APPLICATION NOTE

SPI Supplies
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Protocol for the Embedding of Concrete Microcracks

SPI-Chem™ Ultra-Low Viscosity Kit (SPI# 02682)

The following protocol was published in the following thesis: Shaw, V.S., Detection of Microcracks in Concrete Cured at Elevated Temperature, Master's Thesis, University of Florida, 2004, pp. 73.

SPI Supplies wants to acknowledge this work by Mr. Shaw.

Elevated Temperature Curing of SPI Ultra Low Epoxy-Impregnated Concrete Microcracks

Setup:

1. Sample size: 2.15 x 1.8 x 0.5"
2. 100% Ethanol (EtOH)
3. SPI Ultra Low Viscosity Expoxy (Ultra Low Viscosity Kit SPI# 02682) (ULV)
4. Diamond saw for sizing specimen
5. Screw cap jars for dehydration and infiltration
6. Mold for blocking

Protocol Information:

1. EtOH penetrates at approximately 1mm/day into concrete but this may vary with different concrete formulations.
2. ULV penetration is equal to or less than that of EtOH.

Protocol:

1. Size and polish specimen.
2. Carefully wash and dry at elevated temperature
3. During dehydration with 100% EtOH keep one surface exposed to permit thorough wicking of EtOH through block.
4. Duration in days = Thickness of block in mm

5. ULV concentrations with EtOH for infiltration of block after dehydration

   a. 1:3, 1:1, 3:1, Neat
   b. Duration equal for each step as in (4).

6. Place with polishing face down in mold and fill to top with ULV
7. Place in oven at ~70°C for 4hr.
8. After cooling, the block surface is prepared by successive polishing steps for viewing with SEM.