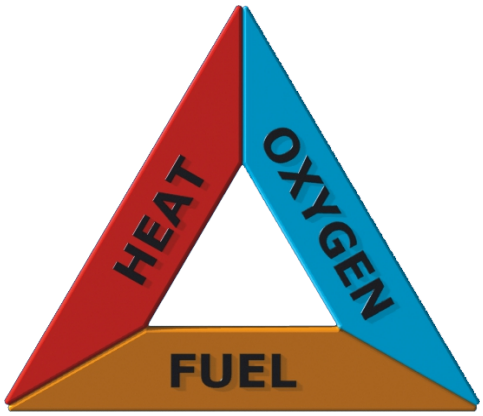
Q-FOG

2015-06-01

Water mist



Q1 utilizes water mist to control and extinguish fires. The mist has an extraordinary ability to absorb heat and it causes very limited water damage. Concealed fires may also be controlled as the mist practically fi lls the entire volume of a room. The extinguishing mechanism can be broken down into four different parts:

- Absorbing radiant heat
- Cooling of gases around the fire
- Cooling of burning fuel and potential new fuel
- Reducing the oxygen concentration

A fire requires access to heat, oxygen and fuel to keep burning. **Q1** separates these three components from each other.

Q1 controls heat in three different ways:

The tiny droplets in the mist are very effective at absorbing radiant heat and thus they prevent additional heating of potential fuel.

Small droplets are quickly evaporated by a fire. Heat that would have otherwise accelerated the fire is instead used to evaporate the water, effectively cooling the room.

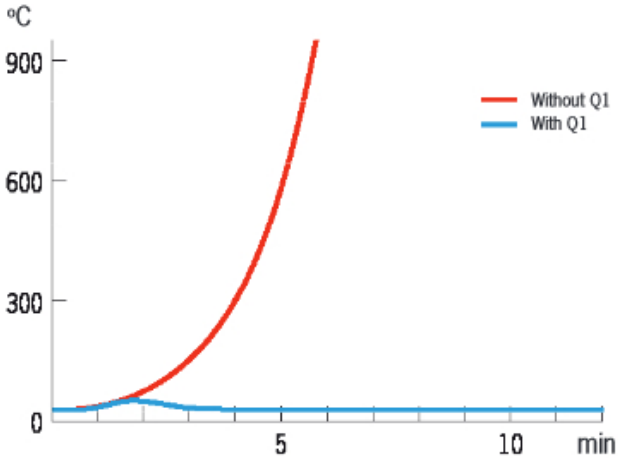
The larger droplets are not immediately evaporated but are able to penetrate the fire and come in contact with the hot fuel. These droplets wet the fuel surface, cooling it directly.

Q1 also prevents additional oxygen to reach the fire.

As water evaporates it increases its volume around 1700 times.

After evaporation the steam pushes oxygen away from the fire. As most of the evaporation takes place in close proximity to the fire the oxygen concentration near the fire is signifi- cantly reduced. The oxygen concentration in the rest of the room is also lowered slightly but not to the same degree.

The diagram below is based on fire tests performed by SINTEF NBL in Norway.



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MOBILE FIRE CONTROL

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