



# FIRE PROTECTION OF HIGH-RISE BUILDINGS WITH WATER MIST

**THREE ELEMENTS MAKE UP THE FIRE TRIANGLE: THE COMBUSTIBLE MATERIAL, HEAT AND OXYGEN. WATER MIST REMOVES HEAT AND OXYGEN AND THUS SUFFOCATES THE FIRE.**

**T**he systems spray water through specially designed nozzles. As the pressure increases, the size of the droplets decreases. This results in droplets with an altogether larger surface and water turning into steam. The temperature and the oxygen at the flame front are rapidly reduced and energy is subtracted from the fire. The cooling effect prevents re-ignition.

The organization where the water mist community gathers is the International Water Mist Association (IWMA). IWMA General Manager Bettina McDowell says: *"The list of water mist applications is long: passenger ferries, container ships, oil rigs, tunnels, offices, car parks, saunas, hospitals, care homes, churches, museums, archives and libraries, cable tunnels, power stations, machinery spaces, industrial oil cookers and data centres."*

Systems have been installed in the Clock Tower at Mecca, La Scala in Milan, St. Patrick's Cathedral in New York and the Eurotunnel; Particularly in the public eye since the

Grenfell Tower fire: High-rise buildings.

The issues: The average fire ladder extends to 30 metres only, whereas a high-rise building is, by definition, 45 metres or higher. High-rise buildings are often multi-purpose buildings with several hazard categories. Plus: Fire risks may be increasing with the use of combustible modern construction materials and methods.

A major advantage of water mist is the amount of water that needs to be stored and pumped up to the higher floors. Water mist systems have a consumption of 80 to 90 per cent less water than conventional sprinkler systems. This means reduced demands on the water supply, smaller diameter pipework and reduced water damage. In some cases, water mist systems can even be connected to the mains water supply.

Amongst the areas that can be protected are apartments, plant rooms, communal areas. Complete building protection is the target and this is no wishful thinking.

Bettina McDowell says: *"High-rise buildings must be fitted with sufficient fire protection systems. It is no longer acceptable to risk lives, property and jobs by being skipping fire protection. I am sure nobody wants another Grenfell."* The 19th International Water Mist Conference will take place on 23rd and 24th October in Berlin, Germany. ■

For more information on the event and also on the technology visit [www.iwma.net](http://www.iwma.net) or write to [info@iwma.net](mailto:info@iwma.net)

