Munich: 950 m² LAMILUX Glass Roof PR60 in NEWTON office building of TÜV Süd Group

**Exciting spacious effect and daylight as a feel-good factor**

**In December 2018, the impressive "NEWTON" office building of the TÜV Süd Group in Munich's West End was completed and has since offered around 1,800 people space for creativity on 37,250 m² of floor space. The visual highlight of the building is the 950 m² glass roof supplied by LAMILUX from Rehau, which covers the entire entrance hall, providing plenty of daylight in the interior. Due to the exciting spacious effect, the hall becomes the centre focus of the building. This creates a unique atmosphere for events that take place there.**

In addition to the state-of-the-art offices, NEWTON tenants also benefit from an executive lounge with show cooking, a barista bar, four landscaped courtyards and, above all, an ecological building concept that works with existing and renewable resources.

**Build sustainably – benefit in the long term**

With a primary energy consumption of 70 kWh/a\*m², the NEWTON is one of the most economical office buildings in Munich. This is made possible by structural features such as triple glazing throughout the building, solar protection glazing and external sun protection, as well as technical building equipment. Electricity is generated by photovoltaics (PV), and groundwater is used for heating and cooling. "We have made great efforts to use natural resources such as groundwater, sunlight and daylight. We have created a building that is built for the people, that protects the environment and that enables the client to create long-term value," explains Franz Meier, the architect in charge of the project at DMP Architekten München. Due to this unique building concept, the NEWTON received the platinum certificate for sustainability from the German Sustainable Building Council (DGNB) and secured a top position among Munich office building projects. The LAMILUX Glass Roof PR60 is a contributor to this accolade.

The all-round sophisticated skylight system ensures a high intake of daylight, energy-efficient construction and a high degree of safety on the roof. The EPDM outer seal and the special arrangement of the frame profiles enables unobstructed drainage of rainwater, ensuring it cannot enter the construction. The seal system, which was specially developed for the inner sealing layer, ensures efficient ventilation of the glazing rebate and controlled water and condensate drainage. If water does find its way into the construction, the secondary water drainage takes effect thanks to the jointless and overlapping seal system, which ensures unobstructed drainage of the water without damaging the glazing rebate. This avoids cloudy panes. In addition, the sealing system ensures optimal isothermal processes. As the entire construction is thermally separated, the glass roof becomes the active energy manager of the building: The heat stays outside in summer and inside in winter. To achieve a particularly high longevity of the glazing, the rebate base must be ventilated in both the mullions and transoms. LAMILUX achieves this with patented AVS technology, which ensures passive rebate ventilation even in highly thermally isolated systems.

**Natural light for health, concentration and energy efficiency**

Daylight in particular plays a major role in office environments. It has been proven to promote an employee's ability to concentrate, and improve their mood and creativity. A fact that the architects DMP Architekten München took to heart when designing and constructing the NEWTON building: "Natural daylight corresponds to the natural rhythm and natural sensation of humans. When we adhere to it, we adhere to the human scale. All efforts involving artificial light always go in the direction of replacing or optimising natural light. If we have the option of being able to use natural light, that is the most sustainable concept in all respects," says architect Franz Meier. And this concept was implemented by the planners. Large window fronts on all sides flood the offices on the upper floors with natural light.

**Unique atmosphere thanks to customised design**

A special highlight of the NEWTON, however, is definitely the glazed entrance hall: "We wanted to turn the outdoor space into an indoor space. The time of day and the season should be experienced and felt and provide orientation. But the space should also be usable at all these times and in all these moods," explains Franz Meier, architect DMP Architekten München. The 950 m² glass roof supplied by LAMILUX from Rehau covers the entire hall and creates an exciting, spacious effect inside the building. A high intake of daylight, energy efficiency, and a high degree of safety on the roof are just a few of the countless advantages of the LAMILUX Glass Roof PR60. "The special thing about this daylight construction, compared to other skylight systems, is the customised design and the freedom in the dimensions. The LAMILUX Glass Roof PR60 is also not bound to grid dimensions," explains Lutz Jennermann, graduate engineer at LAMILUX. However, the 950 m² glass roof in the NEWTON building also presented LAMILUX employees with some challenges: "A curved roof with curved panes, we hadn't had that before," Jennermann explains. He adds: "Tests had to be completed both in our factory in Rehau and at ift (Institut für Fenstertechnik) in Rosenheim, as the panes had to be installed curved and "bent" into shape. Tests for driving rain tightness and air permeability were also carried out. The resistance to wind load was also measured, as we did not yet have any evidence for this particular geometry.”

The installation in particular required a perfectly coordinated process. "Assembly was quite challenging. Our production was only able to produce individual parts. These were assembled on the construction site in Munich. The complicating factor here was that all the profiles were different. This meant assembly was like a puzzle." However, with more than 70 years of experience in the field of skylight systems, the experts from LAMILUX, together with the team from Metallbau Dodel in Ulm, were able to master this challenge without any hitches. The customised LAMILUX Glass Roof PR60 enriches the NEWTON building with an architectural highlight: "For such a size, we're talking about approximately 31x31 metres of daylight on an individual steel structure, the LAMILUX Glass Roof PR60 is definitely unrivalled. This completely glazed entrance hall, is neither technically nor aesthetically feasible with continuous rooflights or rooflights," says Jennermann.

**Glass roof construction creates a feel-good factor**

The aesthetically pleasing LAMILUX Glass Roof PR60 construction is definitely a visual highlight and creates an exciting effect in the entrance area of the NEWTON office building at any time of the year or day: "The NEWTON is not just an office building, it combines many functions and areas that are important to create a people-centred and pleasant working environment," says Franz Meier, project-leading architect from DMP Architekten München. He adds: "We wanted to create an office building that becomes a place where people like to go, where they like to spend time. With the glazed entrance hall complimented with the trees and the public areas, we have definitely succeeded. It's just nice to see that architecture can help people enjoy being in a building because it's a pleasant, friendly and comfortable environment, simply because it makes them feel good."

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LAMILUX Heinrich Strunz Group, Rehau

Continuous rooflights, glass roofs or rooflights: the LAMILUX Heinrich Strunz Group is one of the leading manufacturers of skylights in Europe. The skylights ensure efficient use of natural daylight in a wide variety of buildings. In addition, special smoke and heat extraction systems provide safety in case of fire and are therefore essential components of fire protection concepts. LAMILUX is also known for its solutions for object smoke extraction. Furthermore, the medium-sized family business founded in 1909 is one of the world's largest producers of carbon and glass fibre reinforced plastics. These composite materials provide stability, lightweight construction and impact resistance for instance in roof, wall and floor linings in commercial vehicles. The company has around 1300 employees at present and has achieved a turnover of around 392 million euros in 2022.