

TR-05651

Standard G Clamp (800amp testing)



Test Date: 04/07/16

Operator: D.Maclachlan

TYPE AND DESCRIPTION OF TEST

STANDARD G CLAMP. DIRECT RESISTANCE WITH 800A CURRENT.

OBJECTIVE

The object of this test is to assess the current carrying capacity of the Standard G clamp.

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 Clamp will be fed with 800A from the 3000A load unit via a Powersafe Line Drain 800A connector on 300mm² cable and attached to a busbar which is connected to the other side of the load unit.

REQUIREMENTS

The clamp 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 Standard G Clamp
- 1x Powersafe 300mm² Line Drain Connector
- 1x 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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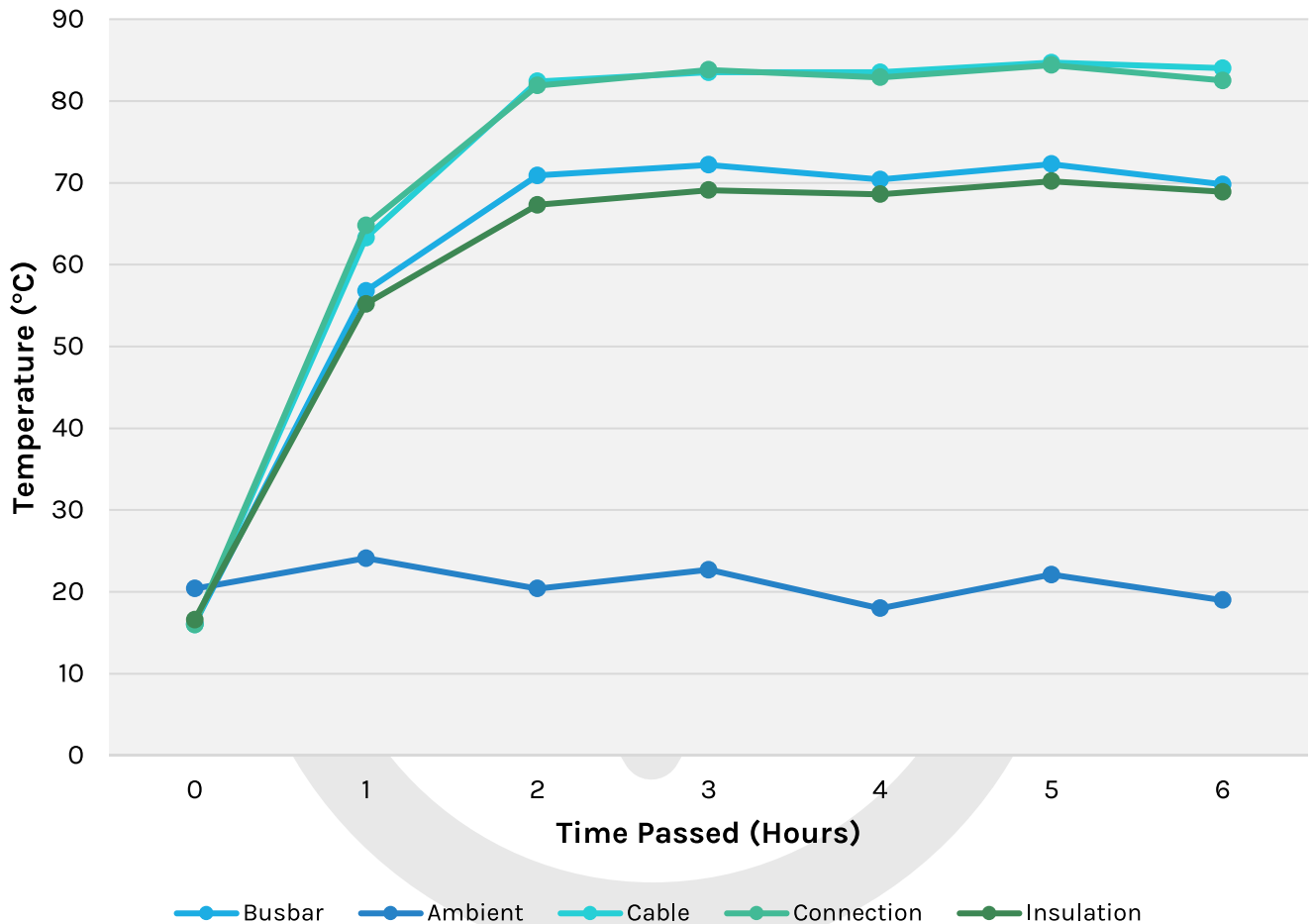
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TIME	BUSBAR	AMBIENT	CABLE	CONNECTION	INSULATION	AMPS
0	16.1	20.4	16.0	16.0	16.6	800
1	56.8	24.1	63.3	64.8	55.2	808
2	70.9	20.4	82.4	81.9	67.3	809
3	72.2	22.7	83.5	83.8	69.1	802
4	70.4	18.0	83.5	82.9	68.6	803
5	72.3	22.1	84.7	84.4	70.2	802
6	69.8	19.0	84.0	82.5	68.9	803

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FINAL RESULTS

PROBE POSITION	TEMPERATURE (C)	T (MEASURED-AMBIENT)	AMPS
Ambient	19.0	N/A	N/A
Cable Core (P1)	84.0	65.0	803A
Connection Between Clamp & Busbar (P2)	82.5	63.5	803A
Busbar (P3)	69.8	50.8	803A
Clamp Insulated Body (P4)	68.9	49.9	803A

CONCLUSION

MEASUREMENT	RESULT
Maximum Allowable Temperature	125°C
Maximum Recorded Temperature Rise @ Insulated Body (above ambient)	49.9°C
Maximum Allowable Temperature Between Clamp & Busbar	125°C
Maximum Recorded Temperature Rise (above ambient)	63.5°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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