

# Design Instructions

## Contents

What is graphic concrete?	3
Where can graphic concrete be used?	3
What does graphic concrete cost?	3
Production process	4
Getting started	5
Graphic concrete design process	5
GCCollection™	6
GCPPro™	7
GCArt&Design™	8
Tips when designing a GCPPro™ or GCArt&Design™ pattern	9

## What is graphic concrete?

Graphic concrete is a patented technology that enables beautiful patterned concrete surfaces to be produced simply and cost efficiently. The technique uses a special membrane in the prefabrication process of concrete. The desired image is printed on the membrane using a surface retarder, and concrete is then cast on top of the membrane. When the retarder is washed away the image is revealed. The image results from the contrast between the fair face and the exposed aggregate surface.

You can select from our collection of ready-made patterns or design your own pattern. You can also choose between a smooth, velvety or exposed aggregate surface. Changing the aggregate and/or cement colour offers a vast amount of variation in the overall effect.

Graphic concrete opens up enormous opportunities for builders, architects, designers and the concrete industry as a whole. The technique is simple and cost effective, and the end result is a beautiful and durable concrete surface.



exposed aggregate

+

fair face

=

graphic concrete

## Where can graphic concrete be used?

Graphic concrete is suitable for prefabricated concrete products that are cast horizontally. The technology cannot be used for casting-in-place. Typical applications include façades, partition walls, sup-

porting walls, noise walls and concrete slabs. Graphic concrete is suitable for all sizes of concrete elements and slabs and does not require the use of special concrete masses.



Ground slabs



Wall elements

## What does graphic concrete cost?

The graphic concrete membrane is sold directly to the prefabrication company, which then sets the prices for the finished concrete elements. The total price per square metre depends on the amount of membrane used, which varies according to the dimensions of the concrete elements. Send us the specifications for your project and we will estimate the cost of the membrane and help you find the optimal solution.

Graphic concrete is a cost-efficient alternative, as the concrete

surface is ready for use and does not require any additional surface treatment or coating. This minimises construction time at the beginning of the project, while the maintenance-free surface keeps costs down over the entire lifespan. The most cost-effective solution is to use a repeating pattern in large volumes.

We offer free consultation services to all participants in the construction project for the duration of the project. We also offer graphic design services.



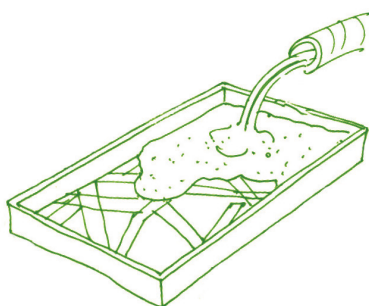
## Production process

© Hahmo Design Oy

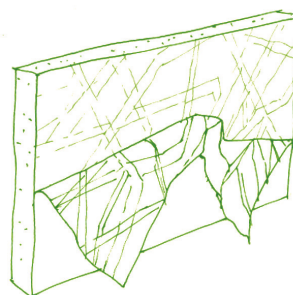


- 1** Design your own pattern and send it to us, or select a ready-made pattern from the GCCollection™.

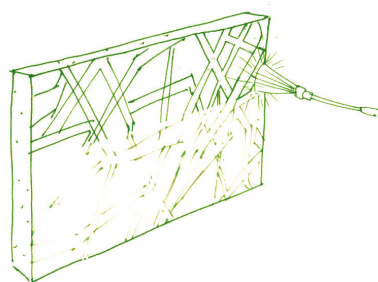
- 2** The pattern is then printed onto the membrane, which is then sent to the prefabrication company.



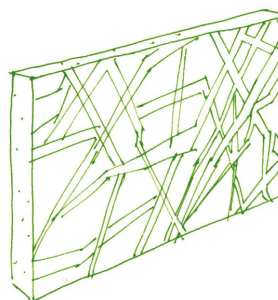
- 3** Concrete is poured into a mould on top of the membrane.



- 4** The following day the membrane is removed from the surface of the element.



- 5** The surface cement that has not set is washed with a high-pressure cleaner, revealing the pattern.



- 6** The end product is a patterned concrete element that can be delivered ready for use to the construction site.



## Getting started

Graphic concrete is suitable for prefabricated concrete products that are cast horizontally. The technology cannot be used for casting-in-place.

We offer four options for using graphic concrete: **GCCollection™** comprises around a hundred ready-made repeating patterns that can be customised and scaled as you like to create a unique look; **GCPPro™** lets you create our own repeating pattern; **GCArt&Design™** enables the use of photographs, artwork and other

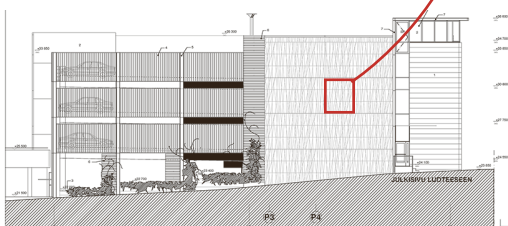
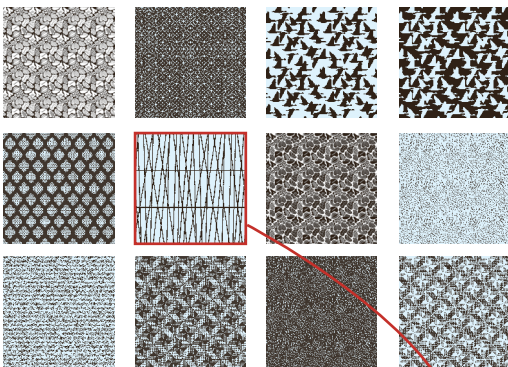
large non-repeating patterns; and **GCSmooth™** uses a blank membrane to create a beautiful velvety smooth and even concrete surface without any pattern.

Whether you select one of our ready-made repeating patterns or decide to create your own design, we recommend contacting us at the very start of the design process so that we can help you find the optimal solution.

## Graphic concrete design process

Option 1:

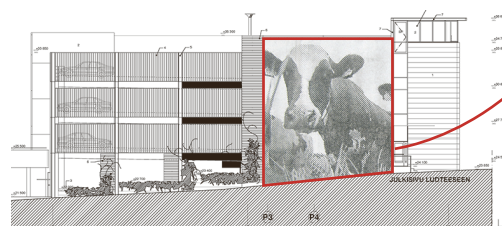
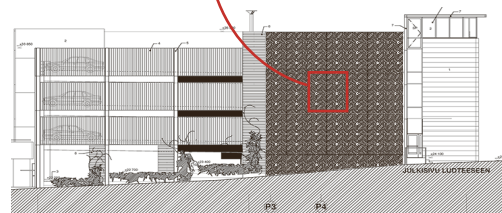
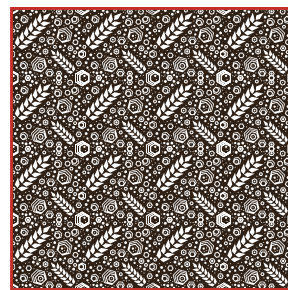
Select a pattern from our **GCCollection™**.



Our **GCCollection™** features repeating patterns with the dimensions 3200x3200 mm. You can choose the layout and how you want the patterns to repeat in your own project.

Option 2:

Create your own **GCPPro™** or **GCArt&Design™** design.

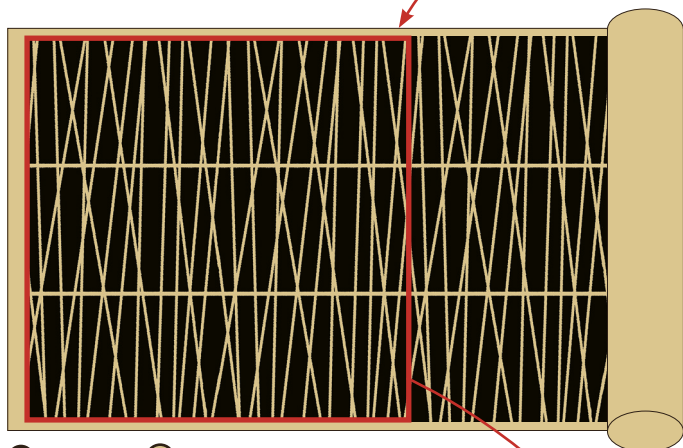


There are no size limitations when using **GCPPro™** repeating images or a unique **GCArt&Design™** image.

## GCCollection™

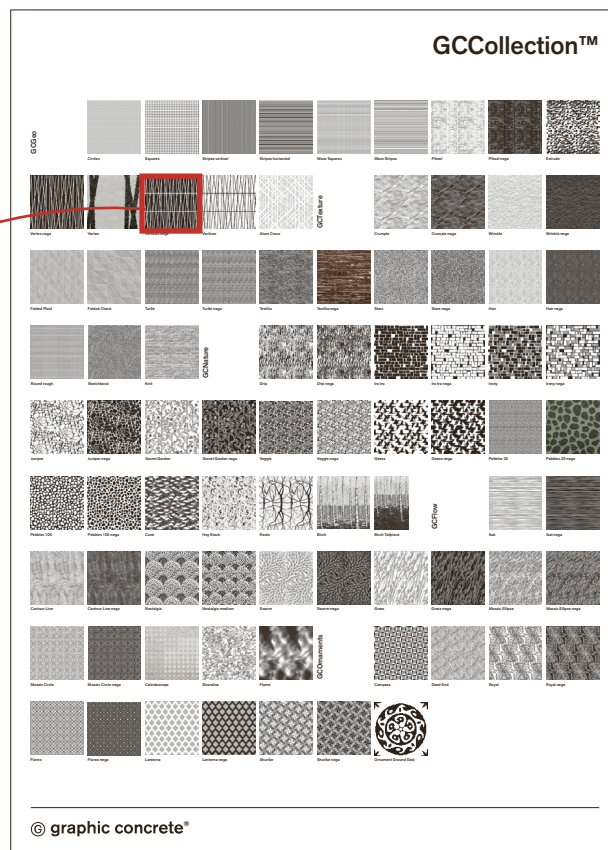
You can download our **GCCollection™** patterns in .jpg format from our website: [www.graphicconcrete.com/en/products/gc-collection/](http://www.graphicconcrete.com/en/products/gc-collection/). The patterns are available in 1:10 scale as high-resolution images with the dimensions 3200x3200 mm, and they can be used as such in your designs.

The patterns can also be customised and scaled as you like. Most of the patterns have been designed to be continuous in all directions; for example, even if the patterns are rotated 90 degrees, they are still continuous both vertically and horizontally.

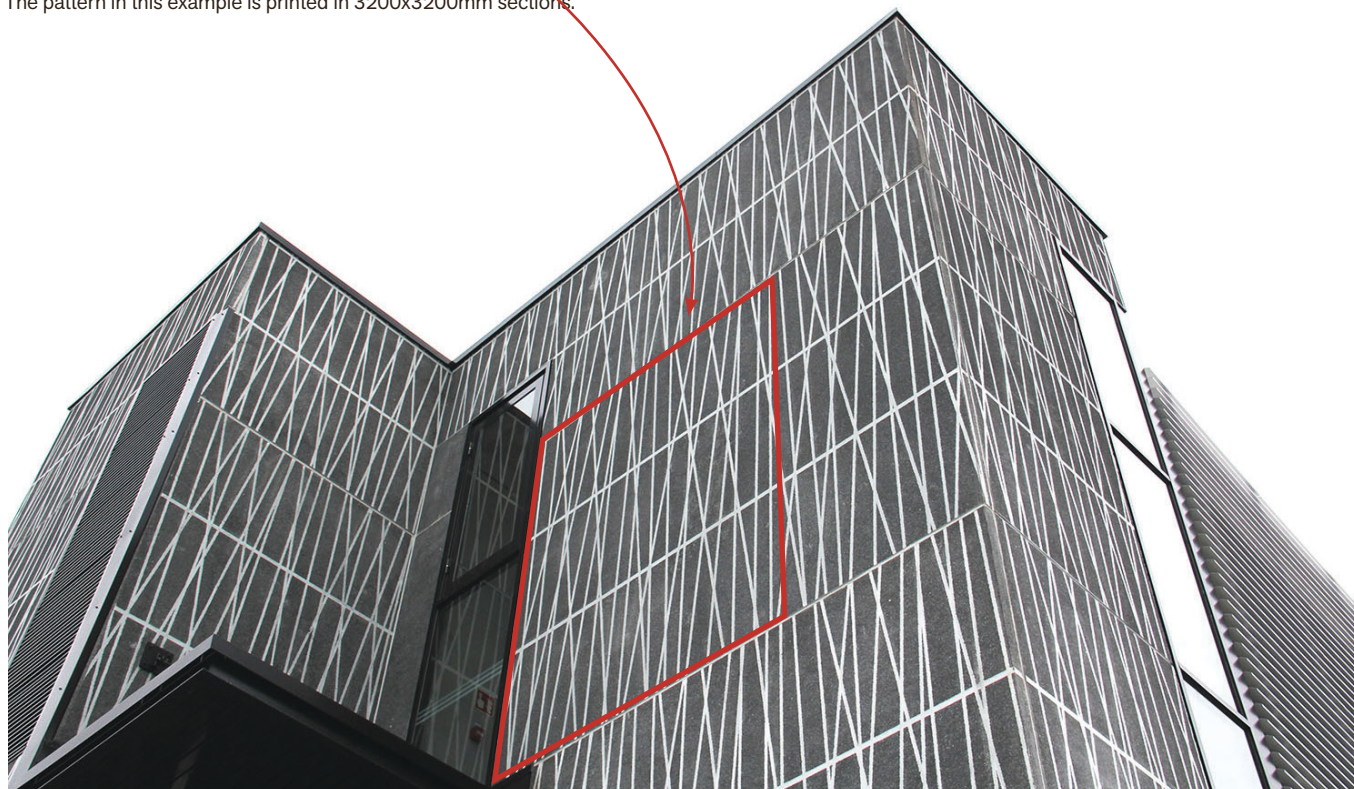


● RETARDER ● FAIR-FACE SURFACE

The pattern in this example is printed in 3200x3200mm sections.



GC-Collection™ patterns



The pattern as it appears on the façade of a building

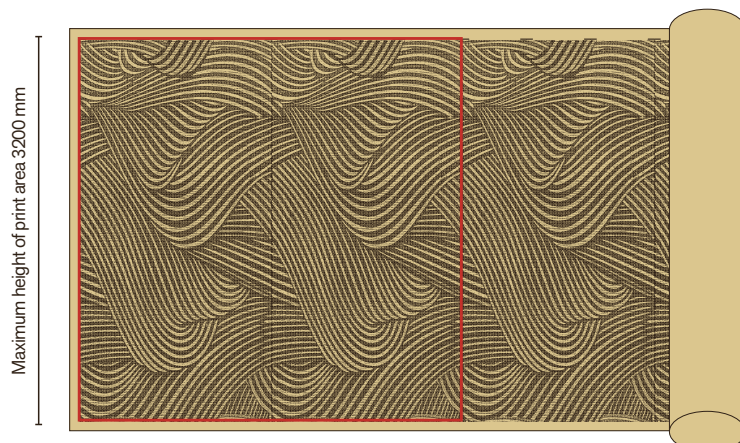


## GCPPro™

GCPPro™ represents unique patterns designed by architects and designers for specific projects. All GCPPro™ patterns are repeating and continuous.

We are ready to help in the design process in order to achieve the optimal solution for your own pattern as cost effectively as possible.

### Example 1:



The most cost-effective solution is to print the pattern in continuous 3200 mm sections.



A custom GC-Pro™ pattern on the façade of a building

### Example 2:



GCPPro™ patterns can also be printed in different dimensions with the sections repeating in any desired order.



A custom GC-Pro™ pattern on the façade of a building



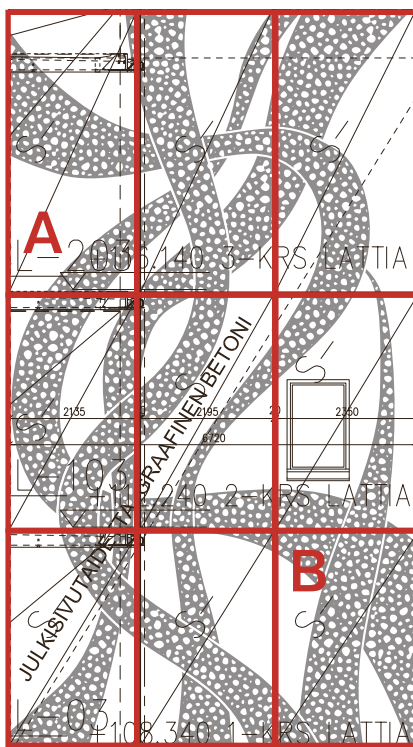
**GC Art&Design™**

GCart&Design™ images are printed as unique, non-repeating works. There are no size limitations as the image can continue from one element to the next. We are ready to help in the design process in order to achieve the optimal solution for your GCart&Design™ image.

When you send us your image, we can help process the image and divide it into suitable dimensions for the elements. In this way the prefabrication company is provided with ready membranes for each individual concrete element.



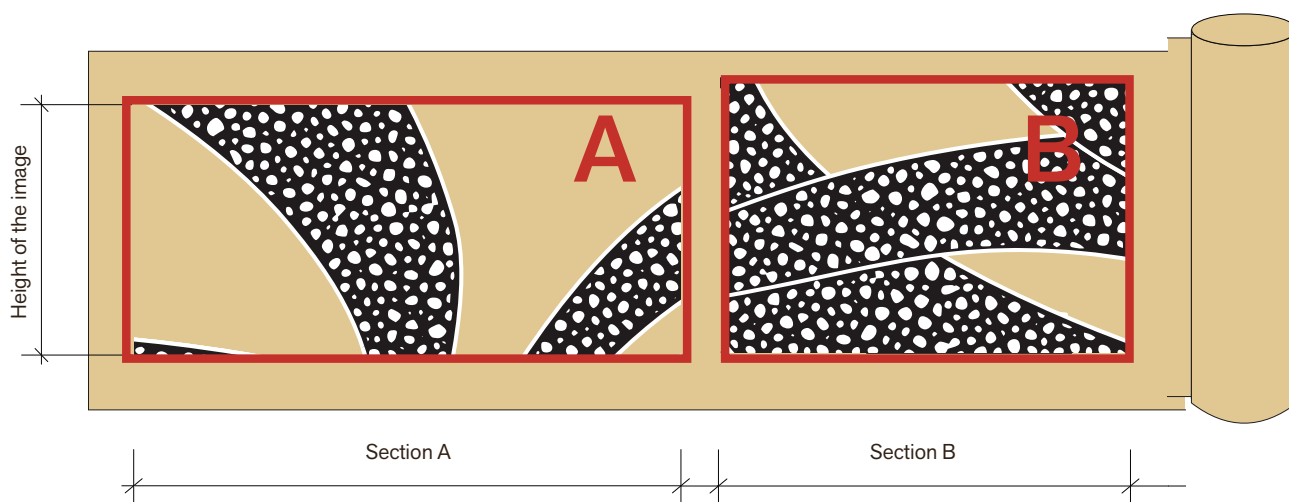
A custom GCArt&Design™ image



The same image divided into sections according to the number of elements



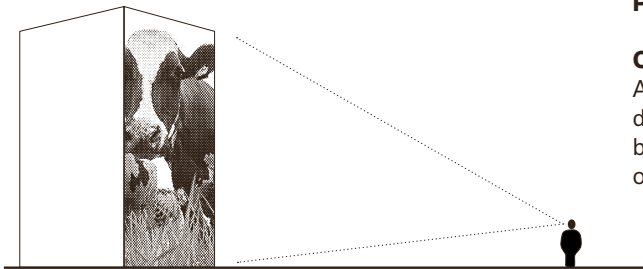
Section B of the image as it appears on the  
façade element



We can divide your image into sections to cover multiple elements. When printed on the membrane, the image appears in reverse.

## Tips when designing a GCPro™ or GCArt&Design™ pattern

Design your pattern or image in 1:10 or 1:1 scale. Name the file accordingly: (project name)\_(image name)\_(width x height in millimetres).(file format). Example: project\_image1\_7000x3010mm.pdf



**Pay special attention to viewing distances, colours and contrasts.**

### Consider how you want the image to appear.

A good design is one that can be viewed from afar while revealing more detail the closer you get. Colours and contrasts play an important role in bringing out the details: changing the aggregate and/or cement colour offers a vast amount of variation in the overall effect.

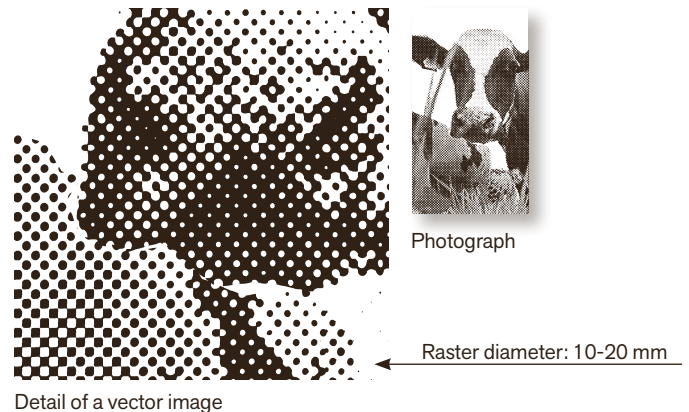
### Use rasters for photographic images.

Open the image in Adobe Photoshop, for example.

1. **Image > Mode > Greyscale**
2. **Image > Image Size > Convert image into 1:10 scale of the wanted size. Resolution approx. 300 dpi.**
3. **Image > Mode > Bitmap > Output min. 300 dpi**
  - Method: Halftone Screen
  - **Halftone Screen > choose accordingly to your design: Frequency, Angle, Shape**

When rasterising an image, use large raster pixels and lines.  
Recommended sizes:

- Average 10-20 mm in 1:1 scale
- Avoid rasters smaller than 5 mm



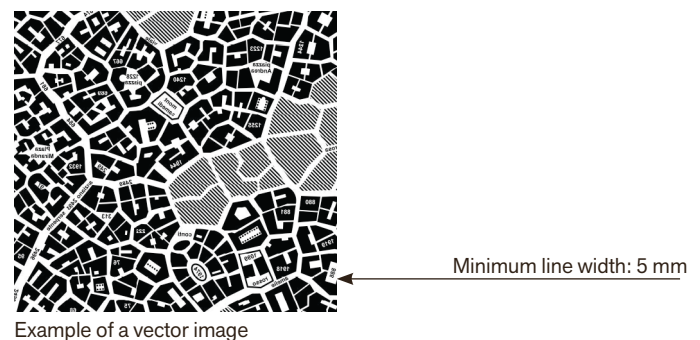
### Use vectors for patterns.

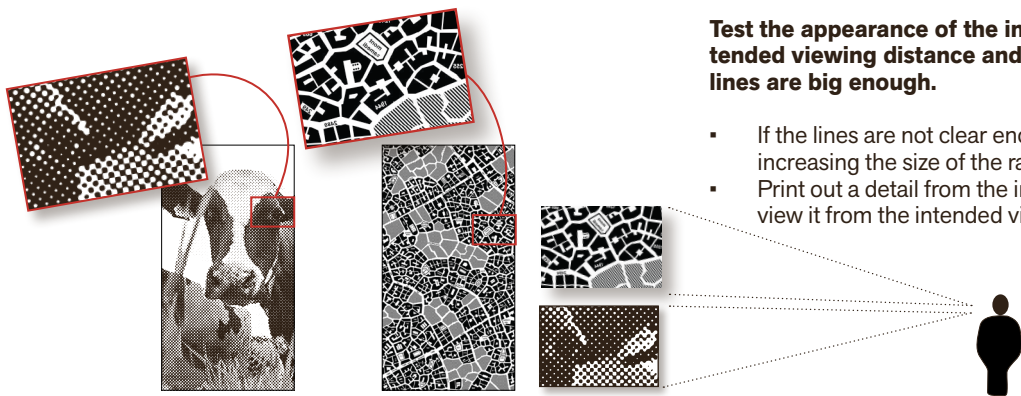
Design the image or pattern in Adobe Illustrator, for example.

Make sure to use only 100% black; do not include any other colours in the document:

- Double click the fill colour
- C: 0, M: 0, Y: 0, K: 100

Use thick lines when creating a vector image.  
The minimum width should be 5 mm in 1:1 scale.





**Test the appearance of the image or pattern from the intended viewing distance and make sure the raster or vector lines are big enough.**

- If the lines are not clear enough or the image appears blurry, increasing the size of the raster or vector lines usually helps.
- Print out a detail from the image or pattern in 1:1 scale and view it from the intended viewing distance.