



International Course on Stone Conservation SC13

SESSION: Consolidation – application methods and object conditions before and after treatment

INSTRUCTOR: Gottfried Hauff

TIME: Tuesday, 11th June/ 14:30 – 16:00 (1.5 hours)

SESSION OUTLINE

ABSTRACT

Sufficient penetration of a stone consolidant is an important factor for the effectiveness and durability of a treatment. In stone conservation, different application methods are used or have been proposed for stones with a higher or lower uptake of a consolidant. The uptake is related to a number of variables including the material characteristics of the stone such as capillarity and porosity and the molecule size of the polymer being applied. Besides the consolidant application method, the object conditions have an effect on the penetration depth. Not only do objects have to be protected before treatment. But their conditioning in terms of temperature, humidity and "solvent climate" during and after the application influence the quality of the consolidation treatment.

OBJECTIVES

To understand the relationships between penetration depth, consolidant application methods, and treatment conditions


CONTENT OUTLINE

- Importance of sufficient penetration depth
- Introduction of consolidant application methods:
 - "immersion (bath)",
 - "flow method", "poultice,
 - "poultice according to Mirowsky",
 - "vacuum method";
- Comparison of effectiveness
- Protection before and after treatment
- Humidity condition (for TEOS – tetraethyl orthosilicate) respectively solvent atmosphere (for resins) or surface cover after treatment etc.
- Effect on penetration depth and strength profile

READINGS


 = Essential reading material

 = Available online

-  Sasse, H.R.; Snelthage, R.: Methods for the Evaluation of Stone Conservation Treatments, in: "Saving our architectural heritage : the conservation of historic stone structures : report of the Dahlem Workshop on Saving our Architectural Heritage--The Conservation of Historic Stone Structures, Berlin, March 3-8, 1996." Wiley & Sons, Chichester 1997. p. 223-243



SESSION OUTLINE CONT'D

-  Wendler, E.: New Materials and Approaches for the Conservation of Stone, in: "Saving our architectural heritage : the conservation of historic stone structures : report of the Dahlem Workshop on Saving our Architectural Heritage--The Conservation of Historic Stone Structures, Berlin, March 3-8, 1996." Wiley & Sons, Chichester 1997. p.181-196

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