

TR-05658

Insulated T-Piece (800amp testing)



Test Date: 09/07/16

Operator: D.Maclachlan

TYPE AND DESCRIPTION OF TEST

INSULATED T-PIECE . DIRECT RESISTANCE WITH 800A CURRENT.

OBJECTIVE

The object of this test is to assess the current carrying capacity of the Insulated T-Piece.

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 T-Piece will be fed with 800A from the 3000A load unit via a Powersafe Line Drain 800A connector on 300mm² (600MCM) cable and attached to the other side of the load unit via 2 x 800A Line Source Connectors on 300mm² (600MCM) cables.

REQUIREMENTS

The T-Piece 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 Insulated T-Piece fitted with 1x Powersafe Panel Source 800A and 2x Powersafe Panel Drain 800A connectors.

1x Powersafe 800amp Line Drain Connector on 300mm² (600MCM) cable

2x Powersafe 800amp Line Source Connectors on 300mm² (600MCM) cables

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



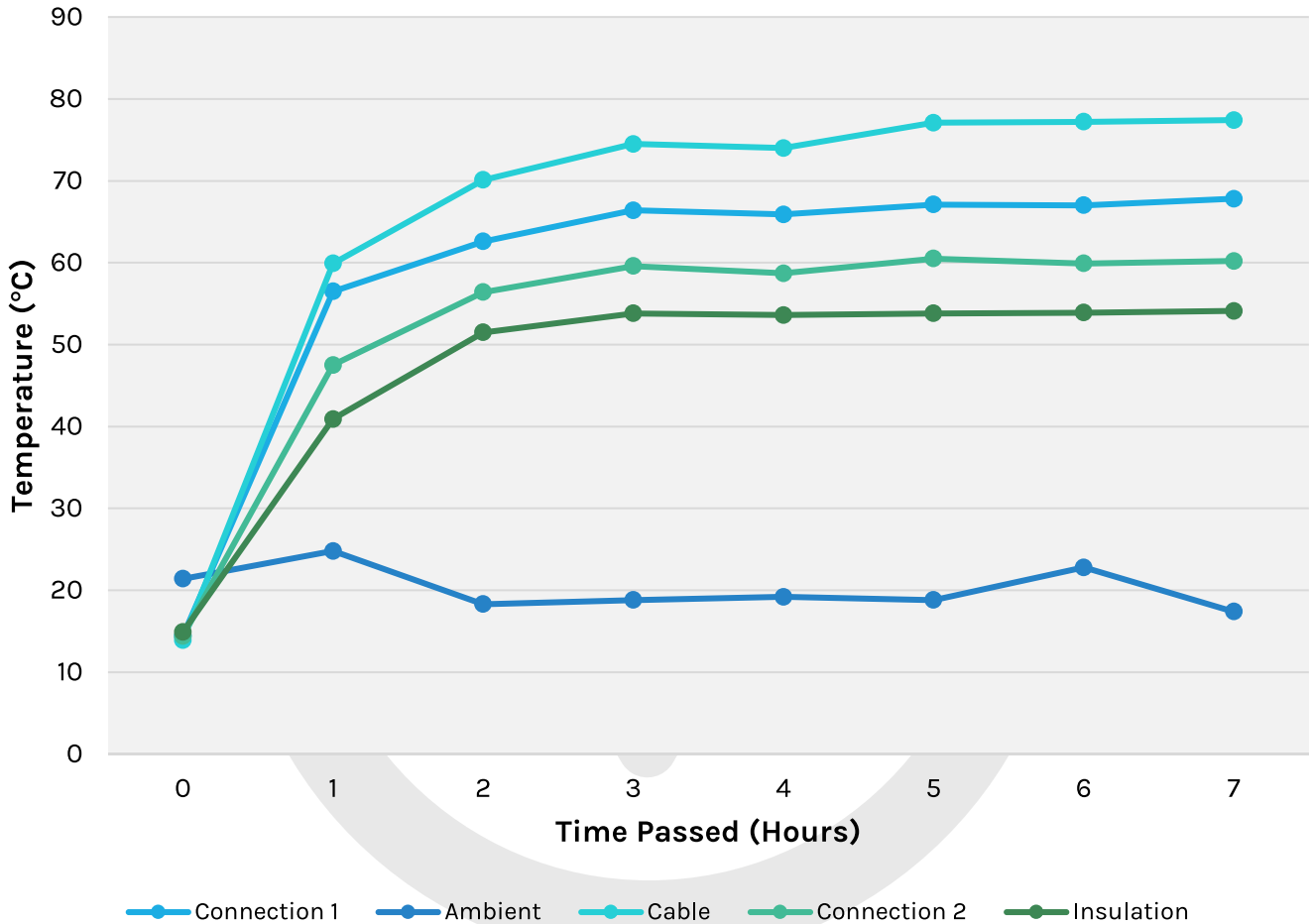
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TIME	CONNECTION 1	AMBIENT	CABLE	CONNECTION 2	INSULATION	AMPS
0	14.4	21.4	13.9	14.4	14.9	800.0
1	56.5	24.8	59.9	47.5	40.9	810.0
2	62.6	18.3	70.1	56.4	51.5	806.0
3	66.4	18.8	74.5	59.6	53.8	804.0
4	65.9	19.2	74.0	58.7	53.6	812.0
5	67.1	18.8	77.1	60.5	53.8	816.0
6	67.0	22.8	77.2	59.9	53.9	817.0
7	67.8	17.4	77.4	60.2	54.1	820.0

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FINAL RESULTS

PROBE POSITION	TEMPERATURE (C)	T (MEASURED-AMBIENT)	AMPS
Ambient	17.4	N/A	N/A
Cable Core (P1)	77.4	60.0	820A
Connection 1 (P2)	67.8	50.4	820A
Connection 2 (P3)	60.2	42.8	820A
T-Piece Insulated Body (P4)	54.1	36.7	820A

CONCLUSION

MEASUREMENT	RESULT
Maximum Allowable Temperature	125°C
Maximum Recorded Temperature Rise @ Insulated Body (above ambient)	36.7°C
Maximum Allowable Temperature of Connections	125°C
Maximum Recorded Temperature Rise (above ambient)	50.4°C
TEMPERATURE RISE WITHIN EN, BS AND VDE ALLOWABLE LIMITS.	PASS
ALL INSULATION ON THE CLAMP MEETS WITH IEC 60900 (LIVE WORKING, HAND TOOLS FOR USE UP TO 1000VAC AND 1500VDC)	



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