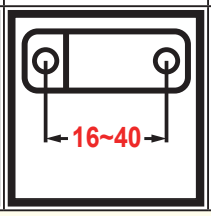
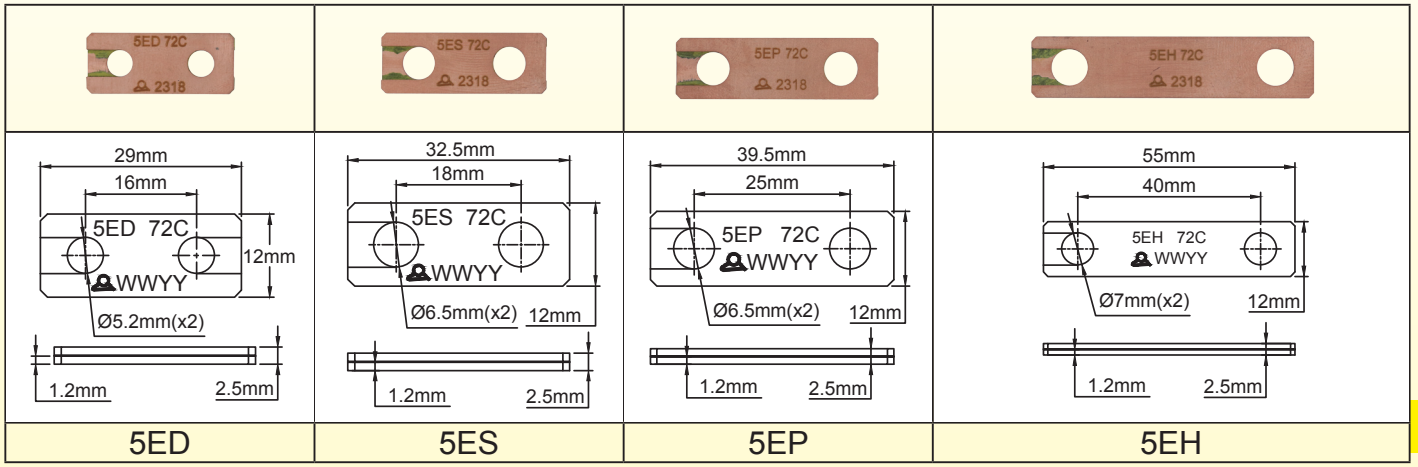
Copper fusible links with eutectic alloys, for medium loads

Material	Max load	Hole distances	Thickness	Types
Copper			1.2mm	5EP, 5ES, 5ED, 5EH



5ED	5ES	5EP	5EH

These fusible links have a medium response time, between 3 minutes 25 seconds and 3 minutes 30 seconds, for a temperature rise rate of 20°C/min from 25°C, and their thickness of metal is thicker than brass models to gives them sufficient strength for their use in multiplied mechanisms supporting a maximum stress of 300DaN. The use of red copper instead of brass provides a better corrosion resistance but substantially increases the price.

Material: Electrolytic copper
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	5ED	5ES	5EP	5EH
Welding surface (mm²)	280	290	370	545
Maximum permissible permanent load * (DaN)	28	29	37	54
Minimum triggering load	4N	4N	4N	4N
Mechanical breaking load at 25°C	165	165	165	165
Response time according to ISO 10294-4 under maximum load **	3 min. 30 sec.	3 min. 30 sec.	3 min. 25 sec.	3 min. 30 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.
In addition, maximum permanent loads are 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 (Non-ROHS)

Temperature	Model	Reference	Model	Reference	Model	Reference	Model	Reference
68°C (155°F)	5EP	5EP0680CB0000000	5ES	5ES0680CB0000000	5ED	5ED0680CB0000000	5EH	5EH0680CB0000000
72°C (162°F)	5EP	5EP0720CB0000000	5ES	5ES0720CB0000000	5ED	5ED0720CB0000000	5EH	5EH0720CB0000000
96°C (205°F)	5EP	5EP0960CB0000000	5ES	5ES0960CB0000000	5ED	5ED0960CB0000000	5EH	5EH0960CB0000000
103°C (218°F)	5EP	5EP1030CB0000000	5ES	5ES1030CB0000000	5ED	5ED1030CB0000000	5EH	5EH1030CB0000000
120°C (248°F)	5EP	5EP1200CB0000000	5ES	5ES1200CB0000000	5ED	5ED1200CB0000000	5EH	5EH1200CB0000000

Main references (ROHS compliant)

Temperature	Model	Reference	Model	Reference	Model	Reference	Model	Reference
60°C (140°F)	5EP	5EP0600CB0R00000	5ES	5ES0600CB0R00000	5ED	5ED0600CB0R00000	5EH	5EH0600CB0R00000
72°C (162°F)	5EP	5EP0720CB0R00000	5ES	5ES0720CB0R00000	5ED	5ED0720CB0R00000	5EH	5EH0720CB0R00000
79°C (174°F)	5EP	5EP0790CB0R00000	5ES	5ES0790CB0R00000	5ED	5ED0790CB0R00000	5EH	5EH0790CB0R00000
109°C (228°F)	5EP	5EP1090CB0R00000	5ES	5ES1090CB0R00000	5ED	5ED1090CB0R00000	5EH	5EH1090CB0R00000
117°C (242°F)	5EP	5EP1170CB0R00000	5ES	5ES1170CB0R00000	5ED	5ED1170CB0R00000	5EH	5EH1170CB0R00000

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