International Course on Stone Conservation SC13

SESSION: The uptake of water and stone consolidants and the obvious effects of water repellants

INSTRUCTOR: Gottfried Hauff

TIME: Wednesday, 12th June/ 9:30 – 11:00 (1.5 hours) & 11:30 – 13:00 (1.5 hours)

SESSION OUTLINE

ABSTRACT

Sufficient penetration of the consolidant into the stone is an important quality criterium for stone consolidation. Different qualitative and quantitative methods are available to measure the uptake of consolidants or water. These test methods are useful in assessing the effective application of both consolidants and water repellants. A few of the more common methods will be demonstrated during this laboratory session. We will see how the variables of capillarity, porosity, polymer size and application methods and conditions can influence successful absorption and successful treatment.

OBJECTIVES

- To understand how porous stones absorb water and different types of consolidants
- To understand the obvious (visual) effects of hydrophobic treatments.

CONTENT OUTLINE

Laboratory demonstrations and exercises – qualitative and quantitative methods for measuring consolidant and water uptake and water repellency.

- Water drop method
- Karsten test tube

Both of the above will be tested on sandstones of varying porosities

- Visual observation and measurement of velocity of water and TEOS (Funcosil OH, 300, 300 E, 100) uptake
- Discussion of results

READINGS

🕮 = Essential reading material
💻 = Available online

No readings