler, Head of Product Management for Lighting, Extrusion, Optics at Röhm. Top performance in lighting, too, thanks to PLEXIMID®.

[Photos]



The innovative Sirius® high-performance floodlight from Siteco Beleuchtungstechnik GmbH combines great brightness with pleasant glare control. Optics made from PLEXIMID® contribute to this.
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[1] Savings: 317,580 kg of CO_2 in 20 years, based on average 5-year CO_2 emissions in Finland (= 158 kg CO_2/MWh) at 100% operation of the lighting and 500 operating hours per year.

The Olympic Stadium in Helsinki, which is a listed building, retains its historic appearance on the outside, while general renovation work means it now meets all standards for international sports events and other events – also thanks to Sirius® from Siteco and PLEXIMID® from Röhm.
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Siteco already provided lighting solutions for the stadium at the start of the 21st century, deploying a conventional solution at that time. 20 years later, the lighting manufacturer from Upper Bavaria provided a state-of-the-art solution in Sirius®, thereby showcasing the entire development of sporting illumination over the past two decades.
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The optics made from PLEXIMID® TT50 are a significant component of the new Sirius® floodlight system as they focus the light, thereby increasing efficiency, as can be seen here in Helsinki.
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Following the renovation, the Olympic Stadium in Helsinki can now once again play in the top leagues of sporting venues. The UEFA Super Cup – a soccer match between the winners of the Champions League and Europa League – will be held here in 2022.
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About Röhm
With 3,500 employees and 15 production sites worldwide, Röhm is one of the world's leading manufacturers in the methacrylate business. The medium-sized company with branches in Germany, China, the USA, Russia, and South Africa has more than 80 years of experience in methacrylate chemistry and a strong technology platform. Our best-known brands include PLEXIGLAS®, ACRYLITE®, DEGALAN® and DEGAROUTE®. More information is available at www.roehm.com.

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