

Rob van Hees on: RILEM TC 271-ASC – accelerated salt crystallization test

### **Abstract**

The durability of building materials with respect to salt crystallization is commonly determined by accelerated ageing tests. An effective laboratory weathering test should assess the durability and, in the case of conservation of historic buildings, the compatibility of repair materials with those present. Besides, the test should provide reliable results within a reasonable period of time, accelerating the deterioration process without however altering its mechanism.

Despite several national and international standards, recommendations and guidelines, which are available, a commonly accepted testing protocol does not yet exist. Researchers often develop and apply their own procedure, a fact, which complicates comparison between different studies.

RILEM Technical Committee 271-ASC, has been established with the scope of developing improved test procedures for the assessment of the behaviour of materials under the influence of salt crystallization, which should overcome the limitations of existing standards and recommendations.

One of the work items is to develop a simple procedure to assess and describe damage in the accelerated salt crystallization test.

For the time being the procedure comprises the following:

The intention of the method is to allow a simple description, without the necessity to use special (laboratory) equipment. Therefore, the procedure is based mainly upon visual observation, with the naked eye and the use of a photo camera or mobile phone.

The assessment consists basically of 4 (5, including report) elements, performed in the following order:

1. Take photos
2. Describe type of damage
3. Describe severity of damage (subjective judgment)
4. Determine extent of damage (surface area)
5. Report

For 2., damage description, the ICOMOS glossary (stone) [1] and the MDCS damage atlases (stone, brick, mortar, plaster, concrete) [2] will be used.

The procedure will be used now in a round robin test, starting shortly.

### References

[1] [https://www.icomos.org/publications/monuments\\_and\\_sites/15/pdf/Monuments\\_and\\_Sites\\_15\\_ISCS\\_Glossary\\_Stone.pdf](https://www.icomos.org/publications/monuments_and_sites/15/pdf/Monuments_and_Sites_15_ISCS_Glossary_Stone.pdf)

[2] <https://mdcs.monumentenkenis.nl/damageatlas>

