

Making Something Heavy Light

Concrete brings to mind gray facades, plain bridges, dreary basement garages and indistinctive high-rise buildings on the outskirts of cities. Hungarian architect Áron Losonczi has demonstrated that this construction material can look quite different.

Light guides from SCHOTT play an important role in his concept.

► Dismal, gray, desolate – the image of concrete is anything but positive. Nevertheless, it is still popular. In fact, it is among the most widely used construction materials in contemporary architecture – and has long been discovered by artists.

“Concrete is often considered a crude, inhuman material,” confirms Áron Losonczi. But this impression could soon be changed by his “Lightweight” project. The young artist has developed a method with which concrete can be made “translucent,” thus transforming a cumbersome building material to something as light as a feather – at least in the eyes of the beholder.

Interesting effects

As part of his postgraduate studies at the Kungliga Konsthögskolans Arkitekturskola (Royal University College of Fine Arts) in Stockholm, Losonczi was investigating the subject of glass in architecture when he stumbled onto fiber optic light guides. He contacted SCHOTT Scandinavia, and they furnished him with the necessary glass fibers. Losonczi began to experiment and ultimately produced two light-transmitting concrete blocks for this thesis – prototypes for his “Lightweight” project, in which thousands of very thin glass fibers are arranged in parallel rows and cast in concrete. The result is a brand new, load-bearing building material. The “Lightweight” stones convey brightness. The natural – or artificial – light that falls on the one side of the concrete is conducted by the glass fibers straight through the material until it emerges on the surface of the other side as light. In the reverse case, shadows on the one side appear as distinct outlines on the other side of the concrete ashlar. A stone wall is transformed into a combination

gigantic screen and megascanner. It is able to transmit the silhouettes of trees, houses and passersby inside a building.

Complex aesthetics

The perfect marriage of light and architecture – and a process that makes the concrete appear lightweight. “If you try to describe how a tremendous wall loses its heaviness, the word translucent is perhaps not the suitable term because the aesthetic aspect is far more complex,” explains Losonczi. Theoretically, says the artist, a wall made of “Lightweight” stones could be several meters thick, since the glass fibers are able to conduct the light over a distance of, for example, one meter virtually without any loss of brightness. At the moment, a computer simulation can only show just how animating the effect can be on entire facades made of concrete. But very soon Losonczi is going to build a wall on which he can experiment with different kinds of lighting effects. A first building – either a small pavilion or a chapel – is also in plan-

ning. Losonczi would like to construct his first design in his Hungarian hometown of Csongrád. But most of all, he hopes to realize his project with a suitable partner.

An innovative construction material

In fact, he may already have found the right partner in SCHOTT. “We could imagine a cooperation with one or several of our customers,” explains Wolfgang Streu, Sales Manager Lighting in the Business Segment Fiber Optics at SCHOTT. “We are always searching for new applications, but this use of the material is surprising for us as well.” As Streu says, this innovative construction material could increase the design possibilities for architects immensely – and not only in residential dwellings, but also in commercially used buildings for large banks or insurance companies. “The new technology could be extremely interesting for lighting planners and lighting laboratories as well. We would like to awaken the interest of our current customers in this project, but also contact and win new ones.” ◀



Initially only a computer simulation: the outlines of shimmering trees are transmitted through a wall made of “lightweight” stones.

A concrete stone that transmits light: thousands of glass fibers make it translucent.

Áron Losonczi was born in Szolnok, Hungary, in 1977. He studied architecture at the Technical University of Budapest, where he gained degrees in architecture and civil engineering in 2001. He participated in postgraduate courses at the Kungliga Konsthögskolans Arkitekturskola (Royal University College of Fine Arts) in Stockholm in 2001/2002 and will continue his work here as a project student until 2003.



Aron Losonczi



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Like a scanner: the silhouette of a hand is reproduced true to size on the wall.