



# QUALITY COLORS.

## Case Study

Kyrö Distillery, Isokyrö, Finland



Color for Life.

COLORED CONCRETE WORKS®

An initiative of LANXESS

# QUALITY WORKS.

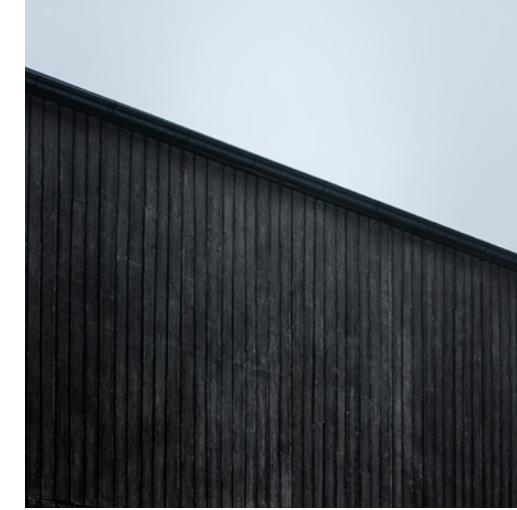
**LANXESS**  
Energizing Chemistry

# TROMPE-L'ŒIL IN FINNISH

"avanto architects" from Helsinki have designed a stylish barrel storage building for the Kyrö Distillery Company, which was recently awarded the Finnish concrete architecture prize. At first glance, the building appears to be clad with old, charred wooden planks. In reality though, it has a raven black pigmented concrete façade with a deceptively real wood appearance.

The world's northernmost gin and whisky distillery is located in the Kyrö river basin, a magnificent landscape with well-preserved farmhouses and the typical old wooden barns that served as inspiration for the new 1,056 sqm black warehouse. The "warehouse" remit may sound simple – however, for a whisky distillery the cask storage is an essential part of the production process that determines the quality of the finished product. For whisky to be called whisky, the spirit has to rest in oak barrels for at least three years, meaning that huge warehouses are necessary. This is why the client opted to use concrete instead of wood – but you really cannot tell this simply from looking at the building.





## ANYTHING BUT JUST A FAÇADE

The barrel storage facility's outer wall structure consists of 6 to 4.5 m x 3 m standard sandwich elements. The special feature is of course the outer shell with the appearance of an Ostrobothnian floorboard. To reproduce the shape and color of a typical regional wooden barn, original boards from a dismantled barn were processed

into two 1.5 x 4.5 m molds. Grain patterns, worm- and nail holes could be exposed by scarfing and sanding the boards beforehand. This made it possible to bring out the unique structure and feel of the boards for the molds. With the two molds it was now possible to create a pattern that was only repeated after every 6 meters.

An elastic casting resin that withstands repeated use better than the original old boards was chosen to produce the facade matrices. Another challenge in the production of the concrete elements was to find the right formwork oil that would not shrink or soften the mold material.

# ARCHITECTURE. CONCRETE. BAYFERROX. – A PERFECT MATCH

According to the original plan, the concrete elements were to be produced with colored concrete and then painted darker at the construction site. After several trial castings, the deep black Bayferrox 360 pigment was used at a dosage level of 5% pigment, calculated on the total weight of cement. The resulting colored concrete was dark & black enough that it could be used without the need for expensive additional painting.

The use of iron oxide pigments in concrete or the implementation of customized color ideas always requires essential technical and application expertise – especially with black pigments. Apart from selecting the

suitable pigment, the choice of the right cement is of great importance. For example, the type of cement used has an influence on the shade, and conversely, the reactions of pigments with concrete aggregates have to be checked.

This process requires expertise in how the concrete technology and the color pigment interact. The planners were therefore given professional support by the technical pigment experts at LANXESS for the construction of the barrel storage facility.





## PROJECT FIGURES

### LOCATION

Isokyrö, Finland

### ARCHITECT

Avanto Arkitehdit Oy

### CONSTRUCTION YEAR

2019

### BUILDER-OWNER

Kyrö Distillery Company

### AMOUNT OF CONCRETE

80 m<sup>3</sup>

### AMOUNT OF PIGMENT

approx. 1,300 kg

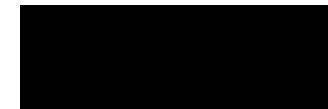
### DELIVERY FORM

Powder

### PIGMENTS



### BAYFERROX® 360



# WHAT IS COLORED CONCRETE WORKS®?

**More publicity for colored concrete.**

Colored Concrete Works® is a LANXESS initiative for more color in architecture which aims to present the versatility and aesthetic properties of concrete colored with Bayferrox® pigments to an interested professional audience.

Colored Concrete Works® is designed as a series of case studies documenting the use of colored concrete in international construction projects. It is accompanied by forums and workshops that provide a platform for architects, construction managers and building companies to exchange ideas and discuss the possibilities of coloring concrete with pigments.



# HOW CAN WE HELP YOUR BUSINESS?

**Get in contact with us.**



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