Recommendation for Water Repellent Treatment of Reinforced Concrete Structures

Empfehlung für die Hydrophobierung von Stahlbetonbauwerken

Funding: National (Switzerland)
Duration: Jun 2003 - Jun 2006
Status: Complete with results

Background & policy context:
Durability of reinforced concrete structures can be considerably improved by appropriate surface technologies. Three different surface technologies are available at present, namely surface impregnation, sealing and coating. It is of utmost importance to make a clear distinction between these protective measures, as each one serves a distinct purpose. Water repellent surface impregnation of concrete is an efficient method to prevent chloride penetration into concrete. In this way service life of reinforced concrete structures in aggressive environment can be extended significantly. To achieve this goal it is mandatory to follow strict rules.

Objectives:
The main aim of the project was to formulate recommendations for water repellent treatment of reinforced concrete structures.

Methodology:
The following steps took place:

- Literature review and analysis of the existing European standards and recommendations
- Draft Recommendation
- Interviews to find oud opinions of practicing engineers
- Review by the company of a practice object
- Final formulation of recommendations

Related Projects:
Project number: AGB1998/098
Project title: Anforderungsprofil und Qualitätskontrolle einer hydrophobierenden Massnahme
Project title in English: Requirements for and quality control of a water repellent treatment
Research organisation: Swiss Federal Roads Office; Research Roads-Bridges-Tunnels
Project title: Hydrophobierung von Betonoberflächen – Empfehlung für Planung und Applikation
Project acronym: AGB2002/029

Parent Programmes:
ARAMIS - ARAMIS information system

Institute type: Public institution
Institute name: Swiss Government: State Secretariat for Education and Research
Funding type: Public (national/regional/local)

Partners:
Switzerland:
Concretum Construction Science AG
Technoparkstrasse 1
CH-8005 Zürich

**Organisation:** Concretum Construction Science AG  
**Address:** Technoparkstrasse 1  
**City:** Zürich  
**Contact country:** Switzerland  
**Telephone:** +4114451346

**Key Results:**

The aim was to summarize the progress made in recent years in the research of new knowledge for water repellent treatment of reinforced concrete structures in a user-friendly and practical recommendations. Recommendation for planning, application and quality control were compiled, which have been used on several occasions successfully, therefore the aim of the project was achieved.

Publications:


**STRIA Roadmaps:** Vehicle design and manufacturing  
**Transport mode:** Road transport  
**Transport sectors:** Passenger transport, Freight transport  
**Geo-spatial type:** Network corridors