FUSIBLE LINKS FOR KITCHENX

DATA SHEET



KitchenX fusible links are heat detectors that activate kitchen extinguishing systems automatically in the event of a fire. They are installed with a tensile load in the detection system above kitchen appliances. In the event of a fire, the temperature in the hood rises drastically. When the temperature reaches the activation temperature of the fusible links, they lose their tensile resistance, causing them to separate and activate the system. Thanks to their simple and robust design, they offer reliable temperature-controlled activation without the need for electricity.

Design

The fusible link is a mechanically simple but safety-critical component, whose design and material properties are of great importance for the function and reliability of the KitchenX system. Carefully selected materials with precise properties are essential to ensure predictable activation in the event of a fire.

The design consists of two metal parts that are joined together with a specially developed alloy with well-defined temperature properties. The alloy is dimensioned to withstand the tensile load of the detection system under normal operating conditions. When the alloy reaches its activation temperature, it melts, causing the metal parts to separate.

The choice of materials, design and manufacturing processes are adapted to give the fusible link's mechanical stability and reproducible detection properties throughout its lifetime.

Function

The fusible link is installed in a tensile load detection wire system that is connected to the KitchenX system's release mechanism. Under normal operating conditions, the link keeps the detection wire rope in tension. At a sufficiently high temperature, the alloy weakens and the link separates, releasing the tension of the wire after which the trigger mechanism's actuation pin punctures a nitrogen cartridge. The pressurized nitrogen gas then distributes extinguishing agent from the agent tank and the system's nozzles.

The choice of fusible link should be made carefully after measuring the operating temperature where it is placed. If the fusible link is chosen with too low of an activation temperature, the system risks being activated already in normal temperature conditions when there is no risk of fire. If the fusible link is chosen with too high of an activation temperature, the automatic detection risks taking too long, which can increase the risk of damage and the spread of the fire.

An important feature is that the fusible link is not necessarily activated immediately when the ambient air temperature reaches its nominal activation temperature. For separation to occur, enough heat must be transferred to the metal body and alloy of the fusible link, so that the joint loses its mechanical load-bearing capacity.

The activation time is therefore affected by several factors, including the rate of temperature increase, the air flow of the kitchen ventilation, the mass and construction of the fusible link, and the mechanical tensile load. The accumulation of grease, dirt and other contaminants can also affect heat transfer and thus delay activation.

Since the fusible link works completely mechanically, no electrical current, electronic components or external control is required. Its robust design makes it particularly suitable for temperature detection in restaurant kitchens and other demanding environments where high temperatures, grease, moisture and contaminants place high demands on the operational reliability of the fire protection system.

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Technical data

Model	Black	Blue	Red	Green	Yellow
Activation temperature, °C	74°C	138°C	182°C	232°C	260°C
Activation temperature, °F	165°F	280°F	360°F	450°F	500°F
Material	Copper	Copper	Copper	Copper	Copper
Weight, grams	14	14	14	14	14
Max operating temperature, °C	38°C	107°C	143°C	182°C	204°C
Minimum load, kg	1,37	1,37	1,37	1,37	1,37
Maximum load, kg	22,68	22,68	22,68	22,68	22,68
Item number	55-3292-07	55-3292-13	55-3292-18	55-3292-23	55-3292-26

Accessories

Full description	Item number
Detector Bracket and Linkage Scissor	55-3290-20
Linkage scissor	55-3290-10
Test link	55-3291-90



Complete:
55-3290-20
Only linkage scissor
55-3290-08



55-3291-90

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