

# Water Mist and the Organization behind the Technology



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IWMA General Manager since 2012

# Content ...

- How does water mist work?
- Benefits of water mist
- Applications
- The History of Water Mist
- The International Water Mist Association

# The Fire Triangle

A fire triangle consists of three elements:

- Combustible material / fuel
- Heat
- Oxygen



© Wikipedia.com

# How does Water Mist work?

Water mist reduces two of these elements:

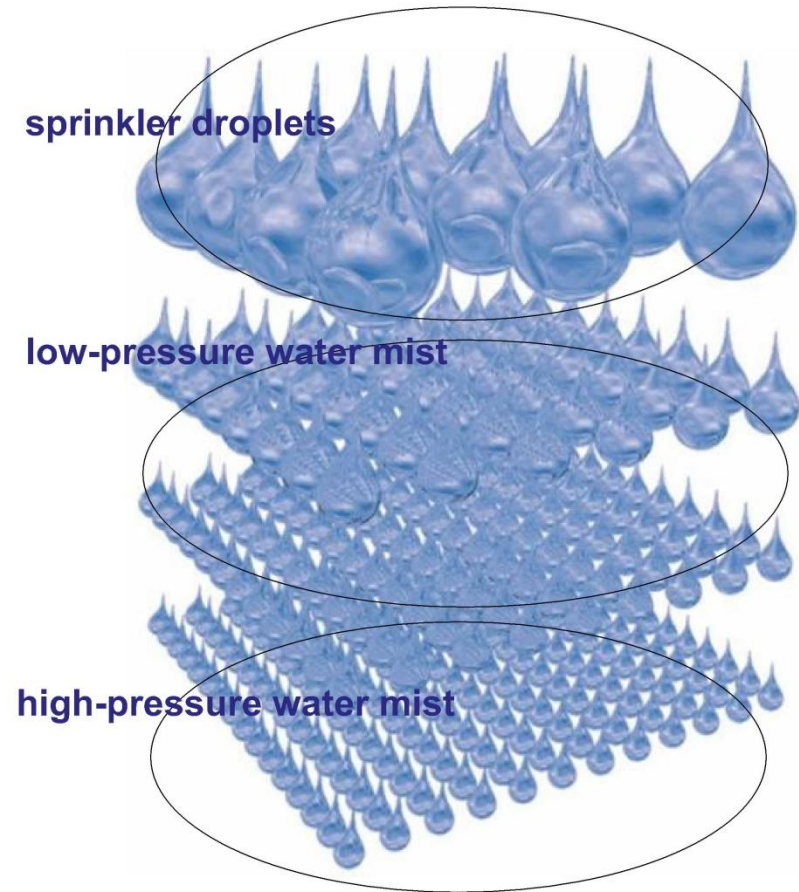
- Heat
  - Oxygen
  - Traditional sprinklers only reduce the heat ...
  - **Water mist is a performance-based technology!!!**
- Low pressure water mist: less than 12.5 bar (181 psi)
  - Intermediate pressure water mist: between 12.5 and 35 bar (507 psi)
  - High pressure water mist: up to 200 bar (2900 psi)

# How does Water Mist work?

## Definition:

Droplets size less than 1 mm – 1,000 microns

- NFPA say: 99% of the droplets less than 1 mm
- CEN say: 90% of the droplets less than 1 mm



© Fogtec

# Benefits of Water Mist

	Colours						
Types		Fires involving wood, paper, textiles etc.	Fires involving flammable liquids, petrols & spirits etc.	Fires involving flammable gases, butane, propane etc.	Fires involving burning metals, e.g. magnesium	Fires involving electrical equipment	fires involving cooking oils and fats
Water Mist							
Water							
Foam							
Dry Powder							
M28 / L2							
Co2							
Wet Chemical							

# Benefits of Water Mist

# Eco-friendly and sustainable!

...



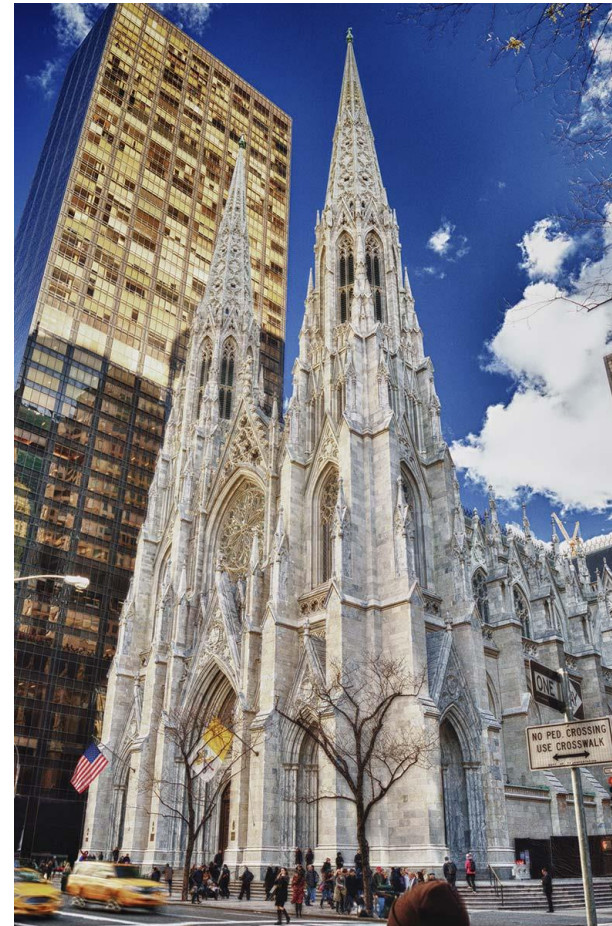
# Benefits of Water Mist

- Less water → lower costs
- Less material → lower costs
- Less space → lower costs
- Reduces heat AND oxygen
- Does not harm humans!!!
- Local inerting effect
- Can easily be retrofitted
- Cooling-effect prevents re-ignition
- Proven to international protocols and standards



# Applications: The Hall of Fame

- St. Patrick's Church, New York
- La Scala in Milan
- The Clock Tower in Mecca
- The Eurotunnel
- ISS International Space Station (portable water mist fire extinguishers)



© The Jewel Hotel

# Land Segments & Key Verticals

## Building Segment

- Hotels (hospitality industry)
- Data centres
- Healthcare (hospitals, care homes)
- Cultural heritage
- Educational (universities)
- Institutional (prisons)
- High-rise buildings
- Underground infrastructure
- Tunnels
- Museums
- Airports, etc.

## Applications

- Hotel rooms and offices
- Storage areas
- Server halls
- Escalators
- Kitchens
- Restaurants
- Technical spaces
- Laboratories, etc.

# Land Segments & Key Verticals

## Industrial Segment

- Power generation
- Power distribution
- Automotive industry
- Food industry
- Manufacturing industry
- Petroleum
- Oil & Gas, etc.

## Applications

- Gas turbines
- Flammable liquid storage
- Industrial fryers
- Paint booths
- Cable tunnels
- Diesel generators
- Conveyor belts
- Transformers
- Switchgear rooms, etc.

# Marine Segment

## Key Verticals

- Cruise vessels
- Ferries and RoPax
- Cargo vessels
- Superyachts
- RoRo & car carriers
- Navy
- Service vessels
- Off-shore
- River cruise liners
- Exploration cruise liners, etc.

## Applications

- Accommodation
- Public spaces
- Balconies
- Engine rooms
- Bldges
- Storage areas
- Laundry
- Kitchen & fryers, etc.

# The History of Water Mist

- 1880: F.E. Myers → water mist back pack system
- 1978: Lecture Book „Fundamentals of Fire“
- Late 1980s: Execution of the Montreal Protocol
- 7th April 1990: fire on the Scandinavian Star



© NWZonline

# The History of Water Mist

- 1995: Publication of FM 5560
- 1996: Publication of NFPA 750
- 1998: Founding of IWMA
- 1998: CEN TC 191/WG 5/TG 3 was established
- 2008: Publication of CEN TS 14972
- 2009: The IWMA Scaling Project



© Fognail

# The History of Water Mist

- 2013: IMO Sub-Committee, 56th SSE Session
- 2014: CEN TS 14972 → prEN 14972
- 2016: CEN TC 191/WG 10 was established
- 2016: IWMA Young Talent Award



Former IWMA President Ragnar Wighus and IWMA Award winner Daniel Martin  
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# IWMA is ...

... the world's leading water mist forum for:

- Manufacturers
- Distributors & installers
- Insurance companies
- Fire engineering companies
- Classification and academic institutions
- Users of water mist firefighting systems ...



© Marioff OY



# IWMA Members



# Activities

- International Water Mist Conference (networking platform and knowledge exchange)
- Educational and topical webinars
- IWMA representatives at various events
- Research projects
- Involvements, co-operations & liaisons
- Lobbying
- The Matrix
- Water Mist Guide in Wikipedia



At the 17th IWMC in Rome (© IWMA / N. Ciccarone)

# Involvements

- CEN (CEN/TC 191/WG10)  
→ prEN14972 →  
EN14972 (Chairman Dr.  
Joachim Böke, Minimax)
- IMO International  
Maritime Organization
- SFPE – revision of  
handbook / chapter 46
- NFPA – revision of water  
mist article



CEN/TC 191/WG10-Chairman Joachim Böke (© IWMA / J. Rahmanovic)

# Involvements

- European Commission / Expert Group on Marine Equipment (EMSA)
- EU Fire Information Exchange Platform (FIEP)
- FSILG Fire Suppression Industry Liaison Group
- UK Water Mist Group



General Manager Bettina McDowell in the UK visiting IWMA member BRE © IWMA

# Involvements

- NFPA 750
- NFPA 25
- Danish Water Mist and Sprinkler Committee
- Sustainable Fire Engineering
- ...



IWMA representative for NFPA 750 Max Lakkonen (IFAB) (© IWMA / N. Ciccarone)

# THE Water Mist Event ...

- 2021: 20th International Water Mist Conference, 21st and 22nd April 2021 in Warsaw, Poland (at the Warsaw Regent Hotel)



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