TR-05657

JP82 & JS92 Fuse Carrier (500amp testing)

Test Date: 09/07/16 **Operator:** D.Maclachlan

TYPE AND DESCRIPTION OF TEST

JP82 & JS92 FUSE CARRIER. DIRECT RESISTANCE WITH 500A CURRENT.

OBJECTIVE

The object of this test is to assess the current carrying capacity of the JP & JS Fuse Carriers.

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 Fuse Carrier will be fed with 500A from the 3000A load unit via a Powersafe Line Drain 500A connector on 150mm^2 (300MCM) cable and attached to a copper busbar which is connected to the other side of the load unit.

REQUIREMENTS

The 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 Fuse Carrier fitted with Panel Source 500A connector.
1x Powersafe 500amp Line Drain Connector on 150mm^2 (300MCM) cables.
1x Copper Busbar.

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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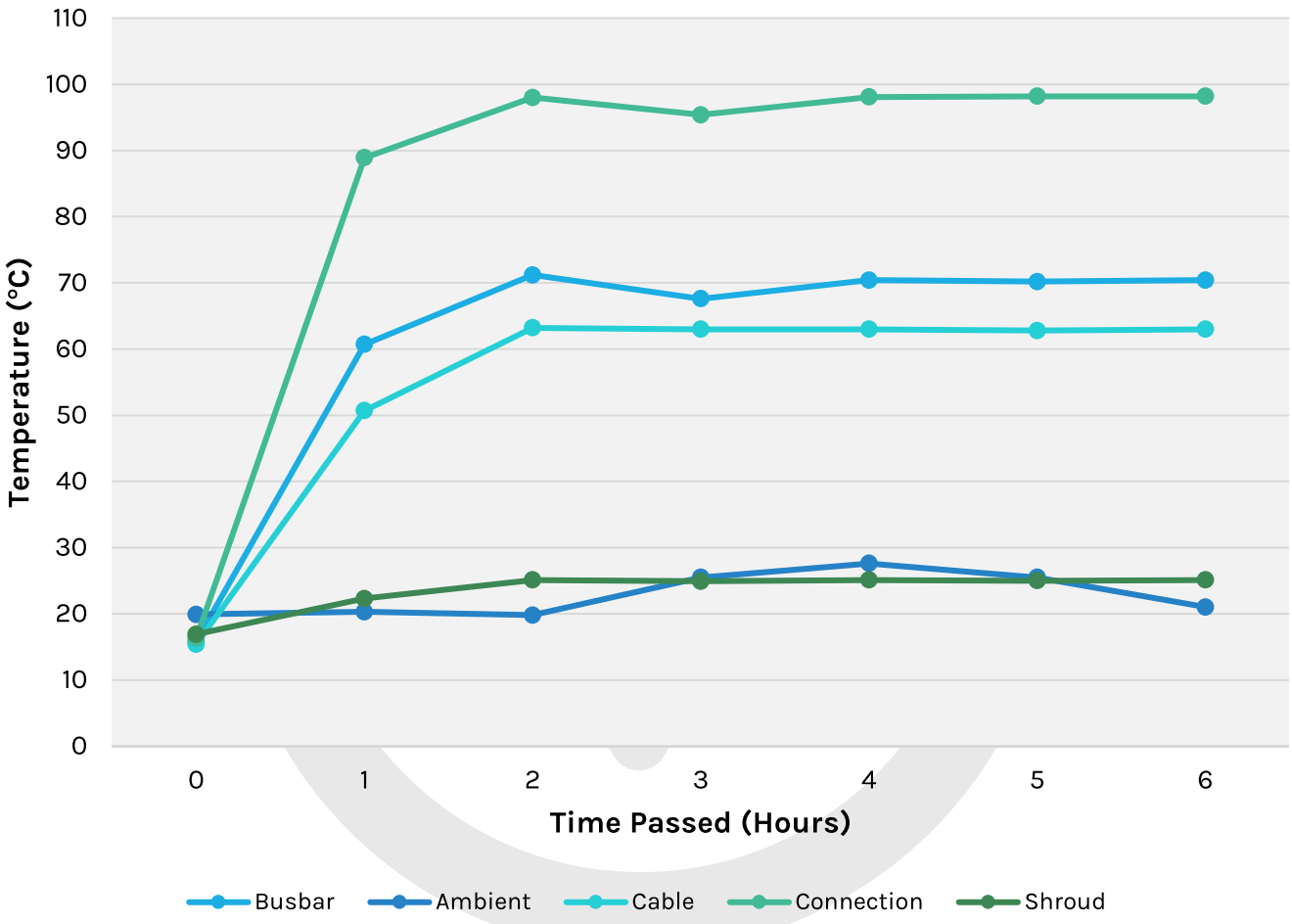

TIME	BUSBAR	AMBIENT	CABLE	CONNECTION	SHROUD	AMPS
0	15.8	19.9	15.4	16.3	16.9	520.0
1	60.7	20.3	50.7	88.9	22.3	520.0
2	71.2	19.8	63.2	98.0	25.1	522.0
3	67.6	25.5	63.0	95.4	24.9	518.0
4	70.4	27.6	63.0	98.1	25.1	523.0
5	70.2	25.5	62.8	98.2	25.0	520.0
6	70.4	21.0	63.0	98.2	25.1	522.0

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FINAL RESULTS

PROBE POSITION	TEMPERATURE (C)	T (MEASURED-AMBIENT)	AMPS
Ambient	21.0	N/A	N/A
Cable Core (P1)	56.6	35.6	522A
Connection Between Fuse Carrier & Busbar (P2)	98.2	77.2	522A
Busbar (P3)	70.4	49.4	522A
Fuse Carrier Body (P4)	25.1	4.1	522A

CONCLUSION

MEASUREMENT	RESULT
Maximum Allowable Temperature	**125°C**
Maximum Recorded Temperature Rise @ Fuse Carrier Body (above ambient)	**4.1°C**
Maximum Allowable Temperature Between Fuse Carrier & Busbar	**125°C**
Maximum Recorded Temperature Rise (above ambient)	**77.2°C**
TEMPERATURE RISE WITHIN EN, BS AND VDE ALLOWABLE LIMITS. **THE UNIT COMPLIES WITH THE REQUIREMENTS OF EAT37-2.**	**PASS**