

Fire Sprinkler Systems

Each closed-head fire sprinkler unit is held closed by either a heat-sensitive glass bulb or a two-part metal link called a fusible link. The glass bulb applies pressure to a pipe cap which acts as a plug and prevents water from flowing until the temperature around the fire sprinkler head reaches the activation temperature.

Different colour fire sprinklers heads will activate at different temperatures, because each head activates independently when the predetermined heat level is reached. The number of fire sprinklers that operate is limited to those near the fire. A fire sprinkler head will usually activate between one and four minutes under fire conditions and will continue to run until intervention by the attending Fire Brigade.

Fire sprinkler head Bulb Colours and Activation Temperatures

Temperature °C	Bulb Colour
57	Orange
68	Red
79	Yellow
93	Green
141	Blue
182	Mauve
227	Black
260	

Fire Sprinkler Systems are intended to contain a fire pending the arrival of the attending Fire Brigade. Control mode sprinkler heads are intended to control the heat release rate of a fire to prevent building structure collapse, and pre-wet the surrounding combustibles to prevent fire spread. The fire is not extinguished until the burning combustibles are exhausted or manual extinguishment is effected by attending Fire Fighters.

Suppression mode fire sprinkler heads are intended to result in a severe sudden reduction of the heat release rate of the fire, followed quickly by complete extinguishment, prior to manual intervention.



Fire sprinkler heads can also be activated by impact. Caution should be taken when working around fire sprinkler heads as any rupture of the bulb will result in fire system activation. Common cause of accidental activations includes impact by ladders, roof racks, forklifts, and vandalism. Do not hang any items from fire sprinkler heads that may interfere with its normal operation i.e. Christmas decorations, advertising signage etc.

Automatic or accidental activation of fire sprinkler heads will introduce additional hazards into the work environment such as slip hazards. Caution should be taken regarding any electrical items near fire sprinkler head activations. Water from activations may also seep through floors, live electrical equipment, lift shafts, and designated exiting systems. Any automatic or accidental activation of fire sprinkler heads will engage the installed fire alarm and emergency warning systems. Occupants are required to respond accordingly to these warning tones.