
 PHASE 3 <small>CONNECTORS</small>	Test Report	 <small>FS648709</small>	Date	08/07/16
			TR	05654
Operator: D.Maclachlan			Horizontal Clamp 800 amp testing	
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Type and description of test
Horizontal Clamp. Direct Resistance With 800A Current.

Object:

The object of this test is to assess the current carrying capacity of the Horizontal 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

- 1 x Powersafe Horizontal Clamp
- 1 x Powersafe 300mm Line Drain Connector
- 1 x Busbar

Instrument	Description s/n	Expiry calibration
Current generation	T & R PCU1 Mk3 P.C.I.T.S. (21TE0216)	20/01//2017
External Load Unit	3000A Loading Unit	20/01/2017
YF-160A Thermocoupler +5 probes	060300489	04/02/2017

Recorded Results at the end of testing – (detailed hourly results and graph on pg3)

Probe position	Temperature ° C	T (measured – ambient)	Amps
Ambient	18.1		
Cable Core (P1)	75.0	56.9	817A
Connection Between Clamp & Busbar (P2)	71.9	53.8	817A
Busbar (P3)	58.3	40.2	817A
Clamp Insulated Body (P4)	57.7	39.6	817A

Maximum Allowable Temperature 125°C



Maximum Recorded Temperature Rise @ Insulated Body was 39.6^oC above ambient.

Maximum Allowable Temperature Between Clamp & busbar 125°C

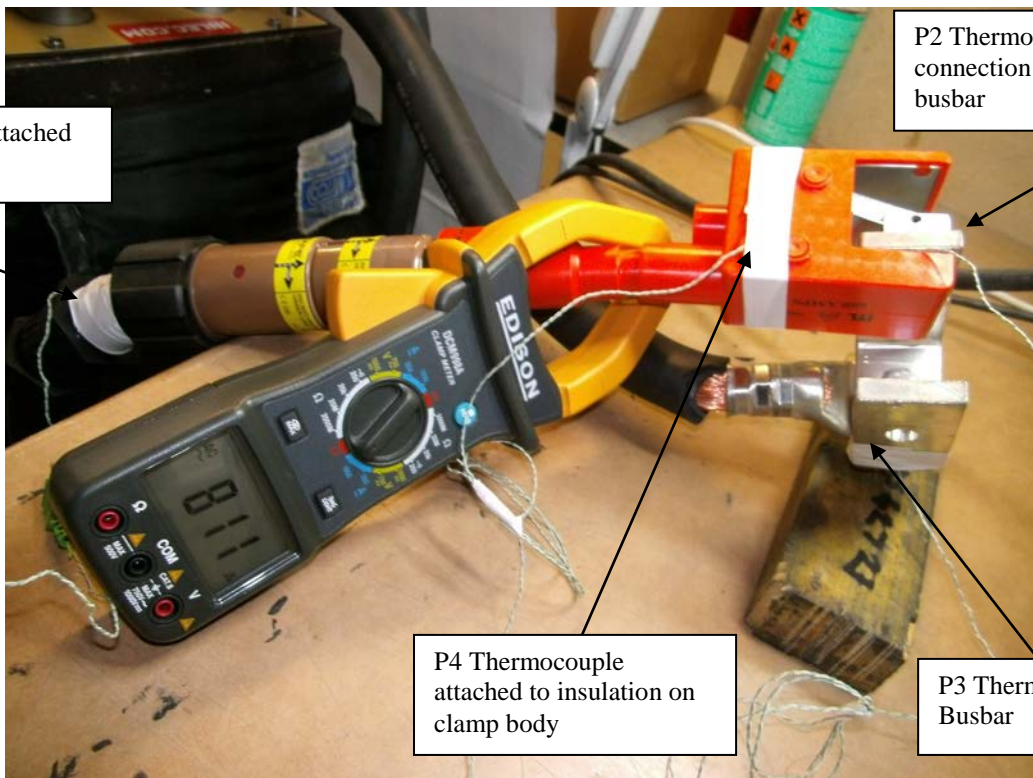
Maximum Recorded Temperature Rise was 53.8°C above ambient.

Conclusion: 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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T&R PCU1 Mk 3 P.C.I.T.S 3000A



P1 Thermocouple attached to cable core

P2 Thermocouple attached to connection between clamp and busbar

P4 Thermocouple attached to insulation on clamp body

P3 Thermocouple attached to Busbar



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Time	Busbar	Ambient	Cable	Connection	Insulation	Amps
0	12.4	18.6	12.8	12.4	12.9	800.0
1	50.9	21.3	57.0	56.2	50.4	807.0
2	59.8	16.8	73.2	70.2	58.9	810.0
3	57.1	16.4	74.3	71.5	58.2	811.0
4	57.7	20.1	73.6	71.1	57.8	816.0
5	57.8	17.6	74.5	71.4	57.7	810.0
6	58.6	19.3	75.1	72.1	57.9	818.0
7	58.3	18.1	75.0	71.9	57.7	817.0

