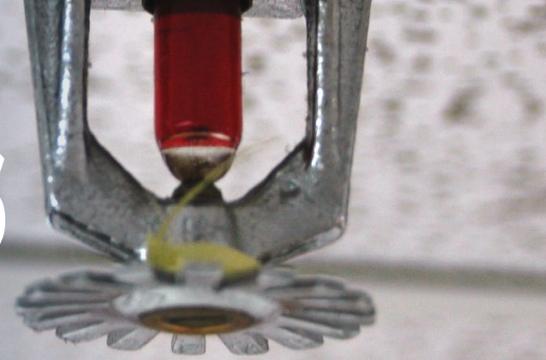


# DOMESTIC SPRINKLER SYSTEMS



There are three types of domestic sprinkler systems that are commonly referred to in terms of home fire safety.

- » The first is installed within the ceiling of the home for the purpose of suppressing domestic fires and limiting the damage they cause.
- » The second is installed on the outside of the roof for the purpose of protecting the building from ember attack during bushfires.
- » The third is installed on the ground, surrounding the house, for the purpose of protecting the property from an approaching bushfire front.

## Did you know...

The combined damage from a fire and the water firefighters use to extinguish it, is significantly higher than the damage when a properly installed sprinkler system is used.

## External Sprinklers

An external sprinkler system is intended to help extinguish embers that land on the roof or other parts of the building.

To operate effectively, this type of sprinkler system needs to have an appropriate, adequate water supply, an activation mechanism, and a delivery system that includes pipes and heads that will discharge water at appropriate densities. Pipes must be made of non-combustible materials, and the spray heads need to be carefully chosen to provide an appropriate spray pattern and discharge density that can operate effectively during a bushfire.

External sprinklers are designed to:

- » Be activated by the occupant when the threat of bushfire (ember attack or fire front) is imminent.
- » Saturate the property, thus protecting the structure from fire.
- » Reduce property damage.

Benefits of external sprinklers:

- » Reduces the likelihood of property damage from approaching fire or ember attack.
- » Improves conditions for firefighters battling bushfires.
- » Structural integrity of the building is more likely to remain meaning occupants can return sooner.
- » Reduces environmental damage in terms of air quality and physical resources.

## Internal Sprinklers

An internal sprinkler head is really an automatic tap that is connected to a pressurised water system. When the fire heats up the sprinkler head to its' pre-set temperature, it opens and allows pressurised water to be sprayed down onto the fire and up to cool the hot smoky layer and the building structure above the fire. This spray also wets combustible material in the near vicinity, making it difficult to ignite, thereby slowing down or preventing fire spread and growth. Sprinkler systems also bring other benefits such as reducing heat, smoke, and toxic gas emissions.

Internal domestic sprinklers are designed to:

- » Activate quickly once the operating temperature (57-79°C) is reached.
- » Suppress the fire to increase the time for occupants to escape.
- » Restrict the fire to the room it starts in.
- » Reduce property damage.

Benefits of domestic sprinklers:

- » Reduces property damage and the associated costs caused by fire or the water used to put out the fire.
- » Reduced toxins in the air means less damage to lungs and clearer exit paths.
- » Fire remains at a lower temperature reducing the likelihood of escalation.
- » Reduces the risk for firefighters in entering properties on fire.
- » Reduces the temperature in the house.
- » Improves conditions for firefighters searching for occupants and battling (fighting) the fire.
- » Structural integrity is more likely to remain, meaning occupants can return sooner.
- » Spread of fire to neighbouring properties is reduced.
- » Reduced environmental damage in terms of air quality and physical resources.

## Australian Standards

- » Australian Standard 2118.4 Automatic Fire Sprinkler Systems - Residential.
- » Australian Standard 2118.5 Automatic Fire Sprinkler Systems - Home Fire Safety Sprinkler Systems.

