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Water Mist and the Sustainability Factor in Fire Protection

As is often the case, there was the initial idea to start with: Why not suppress or extinguish fires with smaller droplets, thus less water? This idea is by no means new. In fact, it is over 100 years old. However, it needed – amongst others:

- the Montreal protocol,
- a devastating fire on a passenger ferry,
- the support by the International Maritime Organization (IMO),
- a whole lot of research, perseverance and possibly most of all
- people who believed in water mist

to promote and support the technology.

1.) Research

The International Water Mist Association (IWMA) was established in 1998 – nearly 20 years ago. Then, the field of water mist as it represents itself today was still quite new, many details still needed scrutinizing. The founders of IWMA, the first members but also others from outside the organization carried out basic research to create a broad basis for everybody who wanted to get involved. The result is: water mist has reached adulthood and is now ready for the market! It is reliable, flexible and versatile!

Quite a few manufacturers of sprinkler systems have added water mist systems to their portfolios. Whereas, water mist manufacturers have stuck to water mist. However, all of them have developed and continue to develop the technology further using current research findings to incorporate them in their daily work. On top of that, new developments and results from the worldwide research find their way to authorities having jurisdiction, approval bodies, key insurance companies and committees engaged in standardization work. Consequently, all parties stimulate each other helping water mist advance even further.

These days, research is obviously much more specific since the very basic work has been done.

Sustainability has become an important field – whichever way we look at it. Again, the idea is not new: it was in the 17th century that German forest wardens came up with the idea to replace each felled tree.

So far, there has been no extensive research work within the water mist sector on sustainability. Consequently, more research has to be carried out. On the other hand, water mist in itself is sustainable! With water mist, sustainability is an add-on. Using less water, less power, thinner pipes is a sustainable approach to fighting fires in the first place.

2.) The Challenges of Sustainable Buildings

There are the challenges of sustainable buildings and there is sustainability (and the environment that needs protection) itself!

First of all, it must be emphasized that water mist systems help create sustainability! For the desired outcome – the suppression and extinction of fires – less water and less power are needed. Here, less water means: 1.) less water damage to buildings and 2.) due respect for water as a finite resource. Producing thinner pipes, water mist manufacturers use less resources.

Also, the focus is very much on using materials which can be re-used. As we are talking about water that is used, the technology obviously does harm neither the environment nor human beings – there is no fear factor as with methods using chemicals. Water Mist does not cause ozone depletion and does not contribute to global warming. On top of that, water mist removes the heat and the oxygen thus prevents re-ignition.

When it comes to the challenges of sustainable buildings, water mist very often is a force to be reckoned with. The buildings are often unique as architects like to explore the whole field which means: trying out unconventional shapes, using novel and unusual materials. Water mist can cater for these special needs. Consultants, designers, manufacturers are prepared to work out exceptional strategies for exceptional projects. An architect wishing to create a unique building will most certainly find a manufacturer willing to produce unique components to fit into unique projects.

In summary, one can say that:

- water mist systems use less water and thus respects the finite resource water
- water mist systems use less power and thus respects the need to save resources
- water mist causes less water damage
- water mist systems use thinner pipes and thus respect the need to save resources
- water mist systems are flexible and can be incorporated into a whole range of different buildings which obviously includes sustainable buildings

In fact, if the fire protection system of any building is not a water mist system, can that building be considered a sustainable building?