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|--|--|--|--|--------------|
|  | <h1>Test Report</h1> |  | Date | 08/07/16 |
| | | | TR | 05655 |
| | | | Overhead Line Clamp 120mm ² Ferrule 500 amp testing | |
| Operator: D.Maclachlan | This report is the property of Phase 3 Connectors Ltd and must not, without their written consent be passed on, copied or used for any other purpose | | | |

Type and description of test
Overhead Line Clamp 120mm². Direct Resistance With 500A Current.

Object:

The object of this test is to assess the current carrying capacity of the Overhead Line 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 500A from the 3000A load unit via a Powersafe Line Drain 500A connector on 120mm² cable and attached to a copper lug adaptor 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 Overhead Line Clamp fitted with 120mm² cable to a Powersafe Line source 500amp Connector.

1 x Powersafe 500amp Line Drain Connector on 120mm² cable.

1 x Copper Lug Adaptor.

| 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 | 18.2 | | |
| Cable Core (P1) | 56.6 | 38.4 | 510A |
| Connection Between Clamp & adaptor (P2) | 65.2 | 47.0 | 510A |
| Adaptor (P3) | 62.5 | 44.3 | 510A |
| Clamp Insulated Body (P4) | 52.8 | 34.6 | 510A |



Maximum Allowable Temperature 125°C

Maximum Recorded Temperature Rise @ Insulated Body was 34.6°C above ambient.

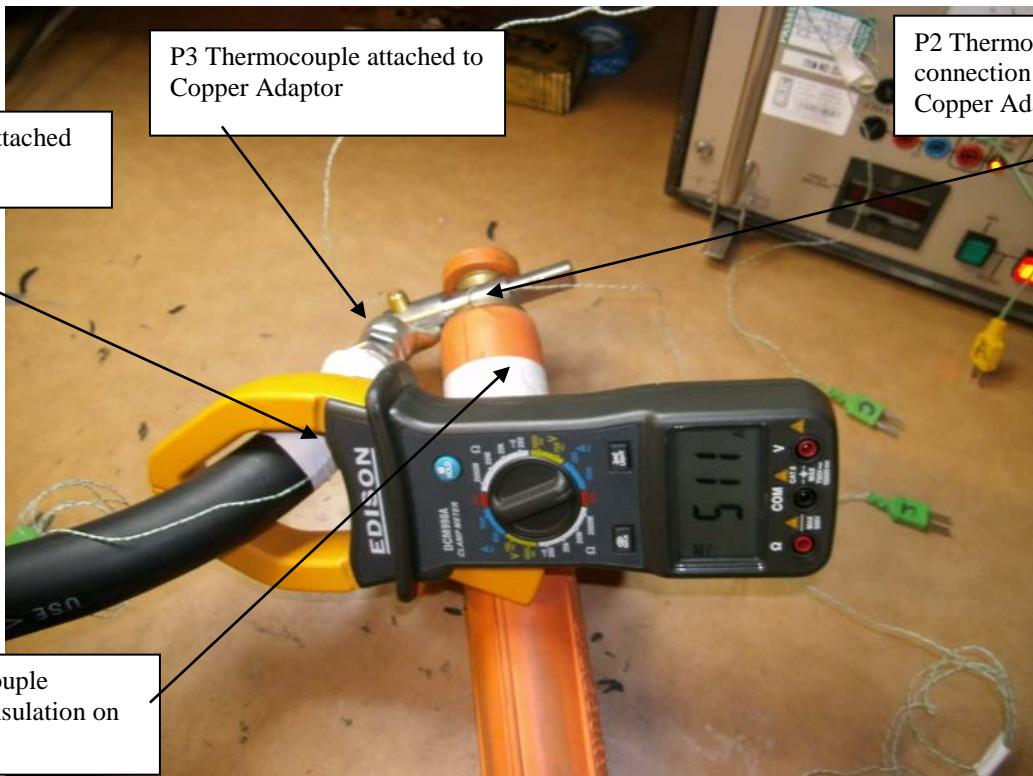
Maximum Allowable Temperature Between Clamp & busbar 125°C

Maximum Recorded Temperature Rise was 47.0°C above ambient.

Conclusion: Temperature Rise within EN, BS and VDE allowable limits. PASS

| | | | |
|--|---|--|----------|
|  <p>PHASE 3 CONNECTORS</p> | <p>Test Report</p>  <p>bsi. ISO 9001 Quality Management FS648709</p> | Date | 08/07/16 |
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T&R PCU1 Mk 3 P.C.I.T.S 3000A



P1 Thermocouple attached to cable core

P3 Thermocouple attached to Copper Adaptor

P2 Thermocouple attached to connection between clamp and Copper Adaptor

P4 Thermocouple attached to insulation on clamp body



Test Report



Date 08/07/16

TR 05655

Overhead Line Clamp
120mm² Ferrule
500 amp testing

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| Time | Lug Connection | Ambient | Cable | Clamp Connection | Insulation | Amps |
|------|----------------|---------|-------|------------------|------------|------|
| 0 | 14.5 | 19.9 | 15.3 | 14.3 | 15.0 | 500 |
| 1 | 50.7 | 22.8 | 44.7 | 53.7 | 43.2 | 506 |
| 2 | 59.9 | 17.7 | 54.4 | 63.4 | 47.8 | 503 |
| 3 | 59.7 | 22.8 | 53.6 | 62.9 | 50.7 | 502 |
| 4 | 62.5 | 23.5 | 56.4 | 65.4 | 53.7 | 506 |
| 5 | 63.1 | 20.3 | 57.0 | 66.8 | 54.1 | 508 |
| 6 | 62.5 | 18.2 | 56.6 | 65.2 | 52.8 | 510 |

