

Saving energy with natural light

ACRYLITE® provides superior performance in Solatube's Daylighting System

- **Solatube's tubular daylighting devices illuminate dark rooms with daylight and save energy in residential spaces, offices and public buildings**
- **Maximum light transmittance and long-lasting weather resistance make transparent ACRYLITE® a proven material for Solatube tubular skylights**

Light is key to our quality of life: It is scientifically proven that rooms lit with daylight are more pleasant to live in and allow us to work and study more effectively. However, this is not possible everywhere – many residential buildings have corridors without any windows or other poorly lit areas. And in offices, classrooms and workshops, not all desks are near a window. Although artificial lighting provides the requisite brightness, it does not have the same positive effect on our wellbeing and health that natural light has. More than 30 years ago, the Australian Steve Sutton had a clever idea for illuminating dark rooms that required minimal intervention in the building structure: He invented a kind of pipeline for sunlight, which enters the building through a small transparent dome skylight on the roof and is transported to the interior via a light tube.

Solatube International has been continuously developing tubular daylighting technologies since then. ACRYLITE®, the brand polymethyl methacrylate (PMMA) from Röhm in the Americas, plays a crucial role in the Solatube Daylighting System in capturing the sunlight. Solatube uses a special, impact-resistant ACRYLITE® Resist molding compound to manufacture its skylights. "ACRYLITE® is ideal for skylights," explains Bill Smith, Strategic Account Manager Molding Compounds. "It is one of the most transparent materials in existence and allows visible light to pass through virtually unhindered."

How the Solatube Daylighting System works

Once mounted on the roof, Solatube domes function as a lens and collect daylight, which is guided into the building using a system of tubes lined with highly reflective special film. Because the system's transmission losses are minimal, this even works around bends and for run lengths well over 30 feet to deliver daylight to lower floors. A diffuser at the end of the light tube distributes the natural light in the room.

Depending on the model, the diameter of the domes for residential buildings is around 10 or 14 inches. As such, they require a much smaller roof area than conventional skylights. Impact-resistant ACRYLITE® molding compound assists Solatube International to maximize luminous efficiency with its patented Raybender® 3000 Technology featuring a special dome lens prism structure. The prism expands the surface area, capturing even low-angle sunlight in the morning and evening and during winter months. Only UV and infrared radiation and the overpowering midday sunlight are rejected. As a result, rooms are flooded with pleasant, natural daylight in every season and at every time of day without heating up.

ACRYLITE® provides long-lasting weather resistance

Jennifer Delaney, Product Manager at Solatube, has been working with Röhm for many years. "When we redesigned our daylighting system several years ago, we needed a material and a manufacturer we could trust. Röhm provided us with excellent support with the weathering tests at the time." Alongside the technical qualities, the company values the

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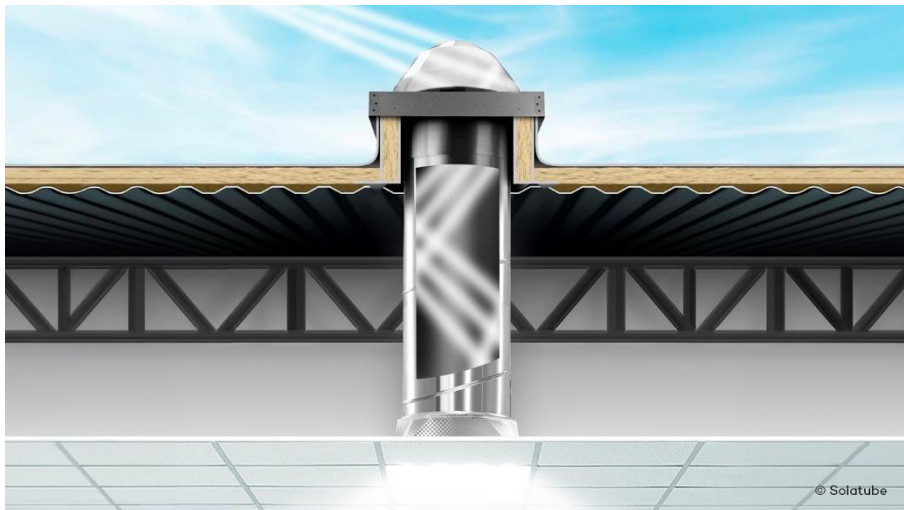
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excellent weather resistance of ACRYLITE®. Both criteria are key for the system to function reliably and for its long service life. “Thanks to the material’s high quality and longevity coupled with its excellent processing properties in the injection molding process, we obtain a product that sets the standard in the industry,” emphasizes Delaney.

Daylighting system saves energy in buildings

“In this application, our ACRYLITE® molding compounds make a sustainable contribution toward saving energy in buildings, as the Solatube Daylighting System illuminates even large rooms with natural daylight very efficiently – without using any electricity,” comments Sven Schröbel, Head of Global Sustainability Management in the Molding Compounds business unit at Röhm. Solatube Product Manager Delaney can confirm this with impressive data from the field: “With our system, a school in California is saving 24 percent of its previous energy costs for lighting and lowering its carbon footprint. And in residential buildings, savings of up to 40 percent are possible.”



Solatube uses a special, impact-resistant ACRYLITE® Resist molding compound from Röhm to manufacture skylights of its Tubular Daylighting System. The domes function as a lens and collect daylight, which is guided into the building using a system of tubes lined with highly reflective special film.

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The Solatube Daylighting System efficiently illuminates even large rooms with natural daylight – without using any electricity. As a highly transparent material for skylights, ACRYLITE® makes a sustainable contribution toward saving energy in buildings.
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Solatube's Tubular Daylighting Device illuminates dark rooms and improves health and wellbeing: Sunlight enters the building through a transparent dome skylight on the roof and is transported to the interior via a light tube. A diffuser distributes the natural light in the room. ACRYLITE® from Röhm is ideal for skylights because it is one of the most transparent materials in existence.
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Highly transparent ACRYLITE® from Röhm is a proven material for skylight domes, offering maximum light transmittance and long-lasting weather resistance. It assists Solatube International to maximize luminous efficiency with its patented Raybender® 3000 Technology featuring a special dome lens prism structure.

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About Röhm

With 3,500 employees and 13 production sites worldwide, Röhm is one of the leading manufacturers in the methacrylate business. The medium-sized company with branches in Germany, China, the USA, Mexico, and South Africa has 90 years of experience in methacrylate chemistry and a strong technology platform. Our best-known brands include PLEXIGLAS®, ACRYLITE®, MERACRYL®, DEGALAN®, DEGAROUTE® and CYROLITE®.

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More information is available at www.roehm.com.