

The New DIN Standards in Earth Building – the Current Situation in Germany



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ABSTRACT

Today building is a complicated commercial process characterised by legalised agreements between all participants. For commercial building projects, all materials and constructions have to conform to building standards and regulations. Material properties must be reproducible in standardised test procedures. This also applies for the control of the quality of production of earth building materials and constructions. Building conservation is a part of this process. Generally, national building standards have to reflect the current situation of building materials / construction systems of that country for which they have been developed. In the last decade the use of earth in construction has become increasingly widespread in many countries. Building with earth can contribute to sustainable development by reducing environmental impact compared with other building materials or systems. This new consciousness has given rise to a growth in the number of earth building standards in recent years although, in absolute terms, the number is very small compared with other typical building materials and systems. 38 different earth building standards from 19 different countries were examined. The standards provide varying degrees of technical information. With regard to their scope of application, the documents can be classified into three types, each of them dealing with a particular aspect: soil classification, earth building materials, earth construction systems. In Germany, a revival of building with earth first came about in the 1980ies as an awareness of ecological criteria grew. A product of this development was the elaboration of an earth building standard, the “Lehmbau Regeln” by the Dachverband Lehm e. V., the German national earth building association. This standard was approved by the German State Building Authority in 1999 and 2009. Presently, that part of the “Lehmbau Regeln” concerning earth blocks and earth mortars is being adapted to the circumstances of national DIN / European building codes. This project includes the elaboration of three DIN drafts for industrially produced, chemically non-stabilized earth building materials: earth blocks, earth masonry mortars and earth plaster mortars. A fourth document was developed for soil as substantial ingredient of earth-based building materials defining procedures for the control of parameters during soil excavation. The drafts were adopted by the German NSB DIN and published in August 2013 as DIN 18945 – 47.

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