



# **translucent**concrete

by **andreasbittis**

technical information

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# the material

**translucentconcrete** is a combination of optical fibers and fine concrete. Thousands of fibers run side by side transmitting light between the two surfaces of each element. Because of their small size the fibers blend into concrete becoming a component of the material like small pieces of ballast. In this manner, the result is not only having the two materials mixed - glass in concrete - but a third, new material which is homogeneous in its inner structure and on its main surfaces as well.



In theory, a wall structure created out of **translucentconcrete** blocks can be a couple of meters thick as the fibers work almost without any loss in light up till 20 meters! Moreover, the blocks are load-bearing and provide the same effect with both natural and artificial light. Glass fibers lead light by points between the wall-surfaces. Shadows on the lighter side will appear with sharp outlines on the darker one. Even the colors remain the same! Such a wall with glass fiber-pixels acts as if scanner and screen are united. This special effect creates the general impression that thickness and weight of this concrete wall disappear.



**translucentconcrete** blocks are produced depending on the aesthetic wishes and structural needs of the architects project. Basically all sizes of precasted concrete are possible: from small bricks, to façade plates or passable paving stones, all illuminated from beneath. Since the amount of optical fiber is only 4%, **translucentconcrete** blocks have the same technical data as the concrete used for them. The same flexibility occurs with the fibers: Right now the diameter of the fiber can be chosen from 2 micro- to 2 millimeters. And also the technique of making **translucentconcrete** blocks can differ according to the needs of the project: from a slight "diffuse" aesthetic to a certain grid or even a logo.



Moreover **translucentconcrete** is a high density concrete – according to the extremely fine diameter of the fibers the other aggregates need to be chosen. **translucent-concrete** elements are joint together through splicing or agglutinating or in conjunction with any common framework.

Talented architects and engineers should feel challenged to create structures of extraordinary beauty and innovation. **translucentconcrete** is the first step to what might become the building material of the future.

#### **technical data**

size	max. 2,00 x 1,20 m
thickness	min. 2 cm
colors	white, grey, black
gross density	2400 kg/m <sup>3</sup>
compressive strength	min. 70 N/mm <sup>2</sup>
bending tensile strength	4-5 N/mm <sup>2</sup>



#### **contact us**

andreas bittis

brabantstrasse 30  
52070 aachen  
germany

fon +49-160-96232525  
fax +49-241-533213

info@andreasbittis.de  
www.andreasbittis.de

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Beauty may not be found within the objects themselves, but in the half-light, the play of shadows, that evolves between objects.

Tanizaki Jun'ichiro  
In Praise of Shadows

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made in germany by

