

Fast triggering eutectic alloys fusible links



Because of permanent improvement of our products, drawings, descriptions, features used on these data sheets are for guidance only and can be modified without prior advice

Material	Max load	Hole distances	Thickness	Types
Brass or copper	7.5~16 DaN	23~46	0.3mm	5EQ, 5EW, 5EK, 5EO

5EQ	5EW	5EK	5EO

Made of thin metal, these fusible links have the **shortest response time**, between 2 minutes 50 seconds and 3 minutes, for a temperature rise rate of 20°C/min from 25°C, but the fineness of the metal limits their mechanical strength.

Material: Brass (red copper possible on request).

Surface Protection: No special surface protection

ROHS compliant: These fusible links are available in two versions

- **Non-ROHS compliant**, using traditional alloys containing lead and cadmium, for temperatures 68°C (155°F); 72°C (162°F); 96°C (205°F); 103°C (218°F); 120°C (248°F).

- **ROHS compliant**, using ternary alloys based on bismuth, tin and indium, (the high cost of indium makes these models 2 to 3 times more expensive than non-Rohs types) for temperatures 60°C (140°F); 72°C (162°F); 79°C (174°F); 109°C (228°F); 117°C (242°F)

Identification: Model, temperature in °C and date of manufacture are stamped on each fusible link

Tests:

- Mechanical resistance at ambient temperature: 100% in production
- Trip temperature under static load: by statistical sampling
- Trip time in temperature rise under load according to ISO 10294-4: by statistical sampling.
- Holding load 1h at 60°C or 90°C: compliant and verified by statistical sampling in production (Test according to ISO 10294-4)
- Triggering under minimum load: compliant and verified by statistical sampling in production (Test according to UL33)

Salt spray resistance: According to ISO 9227-2012, subjected to a mist formed of 20% by weight of sodium chloride in distilled water, at 35°C for 5 days (120h), the fusible links retain their aptitude for the function, in the response times specified by the standard.

Type	5EQ	5EW	5EK	5EO (Improved mechanical breaking load model)
Welding surface (mm²)	175 mm ²	230 mm ²	225mm ²	205mm ²
Maximum permissible permanent load (DaN)	18 DaN theoretical * but limited to 9 DaN because of the low mechanical breaking load at 25°C **	23 DaN theoretical * but limited to 9 DaN because of the low mechanical breaking load at 25°C **	23 DaN theoretical * but limited to 9 DaN because of the low mechanical breaking load at 25°C **	20 DaN theoretical but limited to 16 DaN because of the low mechanical breaking load at 25°C *
Minimum triggering load	4N	4N	4N	4N
Mechanical breaking load at 25°C for brass fusible links	27 DaN	28 DaN	28 DaN	48 DaN
Mechanical breaking load at 25°C for copper fusible links	26 DaN	27 DaN	26 DaN	46 DaN
Response time according to ISO 10294-4 under maximum load ***	2 min. 55 sec.	2 min. 58 sec.	2 min. 53 sec.	2 min. 53 sec

* Maximum permanent load depends on alloy composition and ambient temperature on 72°C fusible links. Values are given for guidance only, and for a 72°C non ROHS eutectic alloy. **Alloys with temperatures below 72°C and those that are ROHS compliant, generally have a high proportion of Indium, which greatly reduces the mechanical strength.**

** The maximum permanent load is limited to 1/3 of the mechanical breaking load at 25°C

*** Values measured in our own testing equipment. Testing conditions and equipment comply with ISO10294-4 and ISO DIS 21925-1 2017, fig. C1

Main references in brass* (Non-ROHS)

Temperature	Model	Reference	Model	Reference	Model	Reference	Model	Reference
68°C (155°F)	5EK	5EK0680030000000	5EQ	5EQ0680030000000	5EW	5EW0680030000000	5EO	5EO0680030000000
72°C (162°F)	5EK	5EK0720030000000	5EQ	5EQ0720030000000	5EW	5EW0720030000000	5EO	5EO0720030000000
96°C (205°F)	5EK	5EK0960030000000	5EQ	5EQ0960030000000	5EW	5EW0960030000000	5EO	5EO0960030000000
103°C (218°F)	5EK	5EK1030030000000	5EQ	5EQ1030030000000	5EW	5EW1030030000000	5EO	5EO1030030000000
120°C (248°F)	5EK	5EK1200030000000	5EQ	5EQ1200030000000	5EW	5EW1200030000000	5EO	5EO1200030000000

Main references in brass* (ROHS compliant)

Temperature	Model	Reference	Model	Reference	Model	Reference	Model	Reference
60°C (140°F)	5EK	5EK0600030R00000	5EQ	5EQ0600030R00000	5EW	5EW0600030R00000	5EO	5EO0600030R00000
72°C (162°F)	5EK	5EK0720030R00000	5EQ	5EQ0720030R00000	5EW	5EW0720030R00000	5EO	5EO0720030R00000
79°C (174°F)	5EK	5EK0790030R00000	5EQ	5EQ0790030R00000	5EW	5EW0790030R00000	5EO	5EO0790030R00000
109°C (228°F)	5EK	5EK1090030R00000	5EQ	5EQ1090030R00000	5EW	5EW1090030R00000	5EO	5EO1090030R00000
117°C (242°F)	5EK	5EK1170030R00000	5EQ	5EQ1170030R00000	5EW	5EW1170030R00000	5EO	5EO1170030R00000

* : for same models in red copper, replace the 8th character of the reference (0) by C