



## HI-FOG<sup>®</sup> pop-out sprinkler

### *HI-FOG<sup>®</sup> for rolling stock*

HI-FOG<sup>®</sup> pop-out sprinkler offers an excellent combination of fire fighting performance and improved reliability. The hidden pop-out sprinkler activates after a fire has been detected and ambient temperature is high enough. Water mist is discharged only in the precise location of the fire.

As part of a HI-FOG<sup>®</sup> system for rolling stock, the unique pop-out sprinkler provides many benefits for fire protection of passenger compartments.

#### Pop-out sprinkler system benefits

for manufactures and operators:

- Lower lifecycle costs
- Lower total weight
- Lower space requirements
- Improved reliability
- Improved aesthetics
- Reduced risk of vandalism

for passengers:

- Excellent fire fighting performance
- Reduced risk of false discharges
- Better visibility during discharge

#### Improved performance

The HI-FOG<sup>®</sup> pop-out sprinklers remain hidden in the ceiling until the fire has been detected. Sprinklers activate when ambient temperature is high enough to break the bulb. This two-phase activation process greatly reduces the risk of false discharges.

With pop-out sprinklers, the system is dimensioned to discharge through a few sprinklers rather than across the complete compartment. The pressure on activated sprinklers is higher, increasing fire fighting performance.

Because water mist is released only in the precise location of the fire, the visibility during a discharge is better and water damages are minimized.

#### Lower lifecycle costs

Since only the pop-out sprinklers in the precise location of the fire are activated, less water is needed. Therefore, the overall system weight and space requirements are substantially lower.

Thanks to narrow tubing and compact sprinkler heads, the system is easy to install unobtrusively in both new and retrofit carriage ceilings.

Pop-out sprinklers are well-protected against vandalism, as their bulbs are located inaccessible inside the sprinkler bodies. A patent and design right has been applied for this new design.

Another important benefit is that section valves are not required which simplifies the system and increases its reliability. This results in easier maintenance and lower lifecycle costs.

## Sequence of actions

### Stand-by position

When the system is on stand-by, there is no water in the tubing network. The HI-FOG® pop-out sprinkler is hidden in the carriage ceiling.



### Pre-activation position

When the fire is detected, the HI-FOG® system is activated and the tubing network is filled with water up to the pop-out sprinklers. The bulb cages pop out and the system is now under full operating pressure.



### Activation position

The bulb of the pop-out sprinkler breaks when the ambient temperature reaches its threshold temperature. High pressure water mist is discharged in the precise location of the fire.



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