

Eutectic alloys fusible links for medium loads



Material	Max load	Hole distances	Thickness	Types
Brass	 20~64 DaN	 23~46	0.8mm	5EE, 5EJ, 5EN, 5EA

5EE	5EN	5EJ	5EA

These fusible links have a **medium response time**, between 3 minutes and 3 minutes 10 seconds, for a temperature rise rate of 20°C/min from 25°C and their thickness of metal gives them sufficient strength for their **use in multiplied mechanisms** supporting a maximum load of 300DaN. The holes have a lip to improve their resistance to mechanical break at 25°C by avoiding the tearing of the metal.

Material: Brass

Surface Protection: No special surface protection.

ROHS compliance: 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 ISO9227-2012, 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	5EE	5EN	5EJ	5EA
Welding surface (mm²)	200	545	544	640
Maximum permissible permanent load * (DaN)	20	54	54	64
Minimum triggering load	4N	4N	4N	4N
Mechanical breaking load at 25°C	125 DaN	187 DaN	125 DaN	95 DaN
Response time according to ISO 10294-4 under maximum load **	3 min. 2 sec.	3 min. 17 sec.	3 min. 18 sec.	3 min. 10 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.**

** 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 (Non-ROHS)

Temperature	Model	Reference	Model	Reference	Model	Reference	Model	Reference
68°C (155°F)	5EE	5EE0680080000000	5EJ	5EJ0680080000000	5EN	5EN0680080000000	5EA	5EA0680080000000
72°C (162°F)	5EE	5EE0720080000000	5EJ	5EJ0720080000000	5EN	5EN0720080000000	5EA	5EA0720080000000
96°C (205°F)	5EE	5EE0960080000000	5EJ	5EJ0960080000000	5EN	5EN0960080000000	5EA	5EA0960080000000
103°C (218°F)	5EE	5EE1030080000000	5EJ	5EJ1030080000000	5EN	5EN1030080000000	5EA	5EA1030080000000
120°C (248°F)	5EE	5EE1200080000000	5EJ	5EJ1200080000000	5EN	5EN1200080000000	5EA	5EA1200080000000

Main references (ROHS compliant)

Temperature	Model	Reference	Model	Reference	Model	Reference	Model	Reference
60°C (140°F)	5EE	5EE0600080R00000	5EJ	5EJ0600080R00000	5EN	5EN0600080R00000	5EA	5EA0600080R00000
72°C (162°F)	5EE	5EE0720080R00000	5EJ	5EJ0720080R00000	5EN	5EN0720080R00000	5EA	5EA0720080R00000
79°C (174°F)	5EE	5EE0790080R00000	5EJ	5EJ0790080R00000	5EN	5EN0790080R00000	5EA	5EA0790080R00000
109°C (228°F)	5EE	5EE1090080R00000	5EJ	5EJ1090080R00000	5EN	5EN1090080R00000	5EA	5EA1090080R00000
117°C (242°F)	5EE	5EE1170080R00000	5EJ	5EJ1170080R00000	5EN	5EN1170080R00000	5EA	5EA1170080R00000