Water Mist in Care Homes & Hospitals in the Nordic Territory

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AquaMist

• AquaSonic
  – Twin Fluid Technology

  □ 7 Bar
  □ Atomizer: a Super Sonic Generator creating droplets 20 – 50 times smaller than conventional systems and with 70 % lower water consumption than a HP Water Mist
  □ Special Hazard Applications, FM approved
AquaMist

• AquaFog
  – High Pressure Water Mist Systems
    □ 50 - 70 bar
    □ Open and closed head nozzles
    □ Special Hazard applications, FM approval
AquaMist

ULF

- Low Pressure Water Mist System
  - 7 – 16 bar
  - Standard sprinkler components, except for the nozzles
  - FM/NFPA LH, EN-12845 OH 1, Residential
Care Homes & Hospitals

• Hospital - normally OH 1
• Care Homes - INSTA 900-1 and OH 1
• Adapted Housing for Disabled People - Insta 900-1 and OH 1

Legislations drives the installation of Automatic Extinguishing systems in above applications

• New group of customers – New demand and requirements
• Fear of water, little experience and lack of knowledge influence the decisions and choice of solution
Types of Automatic Extinguishing Solutions and when they can be installed:

- **Standard Sprinkler** - *Always*
- **Residential Sprinkler** - *When the type of occupancy allows*
- **Easily mountable automatic extinguishing systems** – *For use in single family dwellings and apartments with high risk people - not standards are applicable*
- **Water mist** – *When the specification or AHJ allows the system as an equivalent to Standard Sprinklers*
Cost, Benefit & Value

Total cost
System, Installation, Maintenance

Performance
Density, Duration, Pressure, Coverage

Codes & Standards

Customer Benefit
Standard Sprinkler

- Standard Sprinkler (CEN 12845)
  - OH 1; 5 mm/min/m²
  - Advantages:
    - Robust and proven technology
    - Various of design options
    - Easy to combine with other Hazard Classifications
    - Low cost solution - when water reservoir is not needed
    - Low pressure
    - Low maintenance cost
  - Disadvantages:
    - High water demand and flux density
    - Higher cost when water reservoir is needed
Residential Sprinkler

- **Building Type 1**: 2.04 mm; 1 - 2 spk; 10 min duration
  - One and two family dwellings
  - Row houses having three levels above ground including the attic, and one basement level; or
  - Residential buildings with not more than 4 dwelling units up to a maximum of three stories in height and one basement level

- **Building Type 2**: 2.04 mm; 1 - 4 Spk; 30 min duration
  - Buildings arranged as residential occupancies up to a maximum of four stories in height and one basement level, excluding any building arranged to permanently house people who need assistance exiting the building

- **Building Type 3**: 4 mm; 4 Spk; 30 min duration
  - Buildings, or parts of buildings, arranged to house people who need assistance exiting the building
  - Buildings of 5 stories in height or more, arranged as residential occupancies.

**Buildings that do not permanently house people who need assistance exiting the building**
Residential Sprinkler

- Residential Sprinkler (INSTA 900-1)
  - Building type 3; 4 mm/min/m²
  - Advantages:
    - Designed to save life
    - Various of design options
    - Easy to combine with other Hazard Classifications
    - Low cost solution - when water reservoir is not needed
    - Very low pressure
    - Low maintenance cost
  - Disadvantages:
    - High water demand and flux density
    - Higher cost when water reservoir is needed
Water Mist

- **High Pressure Water mist**
  - OH 1; 1,5 – 2 mm/min/m²
  - Advantages:
    - Low water demand and flux density
    - Smaller piping offers esthetical exposed pipe installations
  - Disadvantages:
    - High cost solution
    - High maintenance cost
    - Limited design variations
    - Hard to combine with other Hazard classifications
Water Mist

• Low Pressure Water mist
  – OH 1; 1,5 – 2,5 mm/min/m²
  – Advantages:
    □ Low water demand and flux density
    □ Often a cost effective solution when a sprinkler solution requires a water reservoir or pump
    □ Maintenance cost equal to standard sprinkler
    □ Standard ”off the shelf” material, except for the nozzles
  – Disadvantages:
    □ Almost always need of a pump
    □ Limited design variations
    □ Limitations to combine with other
Kolding Sygehus (Hospital) - Denmark

- OH 1
- 500 pcs Aquamist nozzles ULF AM 27 & AM 29
- Value for the customer
  - New Technology
  - Environmental friendly profile – low water consumption & energy consumption
Home for Elderly People, Lahti - Finland

- OH 1
- 400 pcs Aquamist nozzles ULF AM 27 & AM 29
- Value for the end user
  - Limited water resource (City main), no water reservoir needed
Vasa Sjukhus (Hospital) – Finland

- OH 1 (small areas OH 2)
- 2500 pcs nozzles
- New installation and retrofit
- OH 2 protected with deluge sprinkler system
- Value for the end user
  - Limited water resource (City main), no water reservoir needed
Why water mist

- When the water source is below what a Standard Sprinkler system require – depending on which Water Mist system – a Water Mist solution may be an cost effective solution.

- When a water reservoir is required – depending on which Water Mist system – a Water Mist system may be cost effective solution.

- In occasions when the water density from a Standard Sprinkler system may give significantly more water damage than a Water Mist system. These occasion are lot less than the perception of what many people believe.
Thank You