



Certificate No. : T-0071

ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

(Accredited by the National Accreditation Board for Testing and Calibration Laboratories, Govt. of India)

ERDA Road, Makarpura Industrial Estate, Vadodara-390 010, India.

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**TEST REPORT**

SHEET: 1 OF 3

NAME & ADDRESS OF CUSTOMER DIAMOND POWER TRANSFORMERS LIMITED. PLOT NO.-101/B/7,ROAD NO.2, G.I.D.C. ESTATE, VILLAGE RANOLI-391 350 DIST.:VADODARA	REPORT NO. : HCCT/03/326-1 DATE : 24.06.2009	
	CUSTOMER REF. NO.	DATE
	DPTL/RNL/ERDA/204	01.06.2009
	DATE OF SAMPLE RECEIPT	DATE OF TESTING
	26.05.2009	09.06.2009 & 10.06.2009
SAMPLE DESCRIPTION DISTRIBUTION TRANSFORMER MFD. BY : Diamond Power Transformers Limited. RATING : 500 kVA VOLTS : 11000/433 Volts CURRENT : 26.24/666.70 Amps. %IMPEDANCE : 4.75 % PHASE : 3 WINDING : Copper FREQUENCY : 50 Hz VECTOR GROUP : Dyn 11 GAUR. MAX. TEMP. RISE IN OIL/WINDING : 35°C/40°C	SAMPLE IDENTIFICATION ERDA IDENT. NO.: HCCTWO0071925 SERIAL NO.: E-173 DPTL-21 COOLING : ONAN YEAR OF MFG. : 2009 CUSTOMER: UTTAR GUJARAT VIJ COMPANY LTD. Encl. Drg .No.: 1. DPTL/UGVCL/SDP/01/01 2. DPTL/UGVCL/SDP/01/03	
	TEST SPECIFICATION As per (1) IS: 2026-1977/1981 (2) Customer's requirement.	
TEST DETAILS 1. TEMPERATURE RISE TEST (CI No.16.8 & Customer's requirement) 2. MEASUREMENT OF ZERO SEQUENCE IMPEDANCE (CI No.16.10)		
TEST RESULTS: As per sheets 2 & 3 of 3.		
REMARKS : 1) The above mentioned transformer CONFORMS to the guaranteed requirement as specified by the customer for test no.1 2) Criteria Limit not specified for test no. 2		
 PREPARED BY	 CHECKED BY	 APPROVED BY
Note : 1. This report relates only to the particular sample received in good condition for testing at E.R.D.A. 2. This report cannot be reproduced in part under any circumstances. 3. Publication of this report requires prior permission in writing from Director, E.R.D.A. 4. Only the tests asked for by the customer have been carried out.		



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TEST REPORT NO.: HCCT/03/326-1

SHEET : 2 OF 3

DATE : 24.06.2009

TEST RESULTS:

NOTE: Test conducted at Tap No. 5(Lowest).

(1) **TEMPERATURE RISE TEST** (CL. NO. 16.8 and Customer's requirements)

NOTE : Before starting the test, the external dimensions of Tank were measured & Recorded as below.

- | | | |
|----------------------|---|---------------------------------|
| (A) SIZE OF TANK | : | L-1190 mm, W- 450 mm, H-1280 mm |
| (B) FIN'S SIZE | : | L-520 mm, B-1000 mm |
| (C) NO. OF RADIATORS | : | 04 |
| (D) NO. OF FINS | : | 28 |

TOTAL LOSSES TO BE FED FOR TEMPERATURE RISE TEST: 5266 W

(Measured Load Losses At 75 °C = 4536 Watts on tap no.5 + No Load Losses As specified by the Customer = 730 watts)

Total losses were fed to the transformer till steady state temperature was attained.

Top oil temperature was recorded. After steady state condition, the losses were brought down in reference to the rated current one hour prior to shut down.

At the shut down, the hot winding resistance was measured and temperature rise calculated.

[Obtained results are recorded below]

- | | | | |
|----|---|---|---|
| a) | Top oil Temperature Rise | : | 27.30°C |
| b) | Winding Temperature Rise
(Resistance method) | : | |
| | i) HV Winding | : | 34.40°C |
| | ii) LV Winding | : | Not applicable as resistance
is less than 5 mΩ |
| c) | Ambient temperature | : | 41.30°C |

GUARANTEED MAXIMUM TEMPERATURE RISE IN OIL / WINDING: 35°C / 40°C.

(As specified by the customer)


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
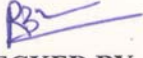
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TEST REPORT NO.: HCCT/03/326-1		SHEET : 3 OF 3
DATE : 24.06.2009		
TEST RESULTS :		
(2) MEASUREMENT OF ZERO SEQUENCE IMPEDANCE OF 3-Ph TRANSFORMER (CL. NO. 16.10 of IS: 2026)		
The 2u, 2v and 2w terminals of LV winding shorted together. A test current (i.e.1/3 of rated current) was circulated between shorted terminals and 2n and measured a voltage across them. The obtained values are as tabulated below :		
TEST CURRENT (AMP.)	MEASURED VOLTAGE (VOLTS)	% Z ps= $\frac{3V \times kVA}{I \times 10 (kV)^2}$
222.56	1.362	4.90
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