

26 April 2023

High-tech in construction: Heidelberg Materials supplies sustainable building material for Europe's largest 3D printed building

- **Europe's largest 3D printed building is currently under construction in Heidelberg, Germany**
- **Heidelberg Materials supplies around 450 tonnes of the high-tech special mortar i.tech® 3D, which contains a CO₂-optimised binder**
- **Concrete printing with the 100% recyclable material allows design freedom, up to 70% less material usage, and safe work on the construction site**

Using a special 3D concrete printing material from Heidelberg Materials, the largest 3D printed building in Europe is currently being built in Heidelberg, Germany. Printing of the building began at the end of March 2023 and is expected to last until the end of July 2023. Once completed, the iconic commercial building by real estate company KRAUSGRUPPE – around 54 metres long, 11 metres wide and 9 metres high – will house a data centre. Heidelberg Materials supplies around 450 tonnes of i.tech® 3D for the project, a material developed specifically for 3D concrete printing that is 100% recyclable. The completely mineral building material contains a binder with a carbon footprint around 55% lower than that of classic Portland cement. Project partner PERI 3D Construction is creating the outer walls and partitions of the future data centre with its 3D construction printer.

“We are pleased to be part of this innovative project and to further develop 3D concrete printing as a particularly resource-efficient construction method with our partners,” says Dr Nicola Kimm, Member of the Managing Board of Heidelberg Materials and Chief Sustainability Officer. “Together we show that sustainability and digitalisation go hand in hand. At Heidelberg Materials, innovative and sustainable products like i.tech® 3D and the development of digital business models are essential elements of our sustainability strategy.”

By 2030, Heidelberg Materials aims to offer circular alternatives for half of its concrete products worldwide. 3D printed products are an integral part of the portfolio. The company offers high-quality products as well as technical know-how to architects, engineers, manufacturers of 3D printers, and builders who want to realise buildings or concrete elements using 3D printing.

i.tech® 3D was already used to print the first residential buildings in Germany in 2020. Since then, Heidelberg Materials has further developed the building material and further reduced its CO₂ content.

Through appropriate design planning, the 3D printing process itself allows for up to 70% less material consumption compared with conventional construction methods and thus a further reduction in CO₂. The process also increases the speed and productivity of the construction process and makes construction sites safer through lower dust and noise emissions and reduced use of tools.

Caption

Image 1: Layer by layer: Europe's largest 3D printed building is currently being built in Heidelberg, Germany - printed with the high-tech building material i.tech® 3D from Heidelberg Materials

About Heidelberg Materials

Heidelberg Materials is one of the world's largest integrated manufacturers of building materials and solutions with leading market positions in cement, aggregates, and ready-mixed concrete. We are represented in more than 50 countries with around 51,000 employees at almost 3,000 locations. At the centre of our actions lies the responsibility for the environment. As the front runner on the path to carbon neutrality and circular economy in the building materials industry, we are working on sustainable building materials and solutions for the future. We enable new opportunities for our customers through digitalisation.

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