Project Report/September 2021

StoCrete TS 136 for Concretes of Existing Concrete class A3*)

The AURUM KCII, House 12, in Cologne, Germany, has been completely redeveloped. The four-storey residential and commercial building has been completely gutted, the facade was preserved.

The specialist planners for concrete repairs from IBE-Ingenieure from Hennef, Germany, carried out a detailed structural inspection and damage analysis, from which they defined the repair measures for the existing building. The properties determined, compressive strength and surface tensile strength, as well as the modulus of elasticity, classified the concrete in existing concrete class A3*) . For this reason, the investor and planner opted for the proven StoCretec expertise. The 4,300 square metres of ceiling soffits, the beams as well as the columns were reinforced with the dry-sprayed concrete **StoCrete TS 136**. After removing large areas of the damaged existing concrete, the applicator, T.O.M. Technical Surface Management, applied the concrete repair product using the dry-mixed spraying process. **StoCrete TS 136** was applied onto the ceilings, 25 mm onto the beams and 30 mm onto the columns in layer thicknesses of on average 20 mm.

The dry-mixed spray StoCrete TS 136 is polymer-modified and cementitious. It was especially developed for the repair of low-modulus concrete of existing concrete class A3*). The concrete repair product is non-combustible and has been tested for fire resistance class F120 (ETK). It is characterised by its low shrinkage and meets the requirements for repair products for concrete structures with static involvement. Its low modulus of elasticity ensures a stable bond with the existing concrete and the durability of the multi-layer model.

Properties of **StoCrete TS 136**

- Concrete repair product for the repair of concrete structures (concrete and reinforced concrete)
- Polymer-modified, cementitious dry-mix spray concrete (CEM repair system)

- Layer thickness: 15 - 60 mm, higher layer thickness possible through multi-layer application
- For substrate concretes of “existing concrete” class A3*)
- Fire resistance class F120 (ETK)
- Building material class A2-s1, d0 (non-combustible)
- In accordance with EN 1504-3
- Concrete repair system for the preservation of the stability of concrete parts in accordance with German ZTV-W LB 219 (SRC)
- Strength and deformation properties adapted to substrates with low strength (existing concrete*))
- Application by machine dry-mix spray process
- Low rebound

*)Existing concrete: In its Technical Rule on the repair of concrete structures (German original: Technische Regel „Instandhaltung von Betonbauwerken“, version: May 2020), the Deutsches Institut für Bautechnik (German institute for structural engineering) has defined 5 categories of existing concrete (A1 to A5). The term ‘existing concrete’ refers to concrete that has already been installed in buildings and structures as opposed to concrete material yet to be installed. In German, these categories are called ‘Altbetonklassen’ which translates to ‘classes of existing concrete’. Existing concrete is categorised according to its compressive strength and surface tensile strength. Before repairing existing concrete, its ‘Altbetonklasse’ needs to be determined in order to select a suitable mortar or concrete.

Who & What

Project:	Residential and commercial building, AURUM KCII, Cologne, DE
Investor:	SL AM Aurum GmbH & Co. KG, Cologne, DE
Planner:	IBE-Ingenieure GmbH+Co. KG, Hennef, DE
Applicator:	T.O.M. Technisches Oberflächenmanagement GmbH, Flörsheim, DE
Realisation	12/2021
StoCretec Competence:	**StoConcrete Repair Prime TS 136**
	Dry-spray mortar StoCrete TS 136

Photos: StoCretec

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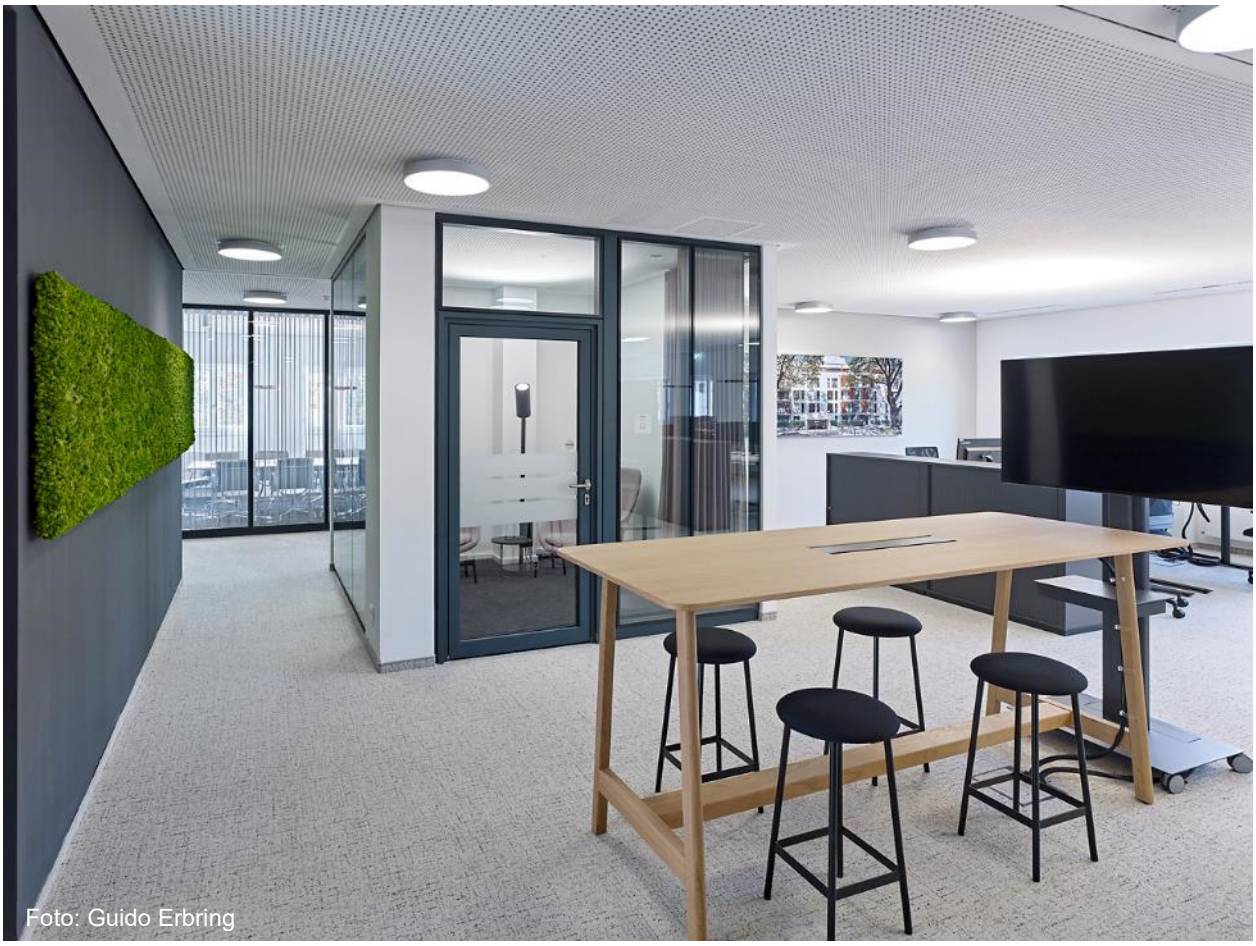

Foto: Guido Erbring

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