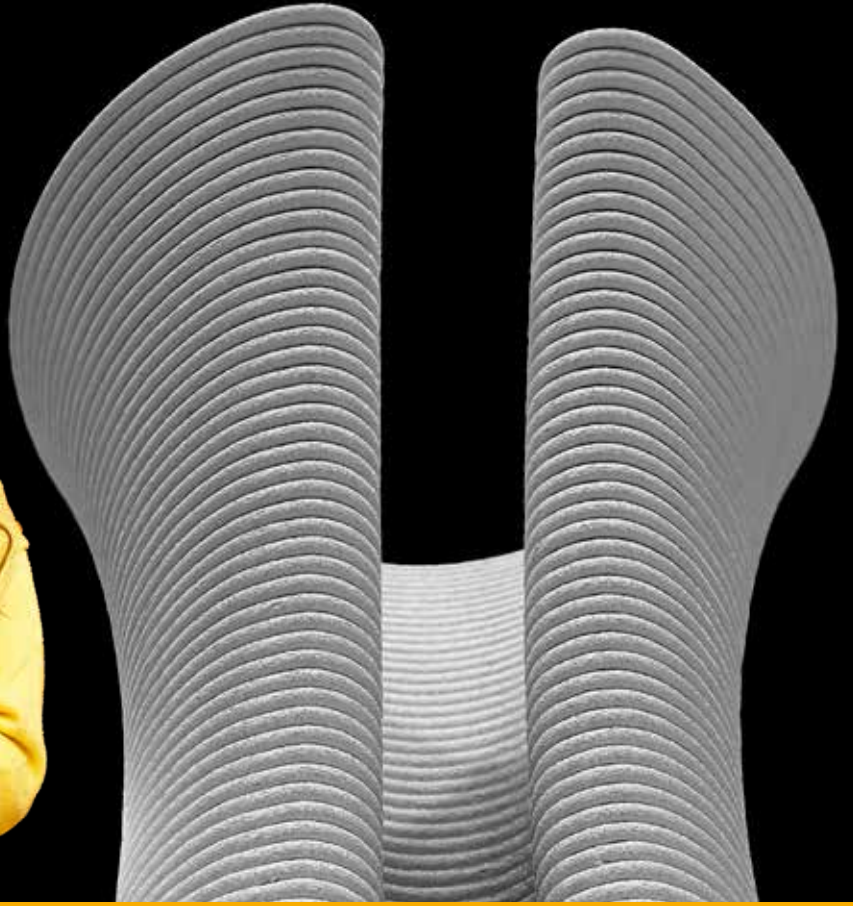


CINEMA AT ITS BEST

3D concrete printing with
high end performance



Sikacrete[®] 3D

FOR FAST AND PRECISE
CONCRETE PRINTING

BUILDING TRUST



3D CONCRETE PRINTING

THE TECHNOLOGY THAT IS REVOLUTIONIZING THE CONSTRUCTION INDUSTRY

3D PRINTING, also known as additive manufacturing, is an innovative manufacturing technology. Compared to conventional technologies, the biggest advantage is the high integration of digital models. In 3D printing, materials are extruded and stacked layer by layer to form three-dimensional objects based on the digital models. Step by step, 3D concrete printing (3DCP) was developed from this technology. With Sikacrete[®], Sika offers micro-concrete for fast, individual and innovative solutions.

PRODUCT HIGHLIGHTS

Sikacrete[®]-733 3D

1-component micro concrete for 3D printing with extended processing time

- maximum grain size 3 mm
- easy application, just mix with water
- optimum bond between layers guaranteed with long circulation times
- reduced carbon footprint

Sikacrete[®]-751 3D

1-component accelerated micro concrete for 3D printing

- maximum grain size 1 mm
- easy application, just mix with water
- white color
- accelerated for high print speed

Sikacrete[®]-7100 3D

Fibrous micro-concrete system exclusively for Sika 3D printers

- maximum grain size 1 mm
- light gray color
- fast printing speed of 0.3 - 1.5 t/h
- printing at angles up to 30° possible





ECONOMICAL - DIGITAL - SUSTAINABLE

YOUR BENEFITS, YOUR ADVANTAGES

OPTIMIZED CONSTRUCTIONS

Concrete is only used where it is really necessary.

INNOVATIVE DESIGN

The almost endless possibilities of shapes and angles create architectural added value.

HIGH DEGREE OF AUTOMATION

Automated processes require less effort than traditional concrete pouring methods.

MATERIAL SAVINGS

By fully modeling the structure, the amount of materials required can be reduced by at least 50 %.

3DCP PROCEDURES FUNCTIONALITY

1

DESIGNING



DESIGNING THE 3D COMPUTER MODEL

using modeling software.

2

DOSING



DOSAGE OF Sikacrete® 3D.

In addition to Sikacrete® 3D and water, color can be added if necessary.

3

MIXING



MIXING OF MATERIAL COMPONENTS.

Sikacrete® 3D micro concretes are optimized for a short mixing time.

4

PUMPING

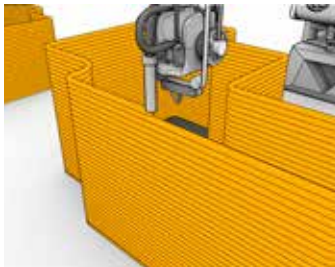


THE MIXTURE GETS PUMPED INTO THE NOZZLE IN THE PRINT HEAD,

which is mounted on a robotic arm and has a tubing which is connected to the pump.

5

EXTRUDING

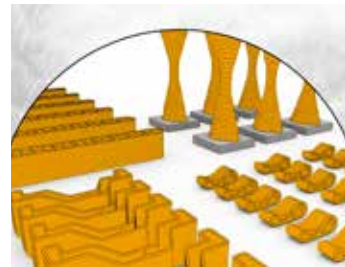


LAYERS ARE EXTRUDED IN STRANDS,

on top of each other until the desired height is reached.

6

HARDENING



CURING THE MODEL.

After sufficient hardening, the model can be moved.



Sikacrete® 3D

AREAS OF APPLICATION

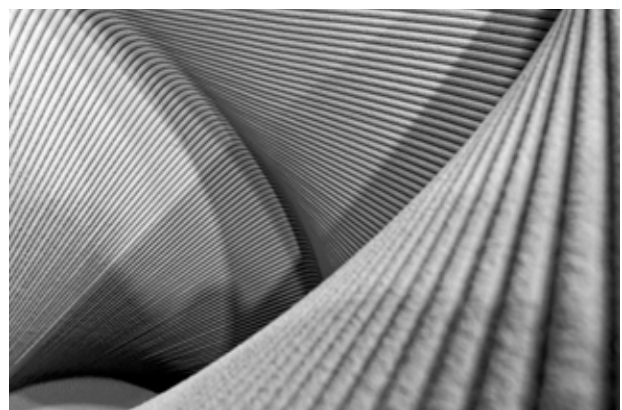
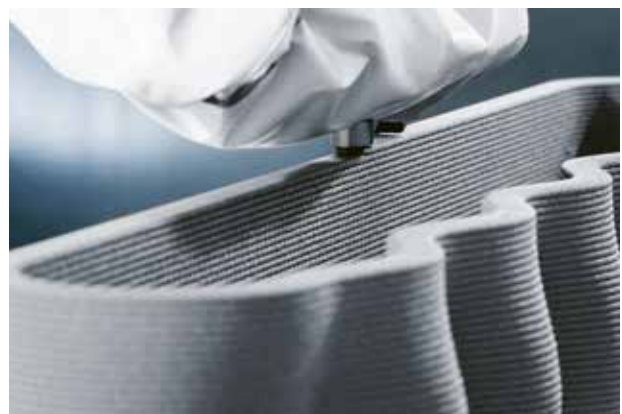
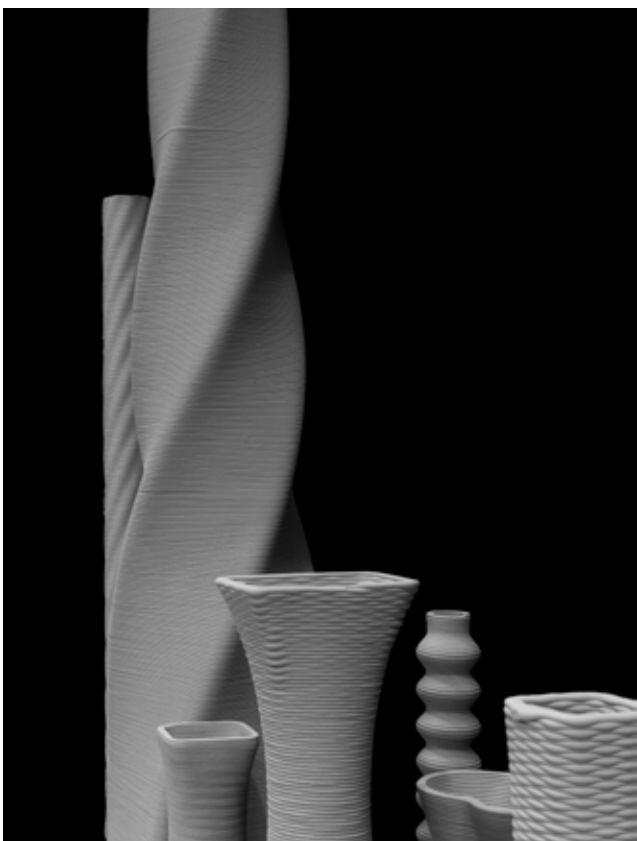
THE POSSIBILITIES OF 3D CONCRETE PRINTING are endless. Due to the precise printing, which is not bound to rectangular shapes or angles, individual objects can be made, that cannot be implemented with conventional concrete casting methods. These can be smaller components such as architectural furniture or artistic objects, but also formwork or buildings.



WE WILL HELP YOU ACHIEVE THE PERFECT PRINTING RESULT

Your Sika contact will be happy to help you achieve the perfect 3D concrete print. There are now numerous types of mixers, pumps and robots on the market - these have to work together with the material. It is therefore important to clarify:

- What kind of equipment do you use?
- What kind of objects do you print?
- What line widths, line heights, print speeds and ambient temperatures do you work with?
- What are your requirements for open time, setting time, strength and performance?
- Do you have special requirements regarding, for example, tests, colours, maximum particle size or packaging?



LEARN MORE

Further information and your personal contact can be found on our website at [sika.de/3d-betondruck](https://www.sika.de/3d-betondruck)





SIKA ALL IN ONE

WORLDWIDE SYSTEM SOLUTIONS
FOR CONSTRUCTION AND INDUSTRY

Sika offers the right solutions for all requirements.

Whether by phone, fax, e-mail or in person – we are always at your service.
Thanks to our partnership with the specialized trade, you can also obtain
competent advice there.

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