

The growth of population in big cities lead to increase traffic and transportation infrastructure. In many cases the metro lines are overloaded by heavy traffic exceeding the initial design expectations. What more, amortisation of metro wagons, escalators, and other safety equipment appear as new fire risk. Any fire or smoke can cause huge disruption, and blocks the traffic and transportation. Another important viewpoint is the time period of blocked metro traffic.



Burning metro wagon

Conventional firefighting interventions like use of hydrant system, will cause flooding of total under terrain metro station. Before use of such a big water quantity all circuits and power must be cut off. Therefore the importance of downtime of metro, and the period necessary for remediation is crucial.

High pressure water mist systems are especially designed and meant for metro station protection. A refurbishment of such a metro lines in the future is an upcoming challenge. Safety requirements grow, and a demand on a safe metro considering the high risk of evacuating people from under terrain traffic stations, is a challenge that can be solved by implementing **High Pressure Water Mist (HPWM)** protection to metro stations.

What benefits can a **HPWM** offer to safety designers and facility engineers? What risk can be reduced by **HPWM** systems? Before showing some good examples, let us summaries the benefits of **HPWM**.

- Far less water quantity is used, with high pressure 60-100bar. Such a modern firefighting intervention does not require to cut off electricity, and conductor rail, no delay in firefighting, immediate action.
- The small water quantity after intervention will not cause remediation, and the traffic can be restored quickly
- Easy maintenance

- Long life span 30-40 years due to stainless steel piping and parts

Protection of evacuation routs, particularly escalators.

The overheating of bearings and greased dust contaminated at bottom of escalators have big impact to block evacuation in case of fire break out.



Protection of under wagon area,

Whereas numbers of electrical parts, oil, cables and accessories appear as possible fire risk. Such a fire can be suppressed immediately by **HPWM**



Cable tunnels

Are mainly routed along platforms. Old cables, and short cut caused by the damage of cable insulation mean big risk to the safety of metro station. The damage of communication and electrical supply cables will cause even longer remediation, not talking about the difficult access of such a cable tunnels for fire brigade.



Recently we conducted numbers of successful 1:1 scale fire test in Hungary, for Metro applications. For further information please contact our engineer **Mr Marton Horvath +36-30-9993435-mho@danfoss-semco.com**