Ragnar Wighus,
16. International Water Mist Conference, Wien 2016

Water Mist: State-of-the Art and the Way Ahead

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Water Mist – State-of-the-art and the way ahead

- Significant developed technology during the last 25 years
- IWMA has aided the acceptance of water mist systems in industry, marine applications and in building industry
- Main applications
- Advantages and disadvantages of the technology
- Standardization
- The way ahead

Significant developed technology during the last 125 years ?

SP Sveriges Tekniska Forskningsinstitut

IWMA has aided the acceptance of water mist systems in industry, marine applications and in building industry

- Common acceptance of water mist systems is achieved in many parts of the world
- Due to the differences between systems, no prescriptive standards have been written.
- Still there is a lack of knowledge of how systems can be documented and accepted by Authorities Having Jurisdiction
- IWMA has been instrumental in the work to revise the present CEN TS 14972
- Many of the large international manufacturers of firefighting equipment have developed water mist systems or acquired existing watermist producers
- In the future, IWMA should be the leading voice to open for acceptance of water mist systems in applications where its peculiarity is important, as a fully accepted alternative to other accepted firefigting systems

Main applications

Much of the work with standards has been concentrated on equivalent systems, like
the sprinkler equivalent systems and the replacement of Halon systems

- Some applications based on successful testing are:
- Turbine enclosure protection
- Protection of heritage buildings, museums, libraries and collections
- Road and rail tunnels
- Aircraft and hangar protection
- Industrial fryers (deep fat fryers)
- Cable tunnels
- Computer rooms
- Local liquid fire sources

Tunnels and subways

Advantages and disadvantages of the technology

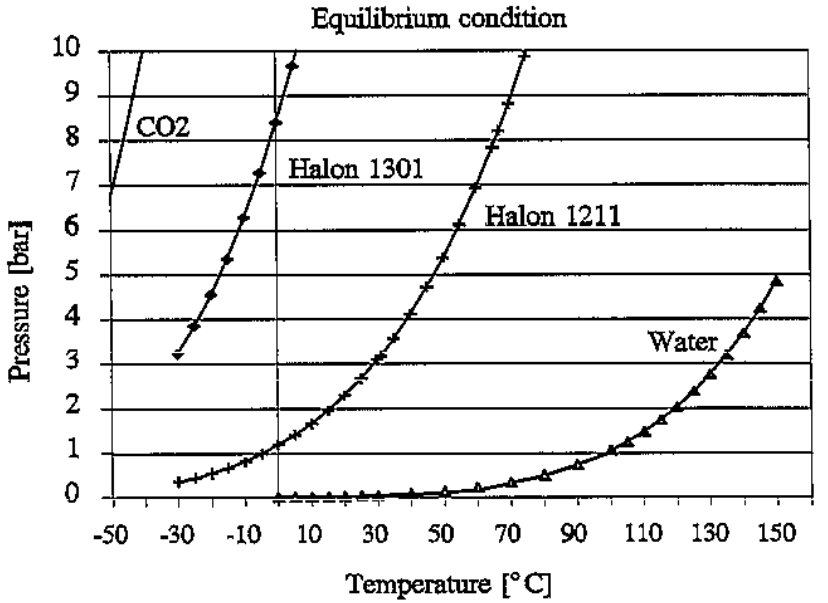


Figure 4 Equilibrium conditions for different fire suppression agents.

Advantages

Water mist has a very good cooling ability, leading to favourable effect on fires

Water mist is not harmful to humans or the evironment

Water mist do not produce toxic or irritating substances when released, even in fire situations

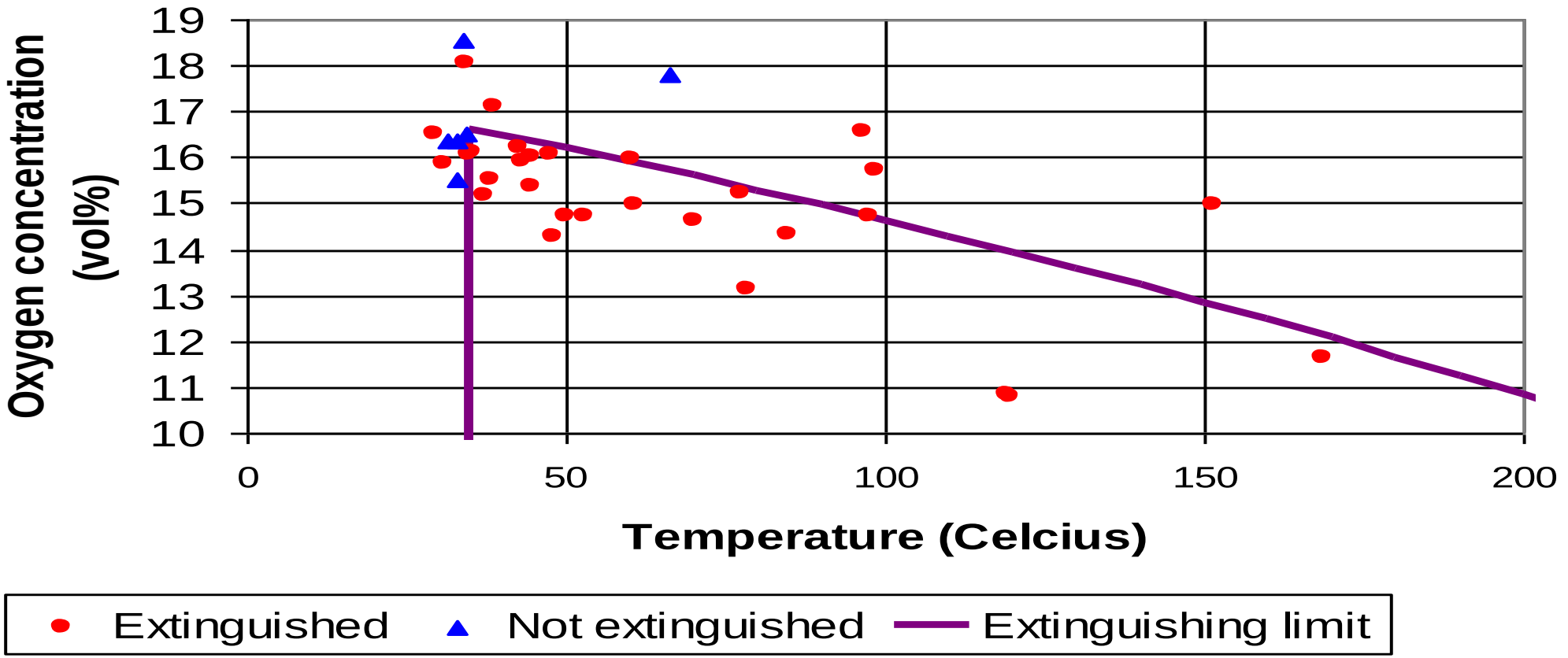
Water mist produces the inert gas Water vapour (steam) when heated

Disdvantages

Water vapour can not exist in inerting concentration at normal ambient temperature

Water may lead to secondary damage to objects and buildings by wetting

Critical oxygen concentration for extinguishment with water mist



Standardization

- The structure of the European standadization of Water mist is changed, from being a sub-group of the Working group for Sprinklers and water spraying systems (CEN TC 191) – to a WG10 Water mist systems
- Reference is made to Joachim Böke's presentation

IWMA,s role:

Be the voice of the watermist industry in a much more coordinated way than today

- Provide basic information to the community on water mist technology
- Launch and coordinate scientifically based test protocols where it is lacking
- By conferences and seminars world-wide spread the knowledge about watermist technology to the advisers and end users

IWMA should develop into an organization with more focus on the promotion of water mist into the society.

- IWMA should concentrate on the common good for the industry
- Manufacturers should stand together in promition of the tehnology and in new applications, irrespective of possible deviating interests on a short term
- The water mist indusrty should not stop being innovative:
  - Introduce the most advanced and reliable detection technology to activate the systems
  - Investigate how to combine sprinkler and gas technology to improve the effect of water mist systems
  - Invest into research on improved reliability of systems