

TEMPERATURE RISE TEST REPORT

Project No. : L4-70110

Equipment Under Test: Transformer rectifier

Model: CV/CC/CP

Degree of Protection: IP55

Input: 400 V_{AC}, 16 A, 50 Hz

Serial Number: 8900206

Output: 50 V_{DC}, 150 A_{DC}

Trade Mark:



Manufacturer: PG Pars Co.

Address: No. 9, Sanatgar dead end, 8th east alley, Simindasht Industrial zone, Fardis, Iran

Applicant: PG Pars Co.

Tested According to: IEC 60146 & IEC 60076

Date of Sample Reception: 13-Feb-2022

Date of tests: 05-Mar-2022

Date of Issue: 06-Apr-2022

The total number of pages: 9

Prepared and tested by: Test Engineer

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Approved by:

Engineering Deputy of Test and Inspection

Prof. B. Vahidi / Prof. S. H. Fathi

Chief Executive Officer

S. M. Mirsadri

The statement of conformity decision is made based on EPIL Procedure No., CBP-708-01 and ISO/IEC Guide 98-4.

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1. GENERAL INFORMATION

1.1. Product Information

Equipment Under Test	: Transformer rectifier
Manufacturer	: PG Pars Co.
Model	: CV/CC/CP
Rated Voltage	: 400 Vac / 50 Vdc
Rated Current	: 16 A / 150 A
Rated Frequency	: 50 Hz
S/N	: 8900206
Normative Document	: IEC 60146 , IEC 60076

1.2. Client Information

Applicant	: PG Pars Co.
Phone No.	: 021 66758691

1.3. Test Performed

Temperature Rise	: Passed
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1.4. Tests Results and Descriptions

See page 4 to 5.



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2. PERFORMANCE and RESULTS of TESTS

2.1. Temperature Rise Test

2.1.1. Test data

Location : EPIL
Date : 06-Apr-2022

2.1.2. Ambient conditions

Ambient temperature : $22 \pm 2^\circ\text{C}$
Maximum Ambient Temperature : 55°C

2.1.3. Procedure of test

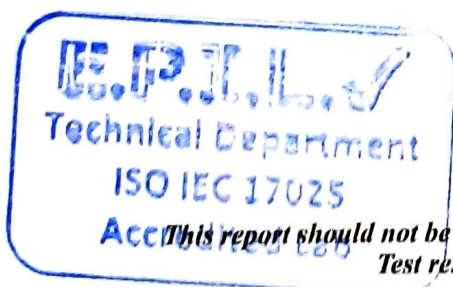
The temperature rise test should be conducted at rated load conditions and maximum ambient temperature specified by the manufacturer (55°C).

The EUT is supplied with a 3-phase system of 50 Hz and 400 VAC and the output terminals connected to a suitable load. Output values set to 150 A DC and 50 V DC.

The top-oil temperature and cooling medium temperature are monitored, and the test is continued until steady-state liquid temperature rises are established.

Three sensors were provided and the average of their readings used to determine the ambient temperature for the evaluation of the test results.

The temperature rise limits shall apply to the values given in table 1 of IEC 60076-2.



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2.1.4. Result of test

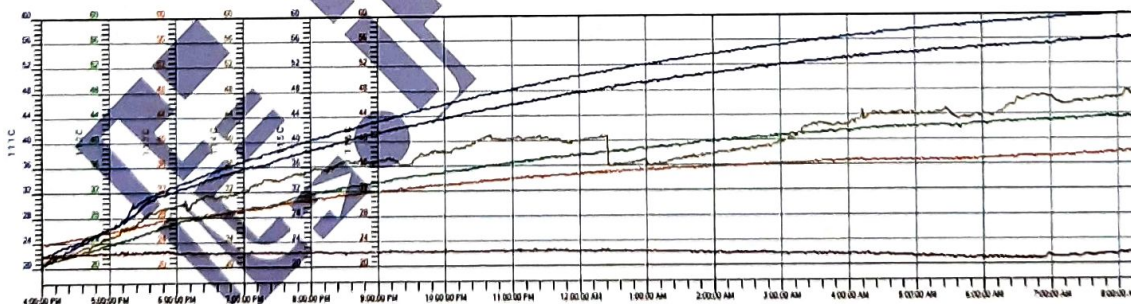
Table 1: Temperature values after stability

Sensor	Location of sensor	Final temperature (°C)	Temperature rise (°C)	Temperature rise limit (K)	Result
1	Transformer top-oil	60.0	38.2	45 *	OK
2	Transformer enclosure	43.6	21.8	-	-
3	Transformer enclosure	38.0	16.2	-	-
4	Transformer enclosure	46.5	24.7	-	-
5	Transformer enclosure	56.2	34.4	-	-
6	Ambient air	21.6	-	10<...<40 °C	OK
7	Ambient air	21.0	-	10<...<40 °C	OK
8	Ambient air	22.9	-	10<...<40 °C	OK

* According to manufacturer specification, the top oil temperature rise limit for maximum ambient temperature of 55 °C is equal to 45 °C (in accordance with IEC 60076-2-2011).

Note: The temperature measuring of semiconductors was not possible because of Inaccessibility.

- Average temperature of ambient air : 21.8 °C

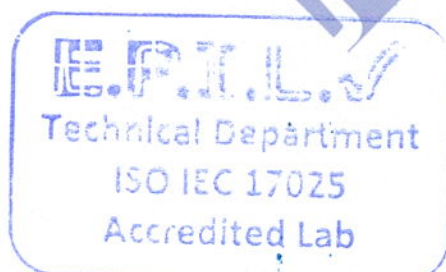


Temperature rise diagram (No.1 – No.6)

3. FIGURES



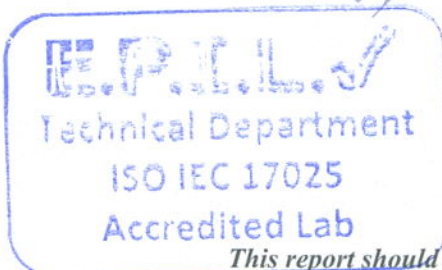
Figure 1. Equipment under test (EUT)



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Figure 2. Nameplate



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Figure 3. Temperature rise test

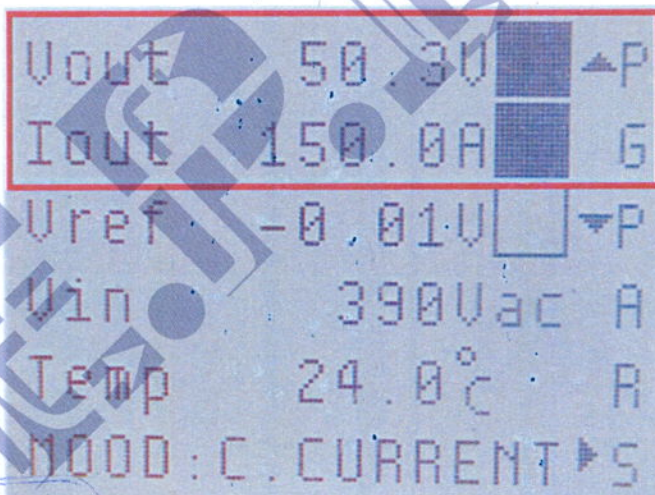


Figure 4. Output voltage and current

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4. ANNEX 1: Drawings

