



Certificate No. : TC-5389

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.

EPABX : +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33

Fax : +91 (0265) 2638382

E-mail : erda@erda.org

Web : http://www.erda.org

**TEST REPORT**

SHEET NO.: 1 OF 13

NAME & ADDRESS OF CUSTOMER M/s. RAJASTHAN POWERGEN TRANSFORMER PVT. LTD. Khasra No. 911-914, Karola-Bhinmal Road, Karola, Sanchore, Rajasthan-343 041 (India)	REPORT NO.: RP-1718-046231 DATE : 18/12/2017	
	CUSTOMER REF. NO.: NP/ERDA/TT/40/2017-18 DATED : 29/11/2017	
	DATE OF SAMPLE RECEIPT	DATE OF TESTING
	05/12/2017	15/12/2017
SAMPLE DESCRIPTION DISTRIBUTION TRANSFORMER Energy Efficiency Level: 2 RATING : 500 kVA VOLTS : 11000/433 V CURRENT : 26.25/666.7 A PHASES : 03 COOLING : ONAN FREQUENCY : 50 Hz % IMPEDANCE : 4.5 % VECTOR GROUP : Dyn 11 B.I.L. : H.V.: 28 kVrms / 95 kVp L.V.: 3 kVrms / ---	SAMPLE IDENTIFICATION Sr. No. : RPTPL/17-18/500KVA/001 Year of mfg. : 2017 Make: M/s. RAJASTHAN POWERGEN TRANSFORMER PVT. LTD. ERDA Sample Code No.: ERDA-00229816	
TEST DETAIL Lightning impulse test with chopped on the tail on all the three phases of HV Terminals at 95 kVp . ENCLOSURE: DRG. No.: (1) RPTPL/500KVA/002 (2) RPTPL/500KVA/003 TEST WITNESSED BY: Mr. Khatri Irfan - M/s. RAJASTHAN POWERGEN TRANSFORMER PVT. LTD.	TEST SPECIFICATION IS 1180 (Part 1): 2014, Amendment No.1 & 2 Cl. No. 21.3 (a) and test procedure followed as per IS 2026 (Part 3): 2009, Cl. No. 14 & test voltage was specified by the customer.	
REMARKS: From the observation of enclosed oscillographic records, it is concluded that the transformer conforms to the requirements of the above mentioned standard with respect to the test carried out.		
 PREPARED BY	 CHECKED BY	 A.S.KHOPKAR APPROVED BY
Note : 1. This report relates only to the particular sample received in good condition for testing at ERDA. 2. This report cannot be reproduced in part under any circumstances. 3. Publication of this report requires prior permission in writing from Director, ERDA. 4. Only the tests asked for by the customer have been carried out. 5. In case of any dispute, Vadodara will be the exclusive jurisdiction & shall be construed as where the cause has arisen.		
Caution: ERDA is not responsible for the authenticity of photocopied or reproduced test reports. ERDA provides support to customers for verification of the authenticity of test reports issued by ERDA.		

TC 2375126



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.

EPABX : +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33

Fax : +91 (0265) 2638382

E-mail : erda@erda.org

Web : http://www.erda.org



REPORT NO.: RP-1718-046231
DATE : 18/12/2017

SHEET NO.: 2 OF 13

HV - TERMINALS

TEST PARAMETERS :

RATED VOLTAGE : 11 kV
TEST VOLTAGE : 95 kVp \pm 3 %
WAVE SHAPE : 1.16/45.95 μ s
NOS. OF PHASE TESTED : 03

HV - TERMINALS

Sr. No.	Test Application Detail	Peak Magnitude (kVp)		
		1U-Phase	1V-Phase	1W-Phase
1.	Reduced Full Impulse Wave	56.37	56.35	56.34
2.	100 % Full Impulse Wave	93.97	94.63	94.78
3.	Reduced Chopped Impulse Wave	62.10	63.41	64.84
4.	110 % Chopped Impulse Wave	102.83	104.46	103.18
5.	110 % Chopped Impulse Wave	104.30	103.81	102.88
6.	100 % Full Impulse Wave	94.00	94.55	94.54
7.	100 % Full Impulse Wave	94.78	94.64	94.61

TC 2375127

PREPARED BY

CHECKED BY





Certificate No. : TC-5389

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.

EPABX : +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33

Fax : +91 (0265) 2638382

E-mail : erda@erda.org

Web : http://www.erda.org

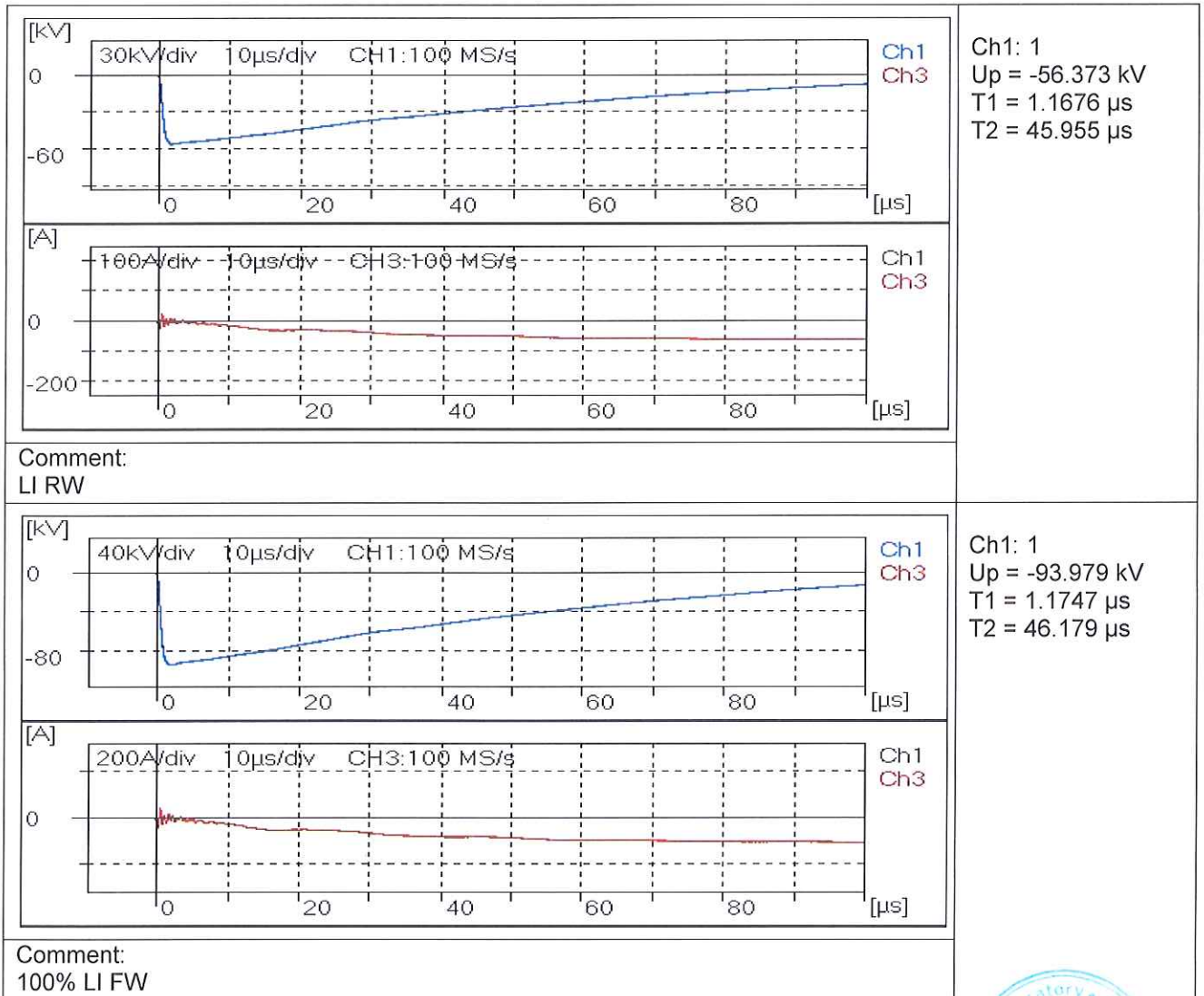


REPORT NO.: RP-1718-046231
DATE : 18/12/2017

SHEET NO.: 3 OF 13

Lightning impulse test on transformer

1U-PHASE



TC 2375383

[Signature]
PREPARED BY

[Signature]
CHECKED BY



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.

EPABX : +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33

Fax : +91 (0265) 2638382

E-mail : erda@erda.org

Web : http://www.erda.org



Certificate No. : TC-5389

REPORT NO.: RP-1718-046231

SHEET NO.: 4 OF 13

DATE : 18/12/2017

Lightning impulse test on transformer

1U-PHASE

	<p>Ch1: 1 Up = -62.103 kV Tc = 2.6676 μs</p>
<p>Comment: LI CRW</p>	<p>Ch1: 1 Up = -102.83 kV Tc = 2.5638 μs</p>
<p>Comment: 110% LI CFW</p>	<p>Ch1: 1 Up = -104.30 kV Tc = 2.6980 μs</p>
<p>Comment: 110% LI CFW</p>	

TC 2375385

[Signature]
PREPARED BY

[Signature]
CHECKED BY





Certificate No. : TC-5389

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.

EPABX : +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33

Fax : +91 (0265) 2638382

E-mail : erda@erda.org

Web : http://www.erda.org



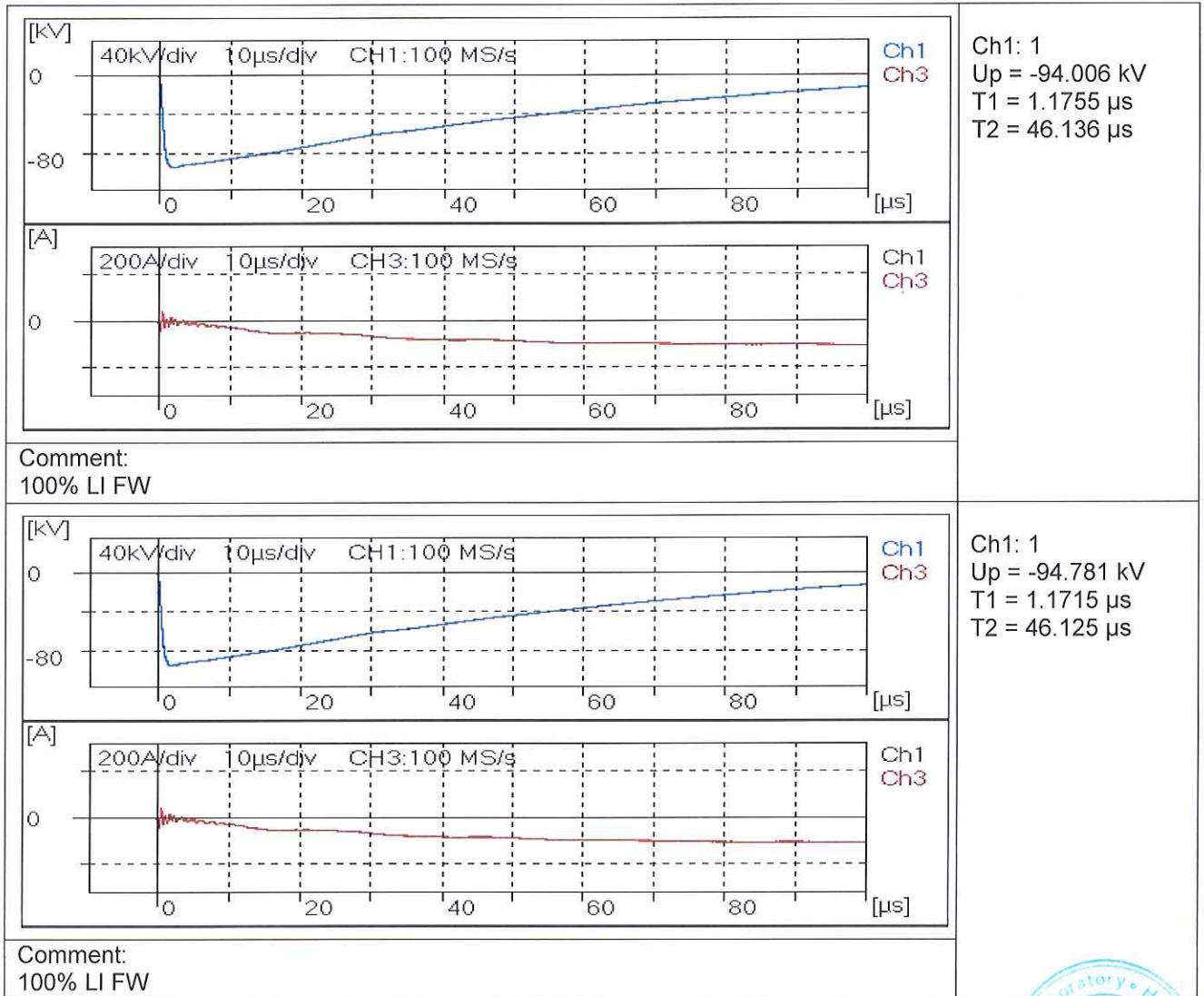
REPORT NO.: RP-1718-046231

SHEET NO.: 5 OF 13

DATE : 18/12/2017

Lightning impulse test on transformer

1U-PHASE



TC 2375384

[Signature]
PREPARED BY

[Signature]
CHECKED BY



Certificate No. : TC-5389

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.

EPABX : +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33

Fax : +91 (0265) 2638382

E-mail : erda@erda.org

Web : http://www.erda.org



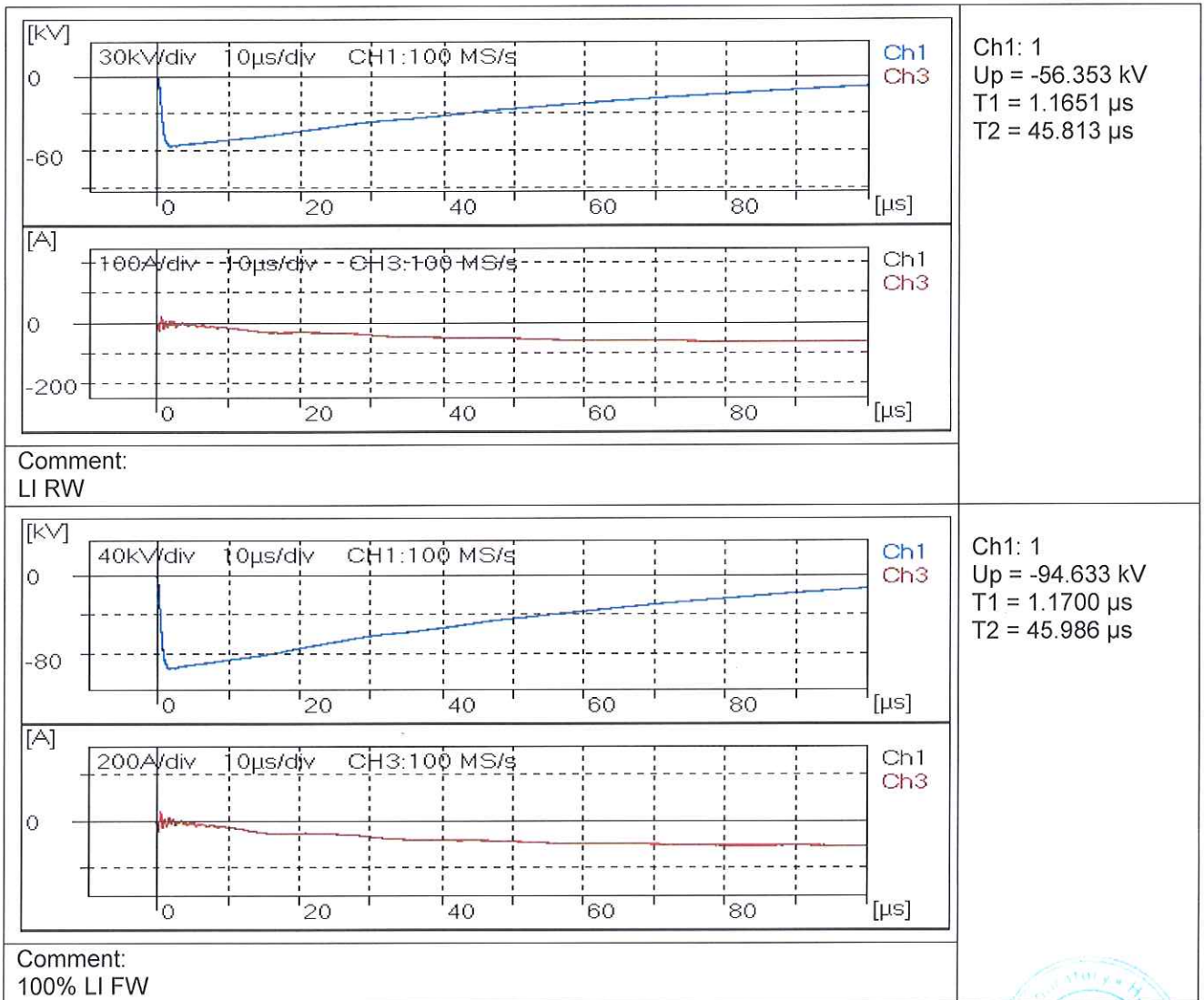
REPORT NO.: RP-1718-046231

SHEET NO.: 6 OF 13

DATE : 18/12/2017

Lightning impulse test on transformer

1V-PHASE



TC 2375386

PREPARED BY

CHECKED BY



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.

EPABX : +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33

Fax : +91 (0265) 2638382

E-mail : erda@erda.org

Web : http://www.erda.org



Certificate No. : TC-5389

REPORT NO.: RP-1718-046231

SHEET NO.: 7 OF 13

DATE : 18/12/2017

Lightning impulse test on transformer

1V-PHASE

	<p>Ch1: 1 Up = -63.412 kV Tc = 3.5529 µs</p>
<p>Comment: LI CRW</p>	
	<p>Ch1: 1 Up = -104.46 kV Tc = 2.7911 µs</p>
<p>Comment: 110% LI CFW</p>	
	<p>Ch1: 1 Up = -103.81 kV Tc = 2.3031 µs</p>
<p>Comment: 110% LI CFW</p>	

TC 2375388

[Signature]
PREPARED BY

[Signature]
CHECKED BY





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.

EPABX : +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33

Fax : +91 (0265) 2638382

E-mail : erda@erda.org

Web : http://www.erda.org



Certificate No. : TC-5389

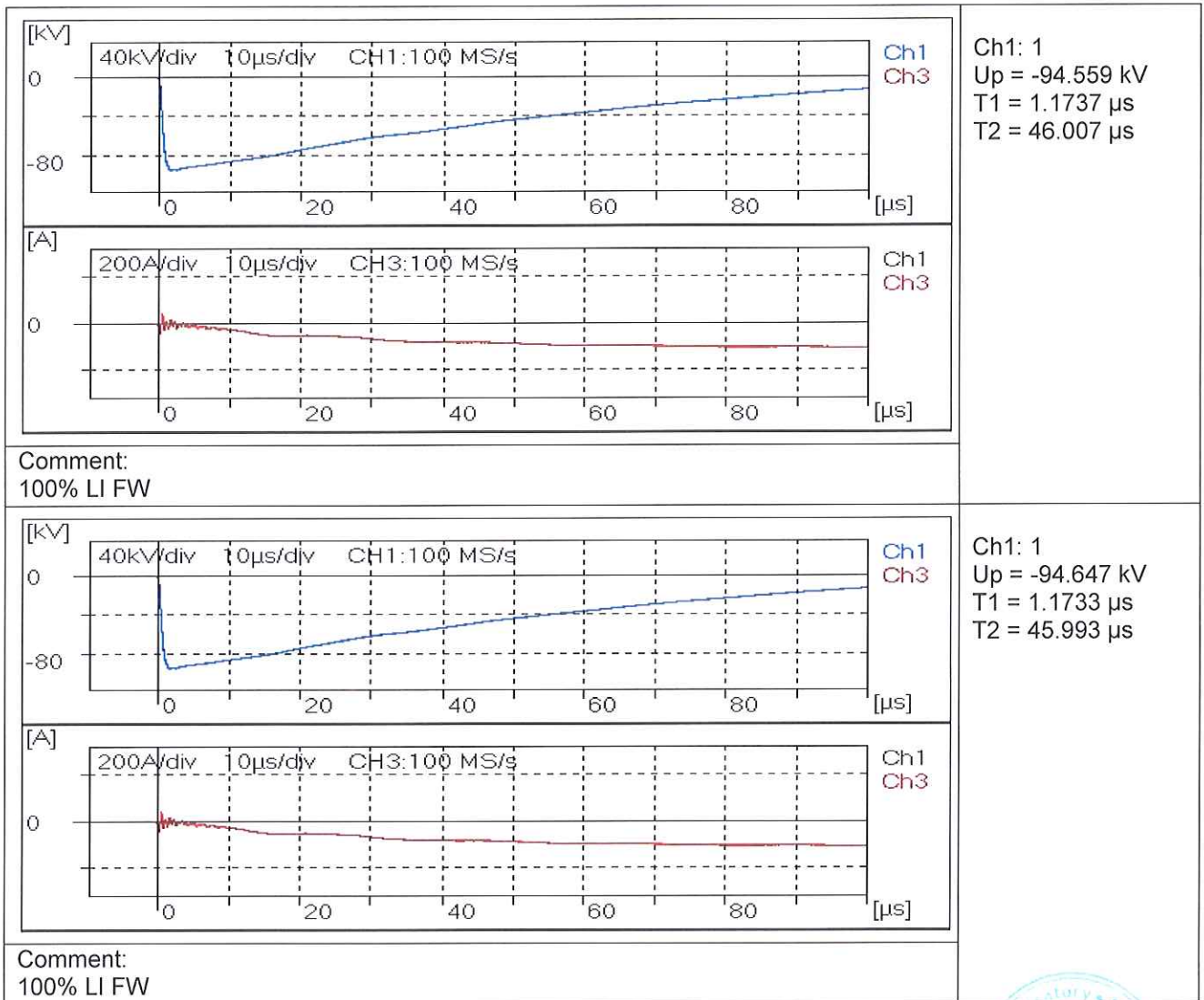
REPORT NO.: RP-1718-046231

SHEET NO.: 8 OF 13

DATE : 18/12/2017

Lightning impulse test on transformer

1V-PHASE



TC 2375387

[Signature]
PREPARED BY

[Signature]
CHECKED BY



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.

EPABX : +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33

Fax : +91 (0265) 2638382

E-mail : erda@erda.org

Web : http://www.erda.org



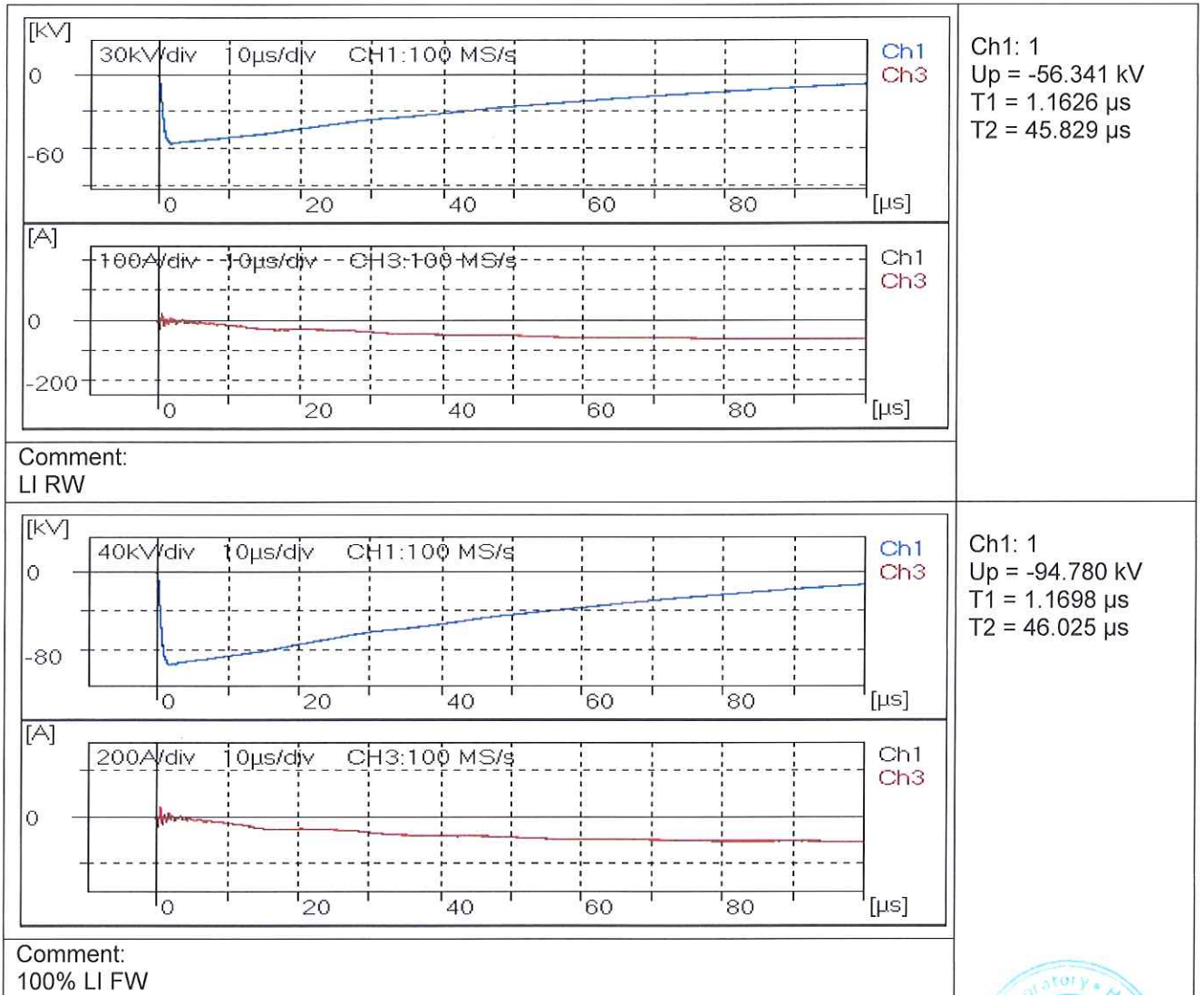
Certificate No. : TC-5389

REPORT NO.: RP-1718-046231
DATE : 18/12/2017

SHEET NO.: 9 OF 13

Lightning impulse test on transformer

1W-PHASE



TC 2375389

[Signature]
PREPARED BY

[Signature]
CHECKED BY



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.

EPABX : +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33

Fax : +91 (0265) 2638382

E-mail : erda@erda.org

Web : http://www.erda.org



Certificate No. : TC-5389

REPORT NO.: RP-1718-046231
DATE : 18/12/2017

SHEET NO.: 10 OF 13

Lightning impulse test on transformer

1W-PHASE

	<p>Ch1: 1 Up = -64.840 kV Tc = 4.1990 μs</p>
<p>Comment: LI CRW</p>	
	<p>Ch1: 1 Up = -103.18 kV Tc = 2.8582 μs</p>
<p>Comment: 110% LI CFW</p>	
	<p>Ch1: 1 Up = -102.88 kV Tc = 2.3504 μs</p>
<p>Comment: 110% LI CFW</p>	

TC 2375391

[Signature]
PREPARED BY

[Signature]
CHECKED BY





Certificate No. : TC-5389

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.

EPABX : +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33

Fax : +91 (0265) 2638382

E-mail : erda@erda.org

Web : http://www.erda.org



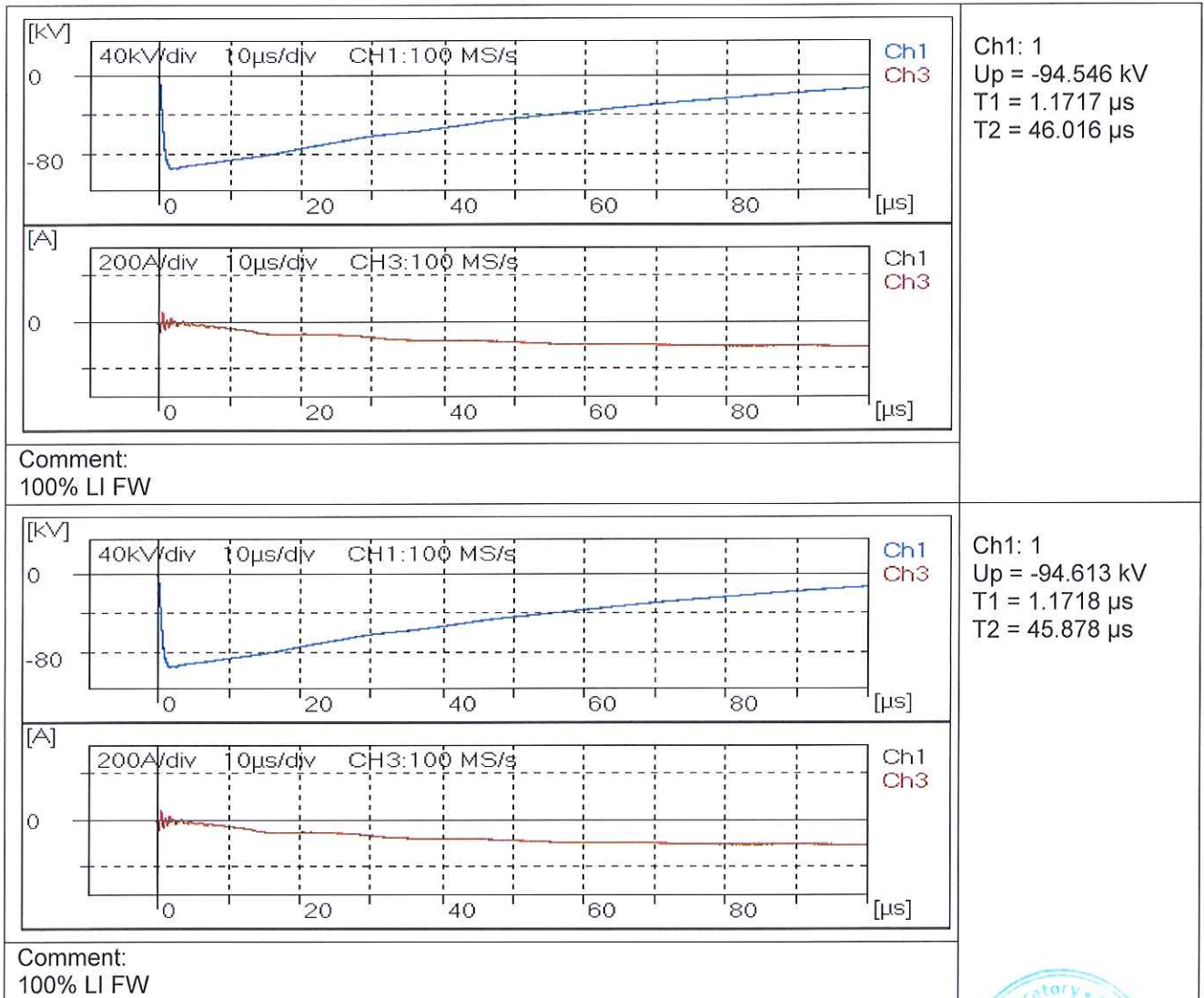
REPORT NO.: RP-1718-046231

SHEET NO.: 11 OF 13

DATE : 18/12/2017

Lightning impulse test on transformer

1W-PHASE



TC 2375390

PREPARED BY

CHECKED BY



Certificate No. : TC-5389

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.

EPABX : +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33

Fax : +91 (0265) 2638382

E-mail : erda@erda.org

Web : http://www.erda.org



REPORT NO.: RP-1718-046231

SHEET NO.: 12 OF 13

DATE : 18/12/2017

Photograph of test sample



TC 2375128

PREPARED BY

CHECKED BY





Certificate No. : TC-5389

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.

EPABX : +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33

Fax : +91 (0265) 2638382

E-mail : erda@erda.org

Web : http://www.erda.org



REPORT NO.: RP-1718-046231


SHEET NO.: 13 OF 13

DATE : 18/12/2017

Photograph of rating & terminal marking plate

DISTRIBUTION TRANSFORMER

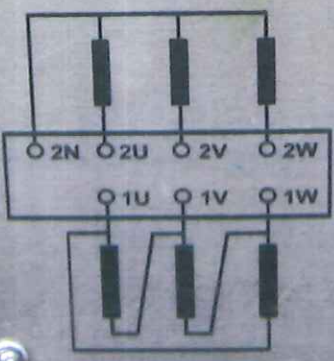
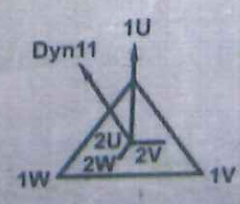
RAJASTHAN POWERGEN TRANSFORMER PVT. LTD. IS: 1180

Karola-Bhinmal Road, Karola, Sanchore-343 041. 

Dist : Rajasthan INDIA PART-I
CM/L-8400030105

3 PHASE TRANSFORMER		ENERGY EFFICIENCY LEVEL 2	
STANDARD	IS:1180(PART-I)/2014	MAX. TOTAL LOSSES	
KVA	500	AT 50% LOAD W	1510
VOLTS AT NO LOAD	HV 11000 LV 433	MAX. TOTAL LOSSES AT 100% LOAD W	4300
BIL	HV LI-5/AC28 LV LI-1/AC 3	TYPE OF COOLING ONAN	
AMPERES	HV 26.25 LV 666.7	TEMP RISE	OIL 40 °C WDG 45 °C
FREQUENCY	Hz 50	MASS OF OIL	Kg. 400
VECTOR GROUP REF.	DYn11	TOTAL MASS	Kg. 2330
IMPEDANCE VOLT %	4.5	VOLUME OF OIL	LTRS 480
TAPPING	NA	MONTH & YEAR OF MFG.	2017
CUSTOMER	SERIAL NO. RPTP/15/2017/0001		
ORDER NO.			

MADE IN INDIA

TC 2375129

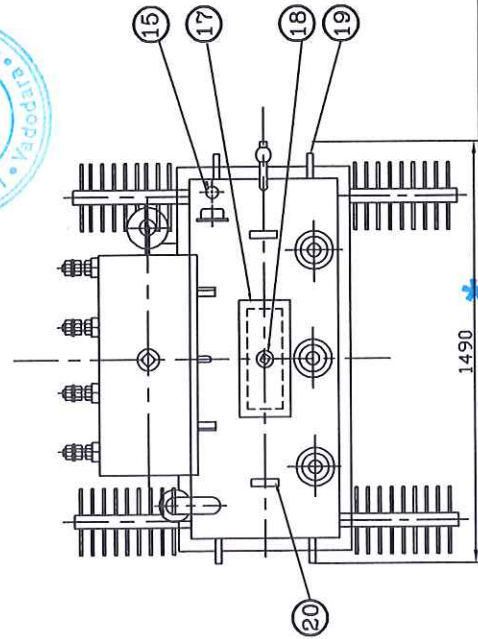
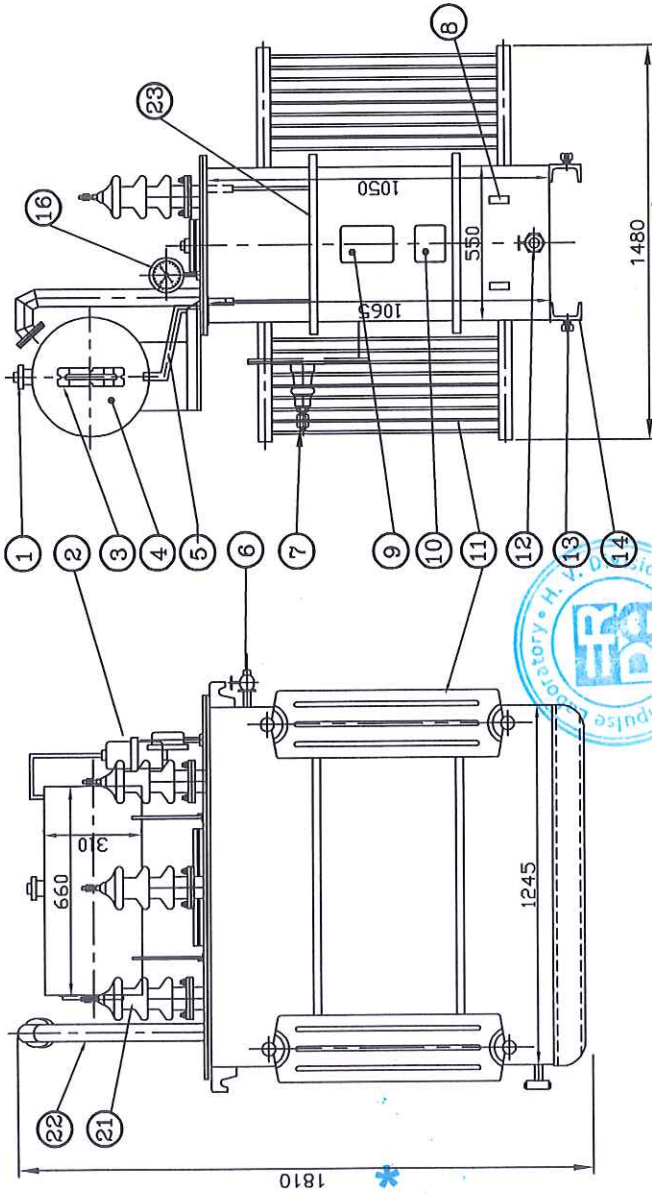
PREPARED BY 

CHECKED BY 



NOTES:-

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE STATED.
2. ± 10% TOLERANCES ON WEIGHTS & DIMENSIONS



Test Report No. *ER-1715-042231*
 Date : *15/12/2017*
 Product : *Dist. T.R.*
 Verified By : *[Signature]*
 Verification of this drawing by ERDA is limited to relevant dimensional checks only.
 Verified dimensions are marked with *.



ITEM	D E S C R I P T I O N S	QTY.
23.	STIFFNER-(50X50X6)MM ANGLE	2
22.	EXPLOSION VENT	1
21.	HV OUTDOOR BUSHINGS	3
20.	LIFTING LUGS FOR TANK COVER	2
19.	TRANSFORMER LIFTING LUGS	4
18.	AIR RELEASE PLUG	1
17.	INSPECTION HOLE	1
16.	4" DIAL TYPE THERMOMETER WITH MAX. DEMAND POINTER	1
15.	THERMOMETER POCKET	1
14.	UNDERBASE CHANNELS (125X65)MM	2
13.	EARTHING TERMINALS M-12X40L	2
12.	OIL DRAIN CUM SAMPLING VALVE	1
11.	COOLING PSR RADIATORS 700C/CX300W-9FINS	4
10.	IDENTITY PLATE	1
9.	NAME & RATING PLATE	1
8.	PULLING LUGS	4
7.	L.V. BUSHING	4
6.	OIL FILTER VALVE-20MM GUN METAL	1
5.	CONSERVATOR PIPE	1
4.	OIL CONSERVATOR WITH DRAIN PLUG	1
3.	OIL LEVEL GAUGE	1
2.	DEHYDRATING BREATHER	1
1.	OIL FILLING HOLE WITH CAP	1

TANK DIMENSIONS	
LENGTH	1245 *
BREADTH	550 *
HEIGHT	1050/1065 *
WEIGHT DETAILS	
Core & Windings	1460 Kgs.
Tank & Fitting	470 Kgs.
Weight of Oil	400 Kgs.
Total Weight	2330 Kgs.
Quantity of Oil	480 Ltrs.

MIN. ELECTRICAL CLEARANCE	PHASE TO EARTH	PHASE TO PHASE
HV *	255 *	140 *
LV *	75 *	40 *

REV.No.	DATE	SIGN.	REMARKS

RAJASTHAN POWERGEN TRANSFORMER PVT. LTD
 KAROLA-BHINMAL ROAD, KAROLA, SANCHORE
 RAJASTHAN - 343041

Title:-- OUTLINE GENERAL ARRANGEMENT DRAWING OF 500KVA
 11/0.433KV ENERGY EFFICIENCY LEVEL-2 TRANSFORMER

DRN.	CUSTOMER	---
CKD.	SPEC. No.	---
APPD.	SCALE	N T S
DATE	DRG. No.	RPTPL/500KVA/002

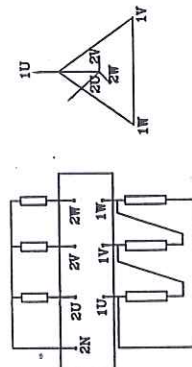
105
95

DISTRIBUTION TRANSFORMER

RAJASTHAN POWERGEN TRANSFORMER PVT. LTD
KAROLA-BHINMAL ROAD, KAROLA, SANCHORE
RAJASTHAN (INDIA)

3 PHASE TRANSFORMER ENERGY LEVEL 2
STANDARD EFFICIENCY (RPTL) 2014 MAX TOTAL LOSS W/ 1510
KVA 500 MAX TOTAL LOSS W/ 4300
VOLTS AT HV 11000 TYPE OF COOLING ONAN
NO LOAD LV 433 TEMP RISE { OIL 40° C
WDG. 45° C
HV LI95/AC28
LV LI-/AC3 MASS OF OIL(KG) 400
AMPERES HV 26.25 TOTAL MASS (KG) 2330
LV 666.7
FREQUENCY HZ 50 VOLUME OF OIL LTRS 480
VECTOR GROUP Dyn11 MONTH/ YEAR OF MFG 2017
IMPEDANCE VOLT % 4.5
TAPPING NA S.N.O. RPTPL/17-18/500KVA/001
CUSTOMER _____
ORDER NO. _____

MADE IN INDIA



MADE IN INDIA



Test Report No. R.P. 715-046291
Date: 18/12/2017
Product: P.T. - T.P.
Verified By: P. Patel
Verification of this drawing by ERDA is limited to relevant dimensional checks only. Verified dimensions are marked with *.

RAJASTHAN POWERGEN TRANSFORMER PVT. LTD
KAROLA-BHINMAL ROAD, KAROLA, SANCHORE
RAJASTHAN - 343041

**TITLE: - NAME PLATE DRAWING OF 500KVA,11/0.433KV
COPPER WOUND ENERGY EFFICIENCY LEVEL-2 TRANSFORMER**

CUSTOMER	---
T.S.No.	RPTPL/17-18/500KVA/001
SCALE	N T S
DRG. No.	RPTPL/500KVA/003