Assessment of the Structural Reliability of all wide span Timber Structures under the Responsibility of the City of Munich

Abstract:
Following the Bad Reichenhall ice-arena collapse, the Chair of Timber Structures and Building Construction at the Technische Universität München conducted a large-scale project to assess the structural reliability of all 152 wide-span timber structures under the responsibility of the City of Munich. The paper presents the chosen approach and gives recommendations on how to assess wide-span timber structures as well as on intervals of future evaluations to maintain a designated level of safety. The concept of a Building Book will be introduced. The paper will conclude with a discussion of the observed types of failure, causes for failure and accountabilities for failures, referring to our database of 214 failed timber structures.

Stichworte:
timber; wide-span structures; structural reliability; assessment; rehabilitation; failures; failure mechanisms

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