



Carpark in construction

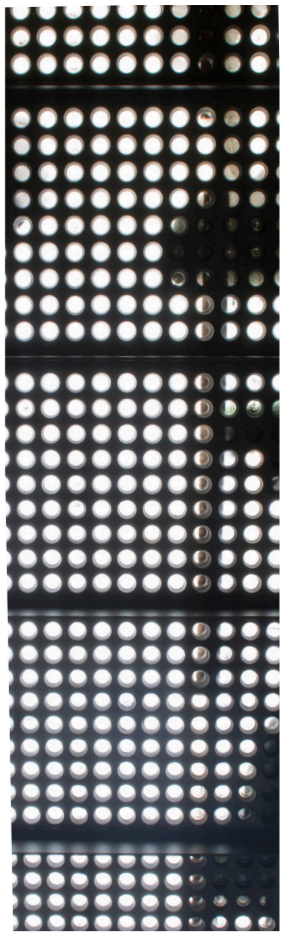
A Translucent Brick:

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I visited a three-floor deep car park/basement construction site in Copenhagen near the area of Nyhavn. When researching the site, I was interested in what the lighting condition would be through the car park because I naturally thought it would be quite dark and dingy with only artificial lighting, as is the case with many car parks. While being shown around I was shown a brick made using concrete and glass elements to allow light to enter the space from the roof. The brick had to be durable and strong enough for people to use the ground above (as the car park is a basement, the roof is at ground level and will be frequently used by many people). It also needed to have a function to let light through, but also this had to be durable to let people walk on it, and also not allow the weather in, which is often a problem in Copenhagen.

The outer part of the brick is made from pouring concrete using a mould that was designed to allow easy placement of the glass inserts. The concrete is also an enforced concrete as it will be under a lot of pressure. The use of concrete is quite apt as it has quite high compression strength, so the weight of the people above shouldn't cause a problem. Concrete, however, does have an issue as it is quite dense (with a density around 2,400kg/m³. This means concrete will generally fail under tension, although this downside has little effect in the car park project, as the majority of the concrete would be under compression, rather than tension. The weather in Copenhagen is also very cold for the majority of the year, so the low thermal coefficient of concrete could be a problem as it shrinks over time.

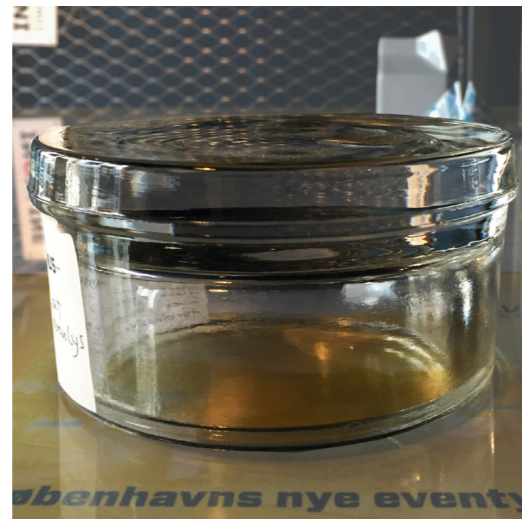
Glass was a good choice as the insert piece to help make the brick have a translucent quality due to its colourlessness obvious quality to let light in. The glass was cast using kiln casting, (casting using plaster and plaster composite moulds, and molten glass). It was cast glass as many needed to be produced exactly the same, and the use of molds allowed this. The glass was also cast as it needed to be especially thick glass due to the fact people were walking on it. The glass is also cast with a slight magnifying quality to let as much light in as possible.



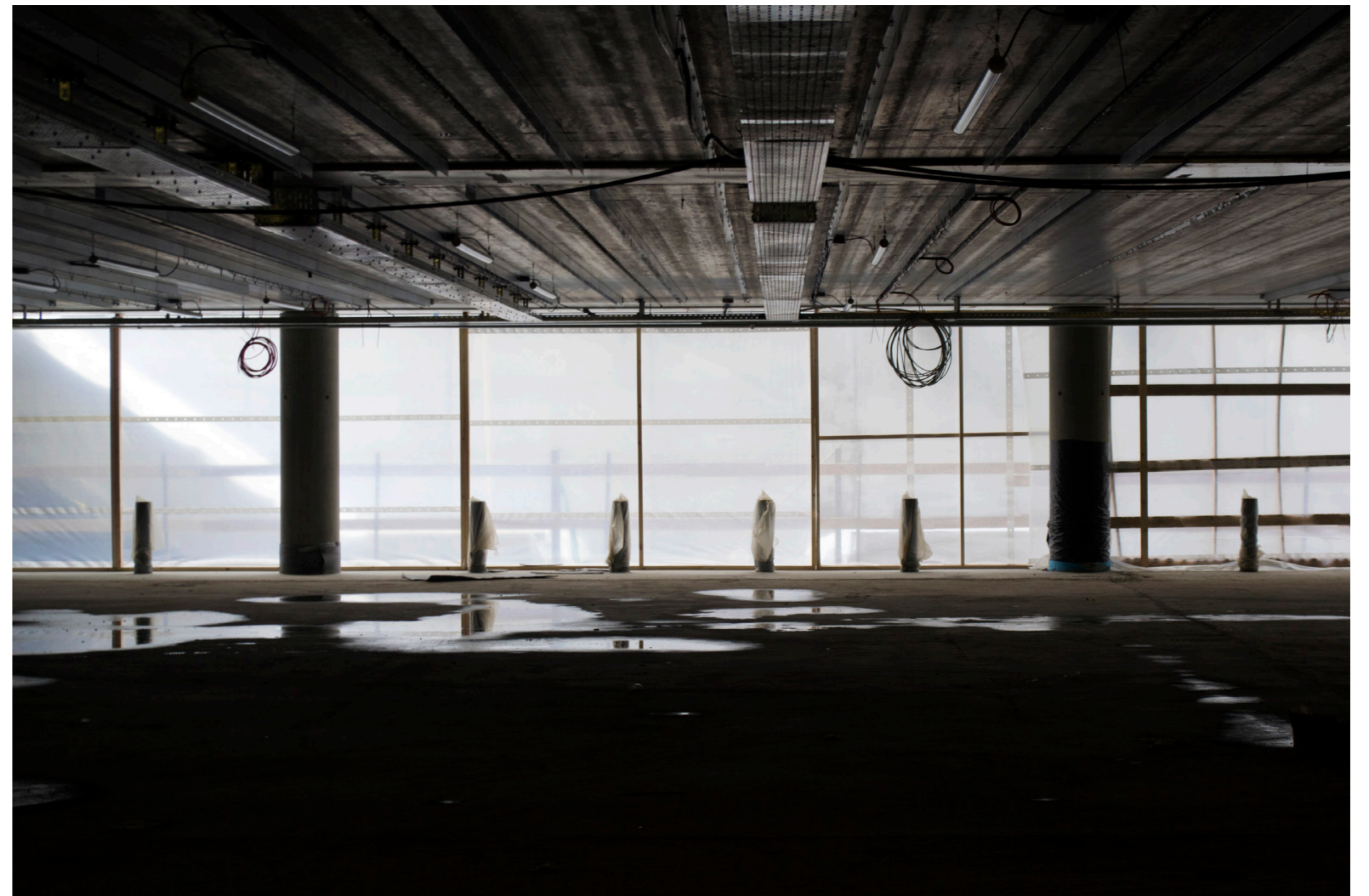
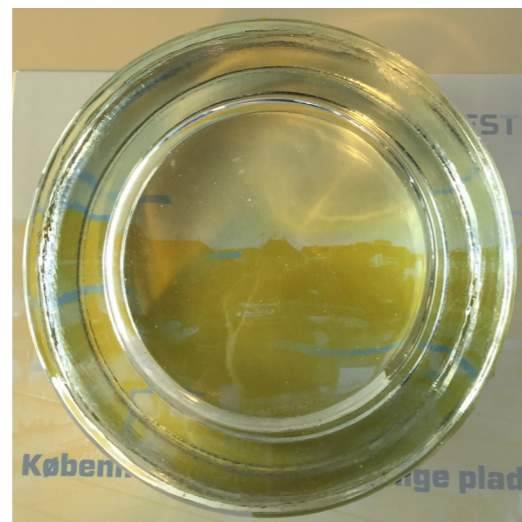
Brick panels from interior



Brick and glass element



Glass inserts



Light quality inside carpark mid-construction