

EWCHP-2013

EWCHP-2013
3rd European Workshop
on Cultural Heritage Preservation
Bozen / Bolzano, Italy, September 16 to 18, 2013

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MORNING SESSION 09:00 to 12:00

Comprehensive diagnosis and multidisciplinary approach for conservation compatible energy retrofit (3ENCULT)

Coordinator: Francesca Roberti, Dagmar Exner

Welcome to the Weigh House (10 min)

Stiftung Sparkasse, owner of the building [tbc]

Presentation of the building Weigh House, a listed medieval building in the historic centre of Bozen/Bolzano (30 min)

Klaus Ausserhofer

Klaus Ausserhofer, collaborator of the conservation office of South Tyrol, explains the history and the original use of the medieval building of the Weigh House, one of the eight case studies of the project 3ENCULT, and of the surrounding historic building complex of the "Portici". At first, he highlights the architectural, historic and cultural values of the buildings, visiting them from the outside. Then, entering in the Weigh House, he explains the peculiarities of the case study and the most important architectural elements that have to be preserved during the refurbishment.

Monitoring system (T and RH monitoring) (20 min)

Francesca Roberti, Dagmar Exner

A monitoring system that records every minute the interior air temperature and relative humidity of some rooms and walls is installed in the Weigh House. The collected interior climate data are necessary to understand the thermal behaviour of the building in order to propose the best interventions for the energy retrofit. Visiting the inside of the building, the aim of the monitoring system, the location of the sensors and the most significant results will be presented.

IR thermography measurements (40 min)

Christoph Franzen

The IR thermography measures the thermal emissivity and indirectly the surface temperature. This information is important both for conservatory and energetic aspects. From a conservatory point of view, the thermography helps in the definition of the history of a surface made of different materials. From an energetic point of view, the IR thermography shows where the thermal bridges are concentrated. At first, Christoph Franzen, collaborator at the Institute for diagnosis and conservation on monuments in Saxony and Saxony-Anhalt (IDK), explains the theory of the IR thermography, concentrating on how to avoid the most common errors. Then, he practically do a thermography survey in the Weigh House.

Heat flux meter measurement (20 min)

Francesca Roberti, Dagmar Exner

One of the most important parameter influencing the thermal behaviour of a building is the U-value of exterior walls. In the Weigh House it has been measured several times in different periods with a heat flux meter. At first, the results of these measurements are presented, highlighting the difficulties and the limits of this technique applied to a historic building. Then, a practical measure is shown to the participants.

Blower Door Test (30 min)

Francesca Roberti, Dagmar Exner

The airtightness of the exterior envelope is another important parameter influencing the thermal behaviour of a building . In the Weigh House it has been measured for the whole building and for some single rooms. At first, the results of the measurements are presented, highlighting the difficulties in building with very poor airtight envelope. Then, a practical measure is shown to the participants.

Discussion with all participants (30 min)

3ENCULT is co-funded by the European Union Seventh Framework Programme (FP7/2007-2013) under grant agreement n° 260162.

