

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 150mm² (300MCM) cable attached to the fuse blade and a Powersafe Panel Source 500A connector on 150mm² (300MCM) 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

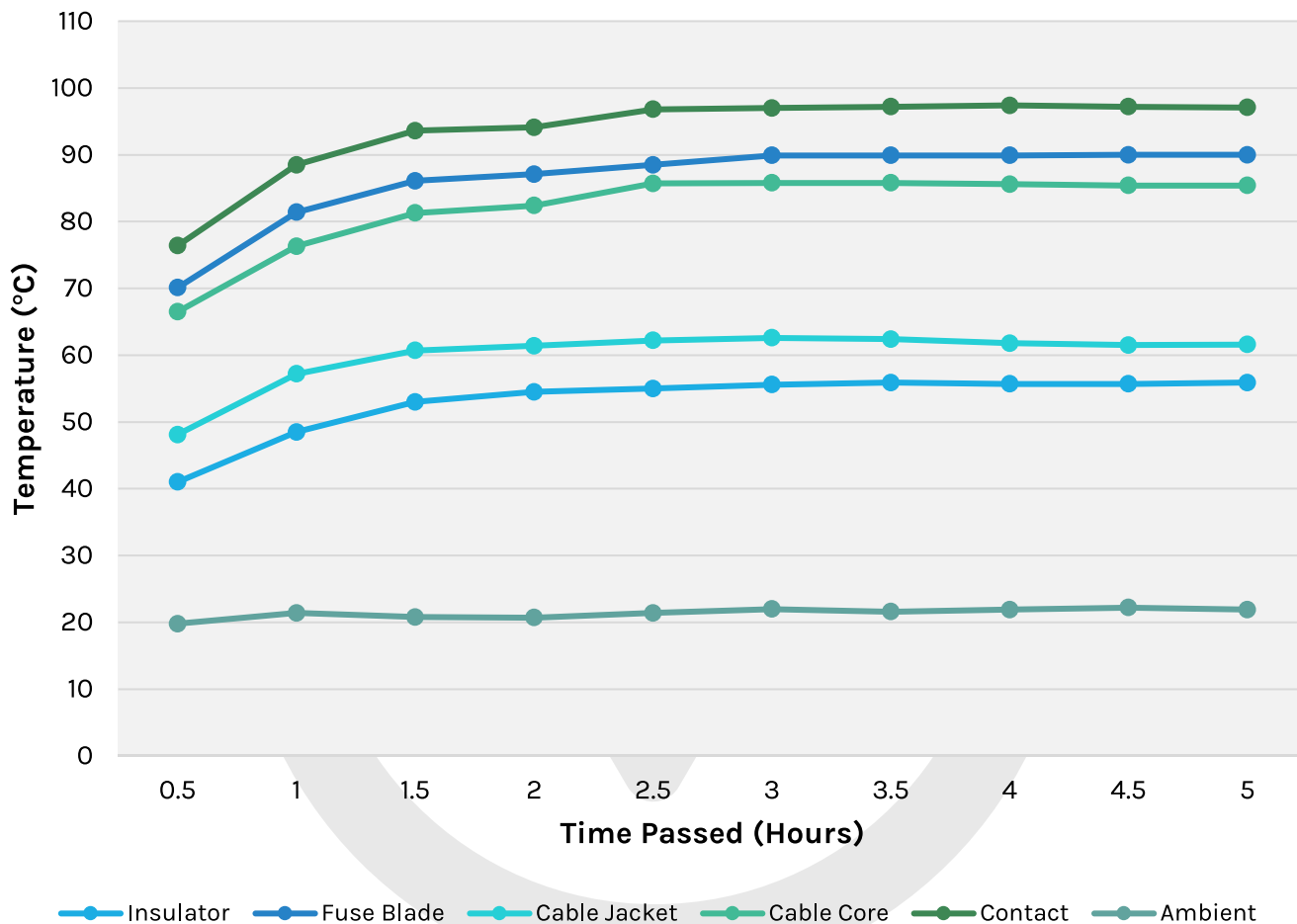


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TIME	INSULATOR	FUSE BLADE	CABLE JACKET	CABLE CORE	CONTACT	AMBIENT	AMPS
0.5	41.0	70.1	48.1	66.5	76.4	19.8	507.0
1	48.5	81.4	57.2	76.3	88.5	21.4	503.0
1.5	53.0	86.1	60.7	81.3	93.6	20.8	502.0
2	54.5	87.1	61.4	82.4	94.1	20.7	506.0
2.5	55.0	88.5	62.2	85.7	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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