

Amsterdam ArenA Stadium escalator enclosures beat summer heat, deflect winter's worst with SABIC Innovative Plastics' Lexan[®] Solar Control sheet

One of the first commercial applications of revolutionary Lexan Solar Control IR^{*} polycarbonate sheet from SABIC Innovative Plastics is helping to block the elements from crowds as they come and go at the ArenA in Amsterdam.

The four escalators leading to the ArenA are enclosed in the new material. The escalators are designed to help handle large crowds, which can lead to uncomfortable temperature levels within the enclosures. Natural ventilation combined with the Lexan Solar Control IR glazing helps to avoid heat build-up.



Lexan Solar Control IR sheet helps absorb infrared (IR) and near-IR radiation from the sun, potentially reducing interior heat buildup by up to levels as much as 40 percent. In addition it can offer up to 60 percent more visible light transmission than other plastic-based IR-absorbent glazing products.

The escalator enclosures benefit from the toughness of Lexan polycarbonate sheet, allowing them to shrug off rain, snow, hail and wind. The curved, transparent escalator glazing of Lexan Solar Control IR polycarbonate sheet helps admit large amounts of natural light, enhancing aesthetics and reducing energy needs for interior lighting and cooling. Lexan Solar Control IR sheet is lightweight and its formability, as well as impact- and fire resistance, makes it an excellent choice for this structure. Finally, it has excellent flame resistance, building-code approval with EU and ICBO, and other high-performance properties.

"We have always been very interested in all developments for plastic glazing systems as they can reduce breakage resulting in increased safety and service life," says Sander van Stiphout, project leader of Amsterdam ArenA.

"Lexan Solar Control IR sheet offers the additional benefit of a significant reduction in solar transmission combined with high levels of light transmission, helping to save energy costs for cooling and optimizing climate and view for our valued customers."

The new Lexan glazing offers outstanding design freedom thanks to its ability to be cold formed and/or thermoformed without losing impact or weathering properties. It offers a 10-year written limited warranty against reduction of light or solar transmission properties, yellowing and breakage due to hail impact.

The Lexan Solar Control IR polycarbonate sheet-based escalator covering joins an earlier application – the ArenA's 20.000m²-sliding roof, glazed with Lexan Thermoclear[®] polycarbonate sheet, which allows events to be staged regardless of the weather.

"Until now, the only alternative for IR absorption in plastic used a screen-printed coating or a co-extruded layer on one side of the sheet to absorb IR energy. But the coating or co-extruded layer made this glazing at best translucent, at worst, opaque, greatly reducing light transmission," says Robert Paimans, lead architect of the ArenA stadium project for Soeters van Elsdonk Ponec Architects.

"Lexan solar control sheet gives us both light transparency and solar control properties in one product. Plus, because it is easily formed, we were able to create a uniquely-shaped curved structure," adds Paimans.

Case Study

Lexan* Solar Control IR* sheet / Amsterdam ArenA

The Amsterdam ArenA has a total capacity of some 52,000 seats. Conventional seating combined with skyboxes, skylounges and business seats together with 230 press seats and 68 wheelchair spaces. In addition to major sports and concert events, The ArenA is also popular for such smaller events as product presentations, theatrical performances, sales training and company celebrations. Altogether, the Amsterdam ArenA hosts about 70 major events per year, with around 2.1 million visitors in total, including tours.

Details at
amsterdamarena.nl

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