Certificate No: TC-5100

HI PHYSIX
testing & calibration laboratory

HI PHYSIX LABORATORY INDIA PVT. LTD
B-32/1/2, MIDC, Ranjangaon, Pune, Maharashtra
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Phone : 02138 - 232901, 232902, 232903
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Mobile 1 : +91 7768005400
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TEST REPORT

TEST REPORT AS PER IS 2993:1998 **SRF No. 18020823**

Name & Address of Customer:	Test Report No: HPLI/Test/1802082302(PART B) Date of Issue: 16/03/2018		
M/s. TIBREWALA ELECTRONICS LIMITED Plot No. 17, S.V. Co-op. Industrial Estate, Balanagar, Hyderabad – 500 037	Customer Ref. & Date: Letter dated January 31, 2018		
	Date of Sample Receipt: 02/02/2018	Start of Test Date: 07/02/2018	End of Test Date: 04/03/2018

PART A - PARTICULARS OF THE SAMPLE SUBMITTED

Sample Description	A.C. MOTOR CAPACITORS
Grade/ Variety/ Type/ Class/ Size etc.	80 MFD ±5%, 440VAC, SH-MPP, 50 Hz, 25/85/21
Declared Values, if any	80 MFD, 440Vac, 50 Hz, SH, MPP, 25/85/21, Continuous, AC Motor Run, C, (P0)
Code no., BIS Seal and IO's sign. If any	Nil.
Batch no., Date of manufacture and Brand Name	Date of manufacture: 02/01/2018
Quantity	120 Nos.
Condition of the Sample	OK
Reference Specification (s)	IS 2993:1998 (Tests have been carried out as per the customer's request)
Environmental Conditions	Temperature (25±4)°C & Relative Humidity<65%

PART B - SUPPLEMENTARY INFORMATION

a) Deviations from the test methods as per relevant specification/ work instructions, if any : Nil
b) Details of the drawings, graphs, tables, sketches or photographs as referred in the test report, if any: Nil
c) Testing procedure according to work instruction HPLI03/Test-cap/WI-18 to 29.
d) The Management System is maintained in accordance with IS/ISO/IEC 17025:2005 and testing Standards/Instruments are traceable to National/International Standards.

Notes: i) This report is not to be reproduced wholly or in part without our special permission in writing.
ii) This report refers only to the particular sample detailed above.
iii) The results reported in this certificate are valid at the time of and under the stipulated conditions of measurement.
iv) Remnants of sample will be disposed off after 30 days of issue of the test report if no any further information is received.

For HI PHYSIX LABORATORY INDIA PVT. LTD.
ASHUTOSH PATHAK
(Sr. TECHNICAL MANAGER)

Tested by **Checked by** **Approved by**

Format No.-P17F04-00

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PART C-TEST RESULT

TEST REPORT NO.: HPLI/Test/ 1802082302(PART B)
IS 2993:1998

Sl. No	TESTS WITH CLAUSE REFERENCE	SPECIFIED REQUIREMENTS		RESULTS		
Type Tests (For Group 2) (No. of Capacitors Tested: 21 Nos.)						
1.	Endurance Test (Cl. 2.13 of IS 2993: 1998)	The capacitors shall be mounted in a test chamber of air temperature within ±2°C. The thermostat shall be set to (t_c-15°C), and capacitors are then energized according to the appropriate voltage and test cycle. During the first 24 h the difference between t_c and the indication of the temperature recording instrument shall be noted, and adjustments made to ensure the temperature of each capacitor case is at t_c ± 2 °C. The test is then continued to the end of the appropriate time without further adjustment of the thermostat, the time being measured from the first energization of the capacitors. The capacitors are energized at test voltage shall be 1.25U_N (i.e.550V) for 600hr Continuously.		Satisfactory		
		During the test no permanent breakdown, interruption or flashover shall occur.		No permanent breakdown, interruption or flashover occur		
		No leak should be apparent which form droplets within 10 minute, when kept at upper temperature limit in the most unfavorable position.		Satisfactory		
		At the end of the test, the capacitors shall cool down freely to the ambient temperature and the capacitance shall then be measured. (Values in MFD)	Capacitor No.	Before Test	After Test	Change (%)
			5	79.8	79.7	-0.13
			6	80.3	80.1	-0.25
			7	80.0	80.1	0.12
			8	79.9	79.8	-0.13
			9	80.0	80.0	0.00
			10	80.2	80.1	-0.12
			11	80.3	80.1	-0.25
			12	80.1	80.0	-0.12
			13	80.2	80.1	-0.12
			14	80.4	80.1	-0.37
			15	80.1	80.0	-0.12
			16	80.6	80.4	-0.25
			17	80.3	80.2	-0.12
			18	80.1	80.0	-0.12
			19	80.2	80.1	-0.12
			20	80.5	80.3	-0.25
			21	80.3	80.1	-0.25
			22	80.0	80.0	0.00
			23	80.5	80.3	-0.25
			24	80.3	80.2	-0.12
			25	80.4	80.1	-0.37
		Permitted capacitance change shall be 3%.		Satisfactory		

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PART C-TEST RESULT **TEST REPORT NO.: HPLI/Test/ 1802082302(PART B)**

IS 2993:1998

Sl. No	TESTS WITH CLAUSE REFERENCE	SPECIFIED REQUIREMENTS	RESULTS		
2.	Damp heat Test (Cl. 2.14 of IS 2993: 1998)	All capacitors shall be kept in the environmental chamber without energizing for at a temperature of 40°C±2°C & relative humidity between 90% to 96%. No voltage shall be applied to the samples and no measurement shall be taken during the test. After the damp-heat period, the capacitors shall be stored under standard atmospheric conditions for recovery for not less than 1 h and not more than 2 h. Immediately after recovery, the capacitance shall be measured. Testing duration: 21 days (As specified by customer)	Capacitor No.	Before Test (in MFD)	After Test (in MFD)
			26	80.0	80.0
			27	80.3	80.2
			28	80.2	80.2
			29	80.2	80.1
			30	80.3	80.2
			31	80.1	80.0
		Capacitance change shall be less than 0.5 % after the test.	Satisfactory		

PART D:

Remarks: 1. The observations given in part A of the cover page of the test report are taken from the marking on samples and specification provided with the sample.

2.This test report is issued as Part B covering above two tests only as per the customer's request. Test Report No. HPLI/Test/1802082302 dated 26/02/2018 has been issued earlier covering all the tests except above two tests.

******* END OF THE TEST REPORT *******

For HI PHYSIX LABORATORY INDIA PVT. LTD.

(MANAGER)

Tested by **Checked by** **Approved by**