



PHOTO CONCRETE

GRAPHIC CONCRETE SURFACES

Work Instructions



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GENERAL PRODUCT DESCRIPTION

FABRINO photo-concrete foils are specially printed foils with a surface retarder that enable high-quality reproduction of designs, graphics, images or photographs on concrete surfaces.

The foils are inserted precisely into the formwork at the precast plant. In the printed areas, they cause the concrete to set at a controlled, delayed rate.

When the surface is subsequently washed out, the cement skin in these areas is removed, revealing the aggregate beneath. The depth of the exposure depends on the specific concrete mix and is tailored to the project.

The contrast between the washed-out and smooth concrete surfaces creates striking light-dark effects that lend depth and character to the motif.



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DESIGN

Your custom design or photograph is printed onto a plastic foil. The maximum printable area is 3.15 m x 25 m; the foil is then cut to the desired final dimensions.

We take care of preparing your data for you. On request, we can also create a visualisation to give you a better idea of the final result.

Images and photographs are halftoned – similar to newspaper printing. The size of the half-tone dots is defined on a project-by-project basis and depends both on the quality of the original image and the viewing distance.

Alternatively, the motif can be converted to pure black tones. The level of detail achievable in this case depends on the motif's structure and the final dimensions.

The special manufacturing process requires no set-up costs. Individual foils can be reordered at any time, so there is no need to stock spare foils.

For an additional charge, we are happy to provide you with individual sample foils.



FOILS

The FABRINO photo-concrete foil is made from a high-quality plastic foil. It is supplied protected and rolled up, and can be laid easily and precisely within the formwork.

The maximum printable area of a single sheet is 3.15 m × 25 m. For large-format designs, several sheets can be joined together within the formwork to fit perfectly.

On request, the foils can be cut to the exact dimensions required for your specific project.

The foil is laid on the formwork table. The formwork frame is positioned with a slight overhang so that there is no direct contact with the foil.

The foils are intended for single use and can be disposed of in accordance with applicable regulations.

Before use, we generally recommend carrying out a trial under real production conditions at the precast plant. Various influencing factors – in particular the concrete mix, processing and environmental conditions – can significantly affect the quality and appearance of the concrete surface. Results from laboratory tests are therefore only of limited applicability in practice.

For project-specific coordination, we are happy to provide you with a sample pack (including foil formats of 50 cm × 50 cm or 29.7 cm × 42 cm) to help you define the desired appearance in the best possible way.



Foil thickness:
approx. 0.2 mm



Temperature resistance:
-20°C to +50°C



Durable up to nine months
(if properly stored)



Can be rolled to a minimum
roll diameter of 10 cm



STORAGE

We recommend storing the foils in a dry, clean and dust-free environment, away from direct sunlight.

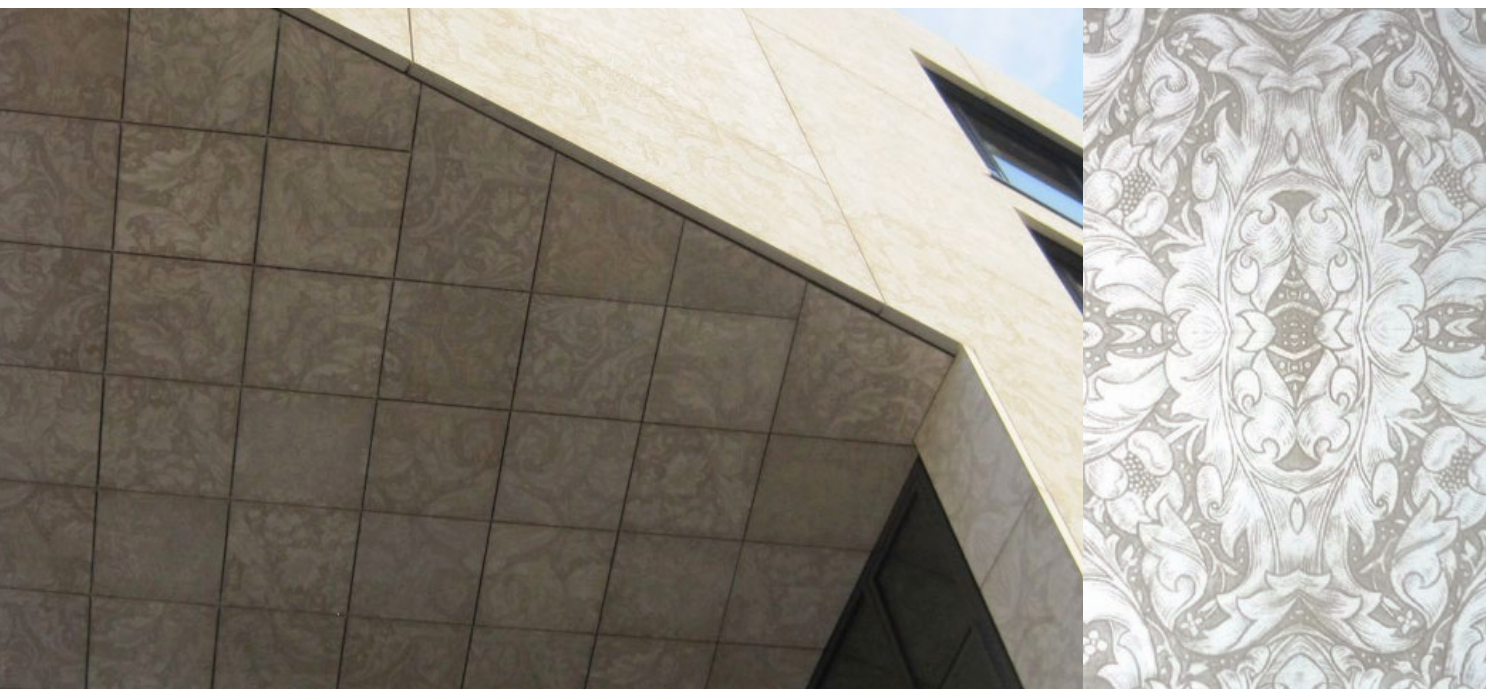
To prevent warping, the foils should be stored on a flat, smooth surface and should not be weighed down by objects placed on top of them.

CONCRETE

There are generally no specific requirements regarding the concrete mix design. However, the use of Portland cement, preferably CEM I, is recommended. (CA, CSA, gypsum, anhydrite or other clinker-free binders have not been tested.)

The use of fast-setting cements is not recommended. The concrete should meet at least consistency class F3.

Before the project begins, it is recommended to carry out a test batch using the intended concrete mix design to ensure that the desired surface finish is achieved. During washing, the cement skin is partially removed, exposing the underlying aggregate. Its texture, grain size and colour have a significant influence on the visual effect of the concrete element. Prior consultation facilitates the targeted selection of the aggregate.





PLACING THE FOILS INTO THE FORMWORK

Inserting the foil into the formwork. Foil and formwork must be clean and free from dust, grease and contaminants. Clean the membranes with a clean, dry cloth if necessary.

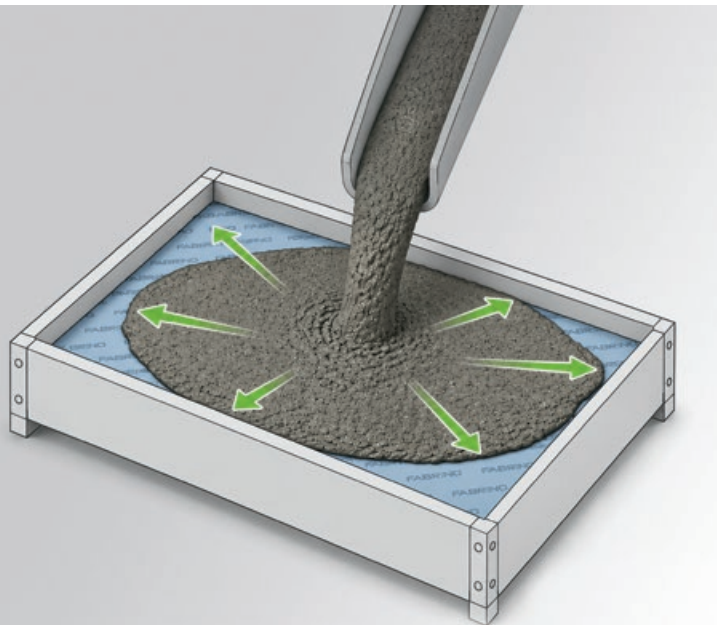
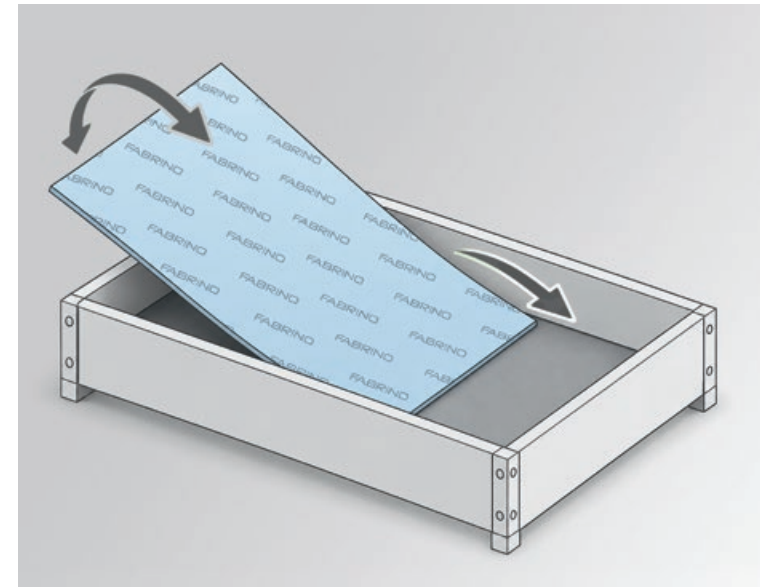
Do not use concrete release agents on the surface of the foil.

The printed side of the foil must face the concrete.

Handle the foil with clean, dry hands. If necessary, the foils can be cut precisely to the required size using a craft knife.

The foil must be placed flat and tension-free in the formwork. Air pockets under the foil must be avoided at all costs, as these directly affect the subsequent surface finish. The formwork frame must be positioned so that it extends slightly beyond the foil. The formwork frame and formwork edges must be treated in advance with a solvent-free release agent.

Heated formwork must be avoided. The foils should not be placed in formwork that has previously been exposed to direct sunlight for a prolonged period.



POURING CONCRETE

Where possible, the reinforcement should be suspended to prevent damage to the membrane.

The use of spacers should be assessed in advance, as these may be visible in the finished structure.

The concrete should be placed into the formwork with as little segregation as possible, preferably starting from the centre of the structure.

The pour height should not exceed 0.5 m.

Sufficient concrete cover must be ensured.

External vibrators for compaction should be used selectively and, where possible, only once.

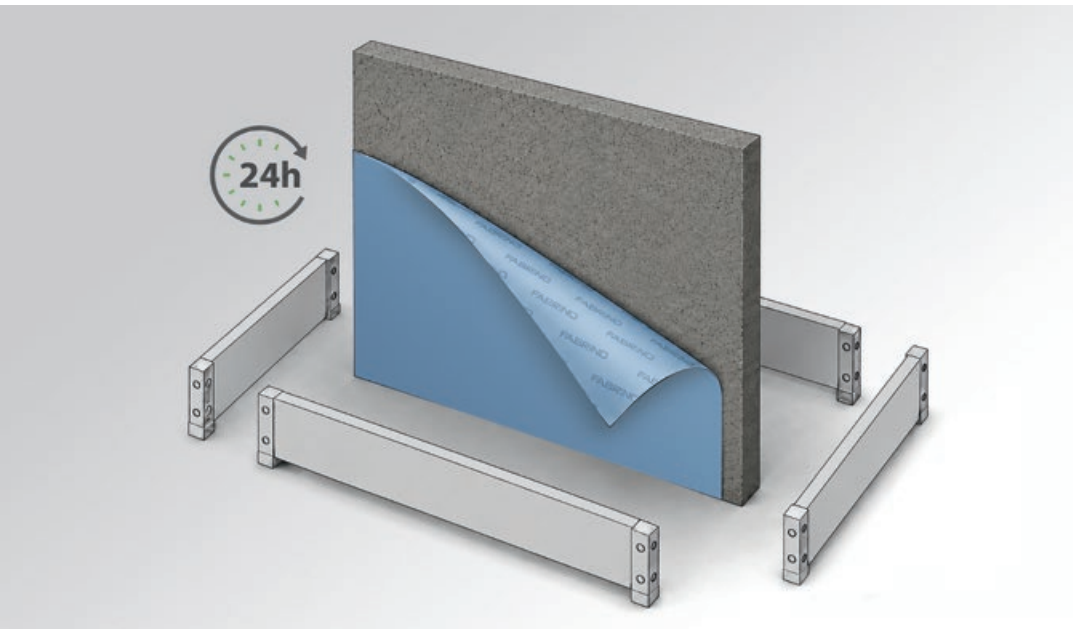
During curing in an autoclave, the temperature should not exceed 45 °C.



DEMOULDING

Before washing out, the photo-concrete foil must be completely removed from the component.

Formwork removal and subsequent washing out should take place once the concrete has hardened sufficiently, usually within 24 hours. Elements of a single component should, where possible, be concreted and stripped of formwork at the same time to avoid colour differences and variations in the washed-out pattern.

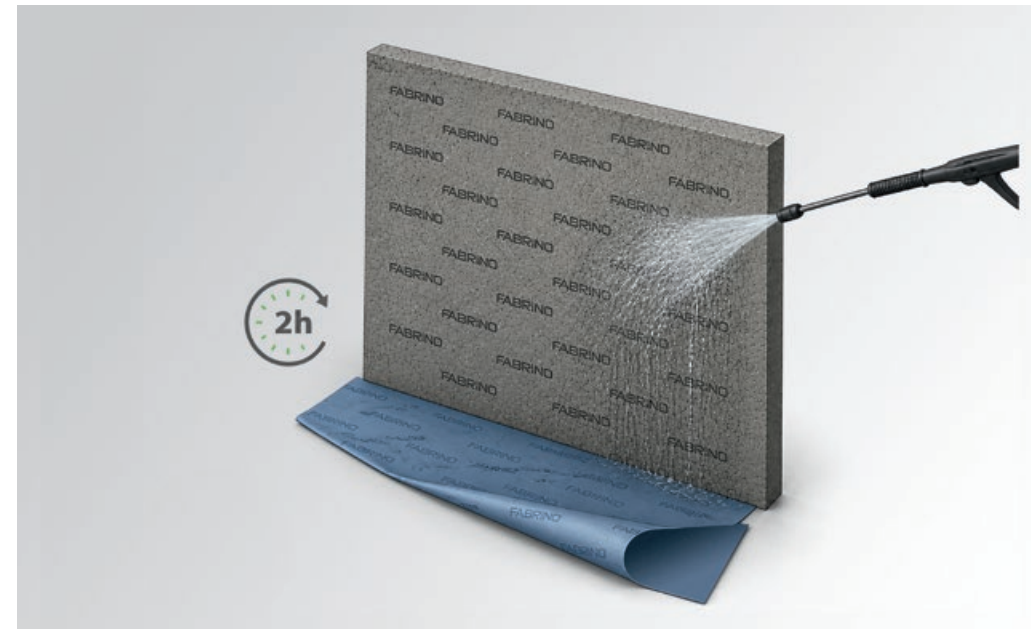


WASHING OUT

The concrete elements must be washed immediately after formwork removal, ideally within 2 hours. Cleaning should be carried out using a high-pressure washer (approx. 100–150 bar).

Clean water (tap water) must be used. Washing should be carried out evenly and in a criss-cross pattern. All areas treated with a retarder must be washed out completely to prevent staining.

To ensure a uniform appearance, the components should be left to dry in a weather-protected area. A suitable impregnation treatment is recommended for long-term protection of the surface.





IMPORTANT NOTE

FABRINO photo-concrete technology has been successfully used under a wide variety of practical conditions. All information and recommendations in this document reflect the current state of knowledge and are provided in good faith and to the best of our knowledge.

However, due to varying conditions – particularly with regard to concrete mix design, application and environmental conditions – results may vary. The information is therefore provided as a guide and should not be construed as guaranteed properties.

As this is an application involving exposed concrete, the relevant recommendations of the cement manufacturer must also be taken into account.

Our technical support team is available at any time to assist with project-specific implementation.



CONTACT

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AT A GLANCE: FABRINO

FABRINO is a leading, specialist provider within the global construction industry, made up of two distinct business divisions: Architectural Concrete and High-Performance Fibers.

Our customers include precast and ready mix concrete manufacturers, construction companies, industrial floor providers as well as building material distributors. As well as providing for our direct customers the active support of our industry partners, including architects and contractors, is something we pride ourselves in.

OUR PRODUCTS

Architectural Concrete Division: Innovative products for the refinement, colouring and protection of architectural concrete and cast stone.

High-Performance Fibers Division: High-quality products for the reinforcement and enhancement of industrial floors, concrete slabs, exterior concrete surfaces, shotcrete, precast elements and railway lines.