

TR-05672

# Din Fuse Carrier (500amp Testing)



Test Date: 21/07/16 Operator: D.Maclachlan

## TYPE AND DESCRIPTION OF TEST

DIN FUSE CARRIER. DIRECT RESISTANCE WITH 500A CURRENT.

## OBJECTIVE

The object of this test is to assess the current carrying capacity of the Din Fuse Carrier.

## TEST METHOD

A specified test current shall be applied to the contacts of the specimen for a minimum period of 3 hours or until equilibrium is reached. (Less than 1 degree per hour).

The Din Fuse Carrier will be fed with 500A from the 3000A load unit via a 150mm<sup>2</sup> cable attached to the fuse blade and a Powersafe Panel Source 500A connector on 150mm<sup>2</sup> cable which is connected to the other side of the load unit.

## REQUIREMENTS

The Din Fuse Carrier must be capable of carrying the specified test current for a minimum period of 3 hours without exceeding the specified temperature rise.

## TEST ITEMS

- 1x Powersafe Din Fuse Carrier
- 1x Powersafe 500A Panel Source Connector

## EQUIPMENT USED

INSTRUMENT	DESCRIPTION	CALIBRATION EXPIRY DATE
Current Generation	T & R PCU1 Mk3 P.C.I.T.S. (21TE0216)	20/01/2017
External Load Unit	3000A Loading Unit	20/01/2017
Digital Thermometer	YF-160A Thermocoupler + 5 Probes	04/02/2017

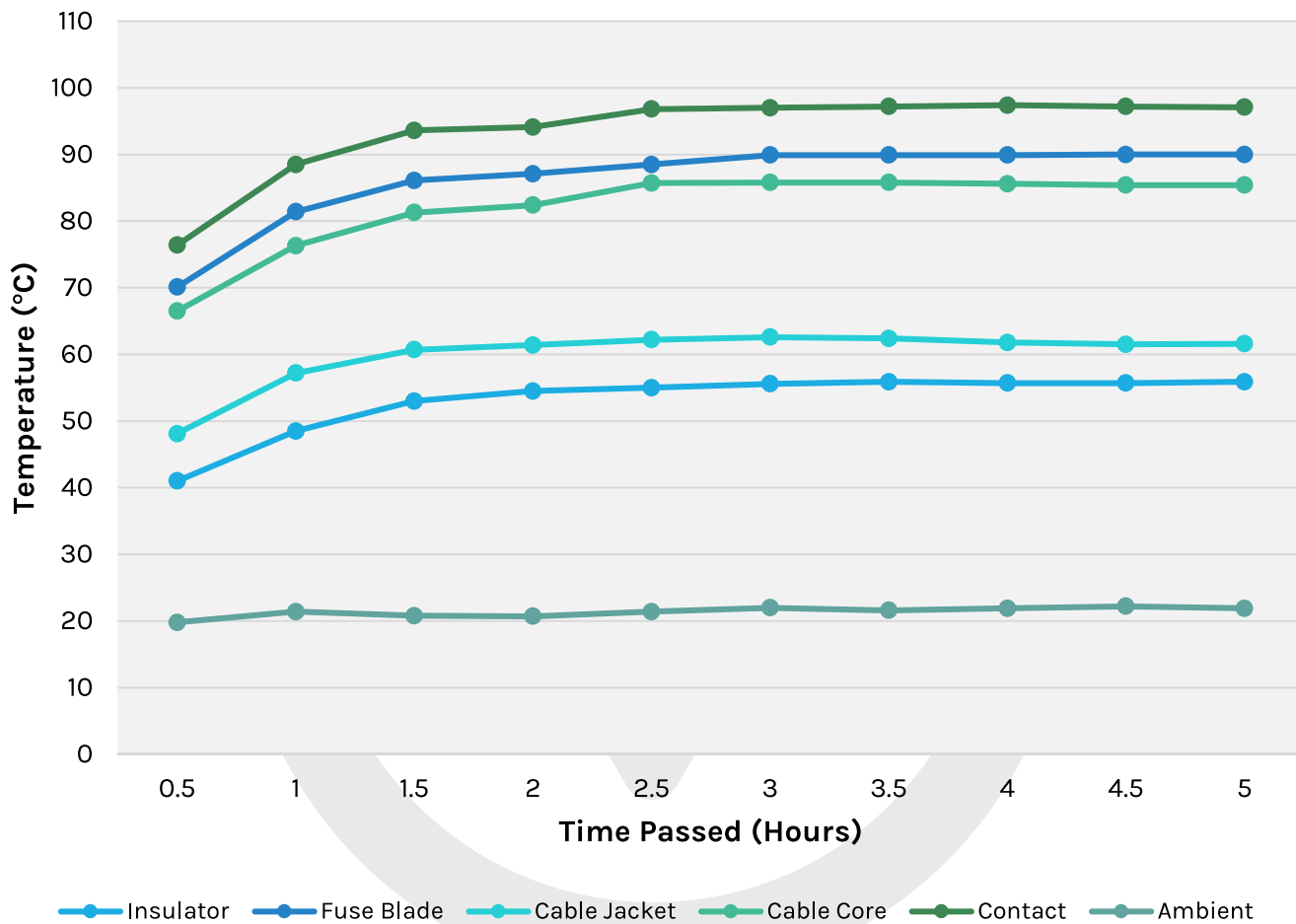


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TIME	INSULATOR	FUSE BLADE	CABLE JACKET	CABLE CORE	CONTACT	AMBIENT	AMPS
0.5	41.0	70.1	48.1	66.5	76.4	19.8	507.0
1	48.5	81.4	57.2	76.3	88.5	21.4	503.0
1.5	53.0	86.1	60.7	81.3	93.6	20.8	502.0
2	54.5	87.1	61.4	82.4	94.1	20.7	506.0
2.5	55.0	88.5	62.2	85.7	96.8	21.4	511.0
3	55.6	89.9	62.6	85.8	97.0	22.0	514.0
3.5	55.9	89.9	62.4	85.8	97.2	21.6	510.0
4	55.7	89.9	61.8	85.6	97.4	21.9	510.0
4.5	55.7	90.0	61.5	85.4	97.2	22.2	509.0
5	55.9	90.0	61.6	85.4	97.1	21.9	512.0

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## FINAL RESULTS

PROBE POSITION	TEMPERATURE (C)	T (MEASURED-AMBIENT)	AMPS
Ambient	21.9	N/A	N/A
Contact (P1)	97.1	75.2	512A
Cable Core (P2)	85.4	63.5	512A
Cable Jacket (P3)	61.6	39.7	512A
Insulator (P4)	55.9	34.0	512A
Fuse Blade (P5)	90.0	68.1	512A

## CONCLUSION

MEASUREMENT	RESULT
Maximum Allowable Temperature	125°C
Maximum Recorded Temperature Rise @ Insulator (above ambient)	34.0°C
Maximum Allowable Temperature of Contacts	125°C
Maximum Recorded Temperature Rise (above ambient)	75.2°C
TEMPERATURE RISE WITHIN EN, BS AND VDE ALLOWABLE LIMITS.	PASS



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