
 PHASE 3 <small>CONNECTORS</small>	<h1>Test Report</h1> 	Date	08/07/16
		TR	05656
		Powersafe 800A Coupler 800 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
Powersafe 800A Coupler. Direct Resistance With 800A Current.

Object:

The object of this test is to assess the current carrying capacity of the Powersafe 800amp Coupler.

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 Coupler will be fed with 800A from the 3000A load unit via Powersafe Line Source 800A connectors on 300mm² cables attached to either side of the unit.

Requirements:

The Coupler 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 800A Powersafe Drain Coupler
- 2 x Powersafe 800A Line Source Connectors terminated onto 300mm² cables.

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	19.3		
Cable Core (P1)	81.6	62.3	807A
Connection Between Connector and Coupler (P2)	90.8	71.5	807A
Coupler Internal Joint (P3)	84.1	64.8	807A
Coupler Insulator (P4)	42.6	23.3	807A



Maximum Allowable Temperature 125°C

Maximum Recorded Temperature Rise @ Coupler Insulator was 23.3°C above ambient.

Maximum Allowable Temperature Between Coupler and Connector 125°C

Maximum Recorded Temperature was 71.5°C above ambient.

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

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



P2 Thermocouple attached to connection between Coupler and Connector

P4 Thermocouple attached to Coupler Insulator

P3 Thermocouple attached to Coupler Internal Joint

P1 Thermocouple attached to cable core



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Time	Connector Contact	Ambient	Cable	Internal Connection Joint	Insulation	Amps
0	13.7	19.6	14.7	14.6	15.0	800.0
1	68.1	22.6	60.1	67.5	31.8	808.0
2	84.3	20.9	78.9	79.1	40.1	814.0
3	90.1	24.8	80.1	83.7	44.7	807.0
4	90.7	16.3	83.1	84.1	42.6	809.0
5	90.6	22.6	81.1	84.0	42.4	808.0
6	90.8	19.1	81.7	84.2	42.8	805.0
7	90.8	19.3	81.6	84.1	42.6	807.0

