

Reference

Safety Laboratory for the Federal Office for Civil Protection (VBS), Spiez (BE)

Safety Laboratory for VBS (SiLab) in Spiez - Extended location for extended safety



Initial Status

SPIEZ LABORATORY is the Swiss centre of expertise in protection against nuclear, biological and chemical (NBC) threats and hazards. On the site of this institution the Federal Office for Civil Protection (VBS) is building a new laboratory with the highest safety levels that allows analysis of dangerous pathogens. To guarantee the safety in and around this laboratory, all measures have been adopted to apply the latest building technology. One of these measures was aimed to guarantee maximum of cracking control. To meet this requirement, the concrete shrinkage must be extremely low to assure an absolutely tight building shell.

Solution and evaluation

An outstanding challenge regarding cracking control is the shrinkage of the concrete cast on-site. To avoid cracking of the building shell, it has to be paid attention to three different aspects: Optimal curing of the concrete, a reinforcement that is adapted to the higher demands concerning crack distribution and low

Facts

Products:

D-ZERO / D-ZERO Plus

Project duration:

February to October 2008

Authority:

Swiss Confederation, armasuisse Real Estate

Architect:

ANS Architekten und Planer, Worb

Engineers:

smt ag, Bern

Building contractor:

Frutiger AG, Thun

Concrete supplier:

Frischbeton Thun AG, Werk Wimmis



shrinkage of the concrete itself.
The two concretes D-ZERO and D-ZERO Plus from Concretum feature very low values of final shrinkage. They are below 0.2 ‰, which is considered to be critical for cracking. This property of Concretum D-ZERO and D-ZERO Plus is therefore one of the key factors to the ambitious project of creating crack-free concrete shell.

