Worldwide applications of the EMS-98 and thoughts on supporting materials

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Abstract. In the course of last 15 years the European Macroseismic Scale EMS-98 (Grünthal 1998) has not alone been applied on all continents but has been translated, at least what concerns its core part or its short form, into 30 languages. Translations of the entire booklet of the EMS-98, e.g. into Spanish basically for users in Latin America and into Chinese, required even second editions. Even outside of Europe the scale has officially been introduced by governmental authorities. Short after the edition of the EMS-98 it was additionally recognized as risk predictive tool, although this inverse use of the scale was originally not explicitly suggested by its editors.

The way how the scale is applied leaves much to be desired in certain cases. Too many users avoid to consider properly the Guideline to the scale. One of the misconceptions concerns the vulnerability table VT which differentiates the entire range of vulnerabilities into six universal vulnerability classes VC regardless of the need to subdivide the VC A into two classes; i.e. to define eventually a class of very high vulnerability. According to the concept of the VT each building worldwide belongs to one of these VCs. The VT contains then certain examples, how certain building types can be associated to VCs. Since these examples cannot cover an exhaustive range of buildings in the EMS booklet there came up the misperception that the VT is incomplete, although the Guidelines describe how to associate other building types to VCs.

In analogy, this holds for the differentiation of damage into five grades as well, which are given in the EMS-98 for masonry and reinforced concrete buildings. Further examples of damage grades for other building types might be developed. The contribution points out how additional material on global building types should be prepared to provide a user-friendly approach to simplify the broader international application of the VT and of the concept of damage grades.

Keywords: EMS-98; World-wide applications; Supporting materials

REFERENCE