How to recognize a good fire test protocol?

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BIO JOHAN HOOGEWEG: After his study in structural engineering, He began his career as a fire safety officer in the fire brigade. In 2006 he started working as a fire safety consultant. An essential/important aspect of his work is that required safety features and active fire protection systems not only need to be 100% reliable/work when / required but also add value to a building. He has also (co) written publications about third-party certification of fire protection systems and the use of sprinklers to reduce structural fire protection demands. He also has participated in a publication about how the value sprinkler (and water mist) installations in residential environments. He is also an active part of two CCV technical working groups, working group G (extinguishing gas systems) and working group C (sprinkler).

BIO RONALD OLDENGARM: Ronald has been a fire safety engineer at DGMR since 2000. As senior advisor and partner, Ronald has taken place in many design teams and has contributed in several standards and guidelines regarding fire safety. In the design projects Ronald tries to obtain an optimum between fire safety and other aspect like easthetics,, sustainability, and building economics.

Abstract

How to recognize a good fire test protocol?

A water mist system is a basically performance-based protection system. In which a protection is based on the results of full-scale fire tests specific for the situation which needed protection. This makes it possible to achieve a specific risk-specific protection. Where there is a perfect balance between demands and performance. This is in contrast to sprinkler systems where there is more general protection concept (one-size-fits-all), " sprinkler is plumbing, water mist is engineering"

Water mist systems shall be tested in accordance with the fire test protocols of the EN 14972 series. For scenario's where a generally accepted test protocol is not available the system should be tested in accordance with the guidelines given in Annex A of this standard. Other standards like NFPA 750 have comparable guidance how to preformed a test, however some are less detailed.

In many situations, it is desirable or even necessary to use a customized test protocol. Various testing protocols are available on the market. These are drawn up by testing laboratories, manufacturers and/or certification bodies. Als some protocols are part of 3th party certification scheme's.

So the efficiency of a good water mist protection starts with a good testing protocol. During our work, we come into contact with many protocols and results of tests performed according to these protocols. These include very good test protocols, but we also see protocols that we doubt result in effective protection.

In our presentation we will address:
1) what are the general requirements for a test protocol
2) how to read a test protocol, what is described and exactly what is missing
3) how to evaluate a test protocol; Can the objectives of protection be met with the test.
3) how to evaluate the results of a test using a test protocol.

We will do this using anonymized real-world examples.

KEYWORDS: fire test, certification, quality insurance, performance based