

Water mist fire protection of Archives: A new approach with modern fire laboratory.

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BIO: Bogdan has several years of experience working with water mist systems. He is a graduate of The Main School of Fire Service in Warsaw and AGH University of Science and Technology in Cracow. His work has primarily focussed on high pressure water mist systems. He is involved in research and product development of water mist systems and is now Engineering Team Leader at Ultra Fog. Bogdan has been involved in the design and supply of several prestigious and large engineering projects protected by water mist systems. He actively participates in research programs for new water mist system applications in Baltic Fire Laboratory and is an active IWMA member.

Abstract

Archives present a sensitive and challenging fire risk for fire protection experts. Many Archives contain priceless historical and official documents which are irreplaceable when destroyed by fire. The challenge is to design effective fire protection based on a fire risk and fire load which is often variable and can be difficult to evaluate with precision. Water mist systems are performance based systems, and currently there are no specific standards for water mist protection of Archives. To fill the gap, several water mist suppliers have developed individual test scenarios and tested systems based on their own methodology in order to prove system performance.

This test scenario case study will present an extensive series of fire test scenarios using Ultra Fog High Pressure Watermist technology, with methodology developed together with Baltic Fire Laboratory in Gdansk. Several different fire scenarios were evaluated. The aim of the fire test in all scenarios was to control and suppress the fire after automatic system activation.

Archive Fire Protection is currently very topical in Poland in view of the recent fires events in this country, and particularly in Cracow, which have seen the almost complete destruction of priceless historical documents and materials.

Watermist Fire Suppression finds its niche in special applications, such as Archives, where it can demonstrate notable advantages over more traditional fire extinguishing systems, whether CO₂, Clean Agent or traditional water sprinkler.

It is hoped that the methodology and fire scenarios developed and tested at the Baltic Fire Laboratory will be able to feed into a future recognized international standard for Archive Protection.

KEYWORD: water mist systems, archives fire protection, Baltic Fire Laboratory, International Standards