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Smarter than Concrete

Reference

Repair of Airport Multi-Story Car Park 2 (ZH)

Reconstruction of the parking area with rapid-hardening and shrinkage-reduced Concretum® C-DRY

Car park 2

Ground-off concrete surface

Initial Status

The car parks of Zurich airport are daily exposed to an intense load. The actual concrete covers are over 30 years old and contaminated with chlorides to such an extent that a partial reconstruction is the only solution. During repair work it is necessary to remove and reconstruct the topmost layer of the driving surface. A covering type OS 11 should protect the new surface from further damage. To keep the cut-off time as short and the loss of income from parking fees as low as possible, it is necessary to use rapid-hardening concrete. Moreover, the risk of cracking should be reduced to a minimum.

Solution and evaluation

By using traditional concrete, there is a waiting period of up to four weeks until the process can be continued. After only 48 hours, Concretum® C-DRY reaches the moisture content of 4 CM-% which is the precedent condition for the application of the sealant. Using it, the construction program could be considerably shortened.

A very special problem linked to the expected ‚cracklessness' of the concrete construction presents the shrinking behavior of the concrete when brought to the location. To avoid cracking, it is important that the building material shows a very low level of shrinkage. Apart from that, an optimal finishing treatment as well

Facts

Products:
C-DRY

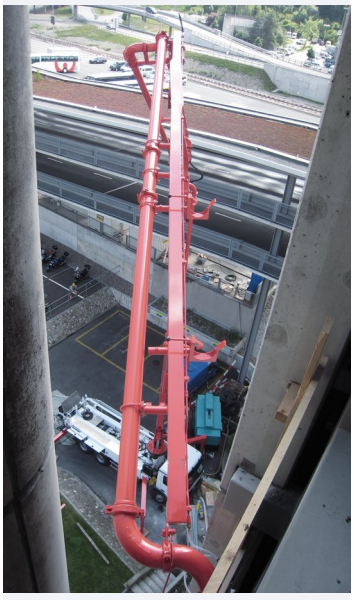
Project duration:
February to November 2008

Authority:
Unique (Flughafen Zürich AG), Kloten

Engineers:
Dr. Deuring + Oehninger AG, dipl. Bauingenieure ETH SIA

Building contractor:
Züblin-Murer AG, Zürich

Concrete supplier:
HASTAG (Zürich), Birmensdorf



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as a shrinkage reinforcement adjusted to the high requirements is necessary. Concretum® C-DRY which is used here, shows a shrinkage behavior so far unequaled. Its shrinkage is far below the critical value of 2 ‰ and is therefore most supportive to reach the high aim of a crack-free concrete.

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