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| --- | --- | --- |
| Superior | Advanced | Minimum |
| A performance criterion or material-specific degradation model is established based on a quantification process where a material or building-specific sensitivity is measured. | A dose response index is calculated based on multiple risk inducing factors, e.g., temperature, relative humidity, moisture content or even solar radiation in cases of algae growth. | Comparing the total moisture content in the component after one evaluation cycle to its initial state. In cases where drying is envisioned, this comparison should be conducted no sooner than three years, preferably ten years. The comparison for cases prone to moisture retention, this comparison should be carried out after a five-year period. |

In this step, the various performance risks are listed and the criteria to minimize undesirable thermal and moisture effects are discussed. These effects can be very diverse in nature and are divided into two categories. The first category considers the risks related to the energy use and ecology of the building as well as the comfort of its users. The second category includes building pathologies that can have a visual or destructive effect on the materials used in the building. Structural integrity as well as the occupant’s health can be compromised and should always be avoided.

Evidently, the modeler will select the appropriate performance criteria that are of interest for the materials and component at hand. There are various prediction models for building and material performances, and all entail a portion of professional judgement when used. The definitions of specific risks or severity threshold criteria are beyond the scope of this paper. A guideline can be found in the report of the National Research Council of Canada regarding the evaluation of the durability of building elements as well as the standard ISO 13823. The Superior, Advanced, and Minimum Requirement Approach for performance criteria is explained in Table 1 and helps to analyze hygrothermal modeling results in a professional and rational way. The selected prediction model will in turn determine the required model outputs, the timestep and its location in the building element.