

Prevent mould - ventilate correctly

The problem is undeniable: Mould growth in churches and especially in organs is steadily increasing. The causes are complex. Some churches have been heavily insulated on the walls to save energy and the windows have been so carefully sealed that even the smallest air movement can no longer take place. In addition, churches are used less frequently due to fewer church services per week, the doors remain closed for long periods of time and the windows are rarely opened for partial ventilation - all of which contributes to a lack of air exchange and thus to the promotion of mould growth. Below we have summarised a few comments on the development and treatment of mould infestation.

How does mould develop?

Mould is a fungus and, like all fungi, requires sufficient moisture and organic substances to develop and grow. The prerequisites for mould growth are dampness (damp masonry) and/or excessive humidity in the venue. Walls or materials in the vicinity of walls (including organ parts) have a cooler temperature; the air can no longer absorb as much moisture as the warmer air in the church; the excess moisture settles on the wall or organ parts, an ideal basis for mould growth.

How can you avoid mould in the organ?

- Ventilation and heating are directly related in winter. Complete cooling of the venues (e.g. to 5°) and abrupt heating before church services or events (e.g. to 18°) should be avoided. Mould can best be avoided by keeping the temperature as constant as possible or by only making slight temperature changes. A continuous temperature of 8°, for example, which is only raised very slowly to 11° during church services (rule of thumb: approx. 1° per hour) and then lowered again at the same rate, will hardly contribute to mould growth.
- A standard hygrometer should be used to check the humidity, which should not exceed 65% if possible.
- There should be no "air congestion" in the organ, where the air "stands still" and there is no air exchange. Careful ventilation or ventilation units can help here.
- It should be discussed with the organ builder whether ventilation slots can be fitted to the case or panels to ventilate the inside of the instrument or whether entire panels or case parts - especially on the sides and at the back - can be removed completely to ensure sufficient airflow.

What should be avoided when ventilating?

Summer

On fine summer days, the portals of some churches are often opened wide in the evening to let in "summer air". This is exactly what should be avoided, as there is too great a difference between the incoming air (warm) and the wall (cooler). Moisture builds up which cannot dissipate and is deposited on walls and organic surfaces, including wooden surfaces (risk of condensation). If large areas are ventilated in summer, it is best to do so early in the morning, as the temperature difference between the air and walls/objects is lower then.

Winter

In winter, the church is often heated too quickly before services or concerts (which is not good for the organ either, by the way), and afterwards the quickly generated warm air has no chance to dissipate properly. The moisture from this warm air settles on the cooler walls and objects - another breeding ground for mould.

As described above, the temperature in the room should be as constant as possible in winter and should not rise significantly during events.

What can be done to prevent mould infestation?

Mould control starts with investigating the cause:

- Creation of ventilation ideas
- Creation of heating ideas
- Elimination of air congestion
- Installation of ventilation units
- Installation of timers that activate window opening motors
- Elimination of construction faults.

How do we get rid of mould?

It makes no sense to eliminate the mould infestation only in the organ: the ventilation and humidity problem must be tackled in principle, and for the entire venue, because otherwise mould will form again in a very short time. Individual ventilation concepts must therefore be drawn up (e.g. actuators fitted with a timer that open the windows regularly and reliably) or additional ventilation units with a sufficiently large air volume should be installed. Once this has been done, only then can the existing mould be eliminated.

- by extracting the spores with a special Hoover that has a HEPA filter (fine dust filter), and
- by treating the affected areas with ethanol or isopropyl alcohol.

Is mould dangerous?

In an aggressive state, mould can decompose the organic material on which it is found. Above all, however, mould in high concentrations (e.g. for organists who regularly inhale the spores when playing) can be hazardous to health.

In this respect, prevention is good for everyone: for the instruments and for the people.

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