

CENTRAL POWER RESEARCH INSTITUTE  
(Member of STL)



CPRI

TEST REPORT

**Test Report Number** : 2018/STL/036 Dated : - 6 JUN 2018

**Name and Address of the Customer** : M/s Core Metal Krafts Limited,  
Village : Saidpura, Derabassi – 140 507  
District : Mohali, Punjab

**Name and Address of the Manufacturer** : M/s Core Metal Krafts Limited,  
Village : Saidpura, Derabassi – 140 507  
District : Mohali, Punjab

**Particulars of Sample(s) Tested** : 415 V, 4000 A, LT Panel

Condition of sample(s) on receipt : New  
Type : PCC / MCC / PDB / LT Feeder Pillar  
Description of test sample : LT Panel  
Serial Number(s) : NIL  
Number of Sample(s) Tested : One  
Date(s) of Test(s) : 10/01/2018  
CPRI sample code number(s) : STDSST217S1954  
Sealing of the sample, if any : No

**Particulars of test(s) conducted** : Verification of temperature rise limits

Test(s) in accordance with Standard/specification : As per Cl. 8.2.1 of IS : 8623 (Part-1), 1993 / IEC 439-1 (1985) and as per customer's requirement  
Sampling Plan : NIL  
Customer's Requirement : 1) Extended Aluminium busbars used for incoming and outgoing were of size (150x10)mm x 4 Nos./phase of 1.2 metres length.  
2) Maximum temperature rise limit on busbar and joints shall be 90 K declared by the customer.

Deviations, if any : NIL

**Name of the witnessing persons**

Customer's Representatives : Mr. Anil Kumar  
Other than Customer's Representatives : NIL

Test subcontracted with name and address of the laboratory : NONE

**Documents constituting this report (in words)**

No. of Sheet(s) : SIX  
No. of Oscillogram(s) : NIL  
No. of Graph(s) : NIL  
No. of Photo (s) : NIL  
No. of Test Circuit Diagram(s) : NIL  
No. of drawing(s) : TWO

(LEENA H. ROY)  
TEST ENGINEER



(SARITA DONGRE)  
JOINT DIRECTOR  
APPROVED BY

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SUMMARY OF TEST

1. Test conducted : Verification of temperature rise limits
2. Rating for which tested : 4000A, 3 Phase, 50 Hz
3. DOCUMENTS CONSTITUTING THIS REPORT :
  - 3.1 Supplementary test report : NIL
  - 3.2 Oscillogram No(s) : NIL
  - 3.3 Drawing of the equipment tested : 1) CMKL/688/101/17/18 Rev.01 Page 1 of 2  
2) CMKL/688/101/17/18 Rev.01 Page 2 of 2
  - 3.4 Test circuit drawing No(s). : NIL
  - 3.5 Photograph No(s). : NIL

  
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**DESCRIPTION OF THE SAMPLE TESTED**

(As assigned by the manufacturer)

Sample	:	LT Panel
Rated voltage (Volts)	:	415
Rated current (Amps)	:	4000
Frequency (Hz)	:	50
Insulation level (VAC)	:	660
No. of phases	:	Three
No. of poles	:	Four
Rated short time current (kArms/kAp)	:	-
Contacts terminals material	:	-
Isolating distance (mm)	:	-
Phase to earth distance (mm)	:	-
Creepage distance (mm)	:	-
Dimensions of the sample (mm)	:	As per drawing
Rated Short time Current (kA rms/kApk)	:	-

  
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SCHEDULE OF TESTS

Test Conducted : Verification of temperature rise limits.  
Condition of the Sample : New  
Date of Test : 10/01/2018  
Starting Time(Hrs.) : 12.05  
Shut down time(Hrs.) : 17.05  
Test current (A) : 4000  
Size of conductor used : Aluminium, (150 x 10) mm x 4 nos. incoming and outgoing  
Length : 1.2 metre long for incoming & outgoing both.  
Frequency (Hz) : 50  
Phase : 3  
Avg. ambient : 24.3°C  
Temperature at shut down :  
Arrangement of thermocouple locations : As given below.

Thermocouple		Maximum Temperature Recorded (deg C)	Temperature Rise (K)
Locations	Numbers		
Incoming panel terminal R	T1	77.2	52.9
Incoming panel terminal Y	T2	88.6	64.3
Incoming panel terminal B	T3	77.3	53.0
HBB Middle B/B R	T4	84.8	60.5
HBB Middle B/B Y	T5	89.8	65.5
HBB Middle B/B B	T6	80.9	56.6
HBB + VBB Joint R	T7	82.8	58.5
HBB + VBB Joint Y	T8	89.3	65.0
HBB + VBB Joint B	T9	80.5	56.2

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SCHEDULE OF TESTS

Thermocouple		Maximum Temperature Recorded (deg C)	Temperature Rise (K)
Locations	Numbers		
VBB middle B/B R	T10	67.6	43.3
VBB middle B/B Y	T11	87.3	63.0
VBB middle B/B B	T12	69.3	45.0
Outgoing terminal R	T13	58.2	33.9
Outgoing terminal Y	T14	56.5	32.2
Outgoing terminal B	T15	59.8	35.5
Shorting	T16	82.0	57.7
Panel body	T17	38.0	13.7
Panel body	T18	40.1	15.8

- Observation : 1) The temperature rise obtained was within the limits as specified in the standard & specified by the customer.  
2) High voltage test was conducted at 2.5kVrms for 1 minute to check the effect of temperature rise on adjacent parts of the equipment. Sample withstood the test. No puncture or flash over was noticed during the test.

CONCLUSION : The test results indicate that the sample tested complies with the requirement of the Cl. 8.2.1 of IS : 8623 (Part-1), 1993 / IEC 439-1 (1985).

  
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NOTE

- a) The Test results relate only to the item(s) tested.
- b) Publication or reproduction of the test report /Certificate in any form other than by complete set of the whole test report /Certificate and in the language written is not permitted without the written consent of CPRI.
- c) Any Corrections/erasure invalidates the test Report/Certificate.
- d) NABL has Accredited this laboratory as per ISO/IEC 17025-2005 standard, vide certificate no. TC-5181 for the tests carried out.
- e) Any anomaly/discrepancy in the test report /Certificate should be brought to the notice of CPRI within 45 days from the date of issue.

  
(LEEKHA H. ROY)  
TEST ENGINEER