

Eutectic alloys fusible links, for direct handling of heavy loads



Material	Max load	Hole distances	Thickness	Types
Brass	 45~100 DaN	 32~60	1.5mm	5EY, 5ET, 5EV, 5EX
5EY	5ET	5EV	5EX	

These fusible links have a **response time near the highest limit requested by standard (whose threshold is 4 minutes)**, between 3 minutes 30 seconds and 3 minutes 50 seconds, for a temperature rise rate of 20°C/min from 25°C. Their 1.5mm metal thickness and their soldering surface make it possible to withstand directly and **without multiplying mechanism** the loads encountered in the opening or closing mechanisms of fire doors and shutters.

Material: Brass (Copper possible)

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	5EV	5EY	5ET	5EX
Welding surface (mm²)	450	650	730	1000
Maximum permissible permanent load * (DaN)	45	65	73	100
Minimum triggering load	8N	8N	8N	8N
Mechanical breaking load at 25°C	425 DaN	430 DaN	428 DaN	620 DaN
Response time according to ISO 10294-4 under maximum load **	3 min. 41 sec.	3 min. 46 sec.	3 min. 42 sec.	3 min. 43 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)	5EY	5EY06800E0000000	5ET	5ET06800E0000000	5EV	5EV06800E0000000	5EX	5EX06800E0000000
72°C (162°F)	5EY	5EY07200E0000000	5ET	5ET07200E0000000	5EV	5EV07200E0000000	5EX	5EX07200E0000000
96°C (205°F)	5EY	5EY09600E0000000	5ET	5ET09600E0000000	5EV	5EV09600E0000000	5EX	5EX09600E0000000
103°C (218°F)	5EY	5EY10300E0000000	5ET	5ET10300E0000000	5EV	5EV10300E0000000	5EX	5EX10300E0000000
120°C (248°F)	5EY	5EY12000E0000000	5ET	5ET12000E0000000	5EV	5EV12000E0000000	5EX	5EX12000E0000000

Main references (ROHS compliant)

Temperature	Model	Reference	Model	Reference	Model	Reference	Model	Reference
60°C (140°F)	5EY	5EY06000E0R00000	5ET	5ET06000E0R00000	5EV	5EV06000E0R00000	5EX	5EX06000E0R00000
72°C (162°F)	5EY	5EY07200E0R00000	5ET	5ET07200E0R00000	5EV	5EV07200E0R00000	5EX	5EX07200E0R00000
79°C (174°F)	5EY	5EY07900E0R00000	5ET	5ET07900E0R00000	5EV	5EV07900E0R00000	5EX	5EX07900E0R00000
109°C (228°F)	5EY	5EY10900E0R00000	5ET	5ET10900E0R00000	5EV	5EV10900E0R00000	5EX	5EX10900E0R00000
117°C (242°F)	5EY	5EY11700E0R00000	5ET	5ET11700E0R00000	5EV	5EV11700E0R00000	5EX	5EX11700E0R00000