

Fire Protection for Sensitive Roof Structures

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Ruediger Kopp completed his studies of Chemical Engineering and Safety Engineering at the University of Dortmund as Diploma-Engineer. Since 23 years he is involved in development, fire testing, approval and marketing of high pressure water mist systems.

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Abstract

Fire protection of roof structures always is a sensitive area, as these are connecting several or all parts of a building, which consequently allows fire development throughout a building. Additionally, roof structures always are exposed to environmental impacts, e.g. thunderstorms and lightning.

The recent tragic fire of the roof of Notre Dame in Paris is one example of the tremendous impact a fire in roof structures can have.

The paper describes how high pressure water mist systems can effectively tackle such fires and contribute to prevention of significant damage to heritage building structures without larger collateral water damages.

The paper will describe the risk assessment process and selection of suitable fire tests protocols for individual risk areas for the Steigenberger Hotel building in Baden-Baden, Germany, where a historical building structure has been combined with modern architectural elements. Design and implementation challenges of the water mist system will be explained.

Key Words

Roof structure protection
Baden-Baden

Heritage building
Full scale fire tests

Steigenberger Hotel