The drying experiment is an important element of the hygrothermal characterisation of building materials. Contrary to other moisture transport experiments such as the vapour diffusion and the water absorption test, it is until now not possible to derive a simple coefficient for the drying. However, in many cases such a coefficient would be highly appreciated, e.g. in interaction of industry and research or for the distinction and selection of suitable building materials throughout design and practice.

This article first highlights the importance of drying experiments for hygrothermal characterisation of building materials on which the attempt is based to standardize the drying experiment as well as to derive a single number material coefficient. The drying itself is briefly reviewed and existing approaches are discussed. On this basis, possible definitions are evaluated. Finally, a drying coefficient is defined which can be determined based on measured drying data. The correlation of this coefficient with the water absorption and the vapour diffusion coefficient is analyzed and its additional information content is critically challenged. As result, a drying coefficient has been derived and defined as a new and independent material parameter. It contains information about the moisture transport properties throughout the wide range of moisture contents from hygroscopic up to saturation. With this new and valuable coefficient, it is now possible to distinguish and select building materials quickly and easily by means of their drying behaviour. This is particularly important for moisture sensitive materials.