

## **Proven Fire Fighting Efficiency for Large Transformers with High Pressure Water Mist**

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### **The Author and Presenter**

Ruediger Kopp completed his studies of Chemical Engineering and Safety Engineering at the University of Dortmund as Diploma-Engineer. Since 21 years he is involved in development, fire testing, approval and marketing of high pressure water mist systems.

At present he is General Manager for fixed water mist systems at the company FOGTEC Fire Protection based in Cologne, Germany. He is member of various international water mist guideline working groups (e.g. NFPA 750, APSAD D2, FIA/BAFSA) as well as foundation member of the International Water Mist Association (IWMA). He has published numerous articles about water mist technology and has held papers at many conferences around the world.

### **Abstract**

Due to the growth of the mega cities all over the globe, power supply networks have to be extended, requiring for efficient fire protection measures. These extensions include power sub-stations with large transformers.

Water mist has been seen as an efficient alternative to other water spray technologies for transformer fire protection since the last 20 years. Water mist systems have been extensively tested in full scale fire tests and have been approved for this application by independent certification bodies.

Transformer sizes in sub-stations often exceed the size limitations of previous transformer fire tests and certifications. Therefore, adequate fire test protocols have to be developed to prove efficiency of water mist technology in fighting large scale transformer fires.

The paper will describe the risk assessment process and development of a full scale fire test protocol for transformers based on the requirement of CEN TS 14972 standard taking into consideration given ventilation conditions. Full scale fire test results will be presented.

Finally the implementation of these full scale fire test results into large scale transformer sub-stations will conclude the paper.

**Key Words**

Transformer

Extinguishing

Full scale fire tests