



# Akshat Test Lab & Calibration Services

A-2/49, G.D. STEEL COMPOUND, SITE-IV, INDUSTRIAL AREA,  
SAHIBABAD, GHAZIABAD, U.P. PINCODE-201010  
(NABL ACCREDITED & BIS RECOGNISED LABORATORY)



Certificate No. TC-6104



TEST REPORT	
Report No.: ATLCS/R/1902210004 ULR No. : TC610421000000133F	Page - 1 of 19
Name and Address of Customer- ONKAR ENGINE & GENERATOR (P) LIMITED D-255, Sector-63, Noida (U.P) 201301.	Start Date of Analysis - 19.02.2021
	End Date of Analysis - 13.03.2021
	Report Issue Date - 13.03.2021
	Reference Standard - IS 302-2-30:2007 & IS 302-1:2008+A4
	Discipline - Electrical
	Product Group- Domestic Electrical Appliances
Description of Sample:- Electric Room Heater, Visibly Glowing Radiant Heater (Halogen), 1200W, 230V, 50Hz, AC single phase, Class-I, Pollution Degree-1, Class of Insulation-F, IPX0 (Ordinary), Without thermostat & Thermal Cut out. As Per IS 302-2-30:2007 with latest amendment. Brand: OMEGA	
Grade/Type/Size - Visibly Glowing Radiant Heater (Halogen 1200W)	
Coding (If any) - Nil	
Date of Receipt - 19.02.2021	
Condition of Sample Received - Good	
Any Other Information - Nil	

Checked By:	Authorized By:	Issued By:
Rahul Singh	Ankit Bishnoi	Ankur Bishnoi
Date: 13.03.2021	Date: 13.03.2021	Date: 13.03.2021



# Akshat Test Lab & Calibration Services

A-2/49, G.D. STEEL COMPOUND, SITE-IV, INDUSTRIAL AREA,  
SAHIBABAD, GHAZIABAD, U.P. PINCODE-201010  
(NABL ACCREDITED & BIS RECOGNISED LABORATORY)



Certificate No. TC-6104

Report No.: ATLCS/R/1902210004

ULR No.: TC610421000000133F

Page 2 of 19

S. No.	Test	Test Method	Requirements as per IS:302-2-30: 2007	Results
1.	Marking and Instructions (Cl.7 of IS 302-2-30:2007)	IS:302-2-30: 2007 & IS 302-1:2008	Appliance shall be marked with the following information: Rated voltage or voltage range, in volts; Symbol for nature of supply , unless the rated frequency is marked; Rated power input in Watts or rated current in Amperes; Name, trade- mark or identification mark of the manufacturer or responsible vendor Model or type reference; Symbol for Class-II, appliances only. IP number according to degree of protection against ingress of water, other than IPX0; Country of manufacture. Heaters intended to be filled with liquid by the user shall be marked with the maximum and minimum liquid levels. Heaters shall be marked "Do not cover" This marking is not required for: a) Heaters for mounting at high level, b) Visibly glowing radiant heaters c) Heaters constructed so that they cannot be covered, and d) Heaters also intended to dry clothes. (Cl. 7.1 of IS 302-2-30:2007). Heaters having a fireguard that is intended to be removed for transportation or storage shall be marked to state that the heater must not be operated without this guard in place (Cl. 7.1 of IS 302-2-30:2007)	230V AC, 50Hz 1200W OMEGA Not marked Class-I IPX0 India Not Applicable Visibly Glowing Radiant Heater Not Applicable Not Applicable
			Appliances having a range of rated values and which can be operated without adjustment throughout the range shall be marked with the lower and upper limits of the range separated by a hyphen. (Cl.7.3 of IS 302-1:2008). Appliances having different rated values and which have to be adjusted for use at a particular value by the user or installer shall be marked with the different values separated by an oblique stroke. Compliance is checked by inspection. (Cl.7.3 of IS 302-1:2008). If the appliance can be adjusted for different rated voltages to which the appliance is adjusted shall be clearly discernible. Compliance is checked by inspection. (Cl.7.4 of IS 302-1:2008)	Satisfactory
			The upper & lower limits of the rated power input or rated current shall be marked on the appliance. Compliance is checked by inspection. (Cl.7.5 of IS 302-1:2008). When symbols are used, they shall be in accordance with (Cl.7.6 of IS 302-2-30:2007 & IS 302-1: 2008).	Satisfactory
			Do not cover (Cl. 7.6 of IS 302-2-30:2007)	Not Applicable
			Appliance to be connected to more than two supply conductors and appliances for multiple supply shall have a connection diagram fixed to them, unless the correct mode of connection is obvious. (Cl.7.7 of IS 302-1:2008).	Not Applicable
			Except for type Z attachment, terminals used for connection to the supply mains shall be as per (Cl.7.8 of IS 302-1:2008).	Satisfactory

Authorized By:





# Akshat Test Lab & Calibration Services

A-2/49, G.D. STEEL COMPOUND, SITE-IV, INDUSTRIAL AREA,  
SAHIBABAD, GHAZIABAD, U.P. PINCODE-201010  
(NABL ACCREDITED & BIS RECOGNISED LABORATORY)



Certificate No. TC-6104



Report No.: ATLCS/R/1902210004

ULR No.: TC61042100000133F

Page 3 of 19

S. No.	Test	Test Method	Requirements as per IS:302-2-30: 2007	Results
		IS:302-2-30: 2007 & IS 302-1:2008	Switches which may give rise to a hazard when operated shall be marked or placed so as to indicate clearly which part of the appliance they control. Compliance is checked by inspection. (Cl.7.9 of IS 302-1:2008).	Satisfactory
			The different positions of the switches on Stationary appliances and the different positions of controls on all appliances shall be indicated by figures, letters or other visual means. Compliance is checked as per (Cl.7.10 of IS 302-1:2008).	Satisfactory
			Controls intended to be adjusted during installation or in normal use shall be provided with an indication for the direction of adjustment. Compliance is checked by inspection (Cl.7.11 of IS 302-1:2008).	Not Applicable
			Instructions for use shall be provided with the appliance so that the appliance can be used safely. If it is necessary to take precautions during user maintenance, appropriate details shall be given. Compliance is checked by inspection. (Cl.7.12 of IS 302-1:2008)	Instruction manual Provided
			If the symbol as specified in 7.6 is marked on the appliance, its meaning shall be explained. The instructions for heater marked "Do not cover" shall contain the substance of the following: Warning- In order to avoid overheating, <u>do not cover the heater</u> .	Visibly Glowing Radiant Heater
			The instruction shall state that the heater must not be located immediately below a socket outlet. Cl.7.12 of IS 302-2-30:2007	Satisfactory
			The instructions for heaters with heating element that are in direct contact with accessible glass panels shall state that the heater must not be used, if the glass is damaged. Cl.7.12 of IS 302-2-30:2007	Not Applicable
			The instructions for Visibly glowing radiant heaters, other than heaters for mounting at high level, shall include the substance of the following: Do not use this heater with a programmer, timer or any other device that switches the heater on automatically. Cl.7.12 of IS 302-2-30:2007	Satisfactory
			For visibly glowing radiant heaters having a fireguard that can be partly removed without the aid of a tool shall include: Cl.7.12 of IS 302-2-30:2007	Not applicable
			a) Fireguard of this heater is intended to prevent direct access to heating element and must be in place when the heater is in use. Cl.7.12 of IS 302-2-30:2007	Satisfactory
			b) Fireguard does not give full protection for young children and for infirm persons. Cl.7.12 of IS 302-2-30:2007	Not applicable
			The instructions for portable heaters shall include the substance of the following: Do not use this heater in the immediate surroundings of a bath, a shower or a swimming pool. Cl.7.12 of IS 302-2-30:2007	Satisfactory
			Instructions shall be provided for cleaning the reflector of visibly glowing radiant heaters, if appropriate Cl.7.12 of IS 302-2-30:2007	Satisfactory

Authorized By:





# Akshat Test Lab & Calibration Services

A-2/49, G.D. STEEL COMPOUND, SITE-IV, INDUSTRIAL AREA,  
SAHIBABAD, GHAZIABAD, U.P. PINCODE-201010  
(NABL ACCREDITED & BIS RECOGNISED LABORATORY)



Certificate No. TC-6104



Report No.: ATLCS/R/1902210004

ULR No.: TC61042100000133F

Page 4 of 19

S. No.	Test Conducted	Test Method	Requirements as per IS:302-2-30: 2007	Results
			<p>The instructions for oil-filled radiators include the substance of the following:</p> <p>a) This heater is filled with a precise quantity of special oil. Repairs requiring opening of the oil container are only to be made by the manufacturer or his service agent.</p> <p>b) When scrapping the heater, follow the regulations concerning the disposal of oil.</p> <p>Cl.7.12 of IS 302-2-30:2007</p>	Not Applicable
			<p>The installation instructions for heaters intended to be fixed by screws or other means shall give details on the method of fixing. Cl.7.12.1 of IS 302-2-30:2007</p>	Not Applicable
			<p>If it is necessary to take precautions during installation of the appliance, appropriate details shall be given as per (Cl.7.12.1 of IS 302-1:2008)</p>	Satisfactory
			<p>The instructions for stationary visibly glowing radiant heaters shall warn about the possible danger of installation close to curtains and other combustible materials. Cl.7.12.1 of IS 302-2-30:2007</p>	Not Applicable
			<p>The instructions for heaters mounting at high level shall state that the heater must be installed at least 1.8 m above the floor. Cl.7.12.1 of IS 302-2-30:2007</p>	Not Applicable
			<p>The instructions for fixed heaters likely to be used in a bathroom shall state that the heater is to be installed so that switches and other controls cannot be touched by a person in the bath or shower.</p> <p>Cl.7.12.1 of IS 302-2-30:2007</p>	Not Applicable
			<p>If rollers or feet are supplied with the heaters, the installation instructions shall state how they have to be fixed to the heater. Cl.7.12.1 of IS 302-2-30:2007</p>	Not Applicable
			<p>The instructions for heaters intended to be installed in wardrobes shall give detailed proper installation in a wardrobe. Cl.7.12.1 of IS 302-2-30:2007</p>	Not Applicable
			<p>If a stationary appliance is not fitted with a supply cord and a plug, or with other means for disconnection from the supply mains having a contact separation in all poles that provide full disconnection under over voltage category III conditions, the instructions shall state that means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.</p> <p>Cl.7.12.2 of IS 302-1:2008</p>	Not Applicable
			<p>The instructions for built-in appliances shall include information with regard to the following:</p> <p>a) Dimensions of the space to be provided for the appliance;</p>	Not Applicable
			<p>b) Dimensions and position of the means for supporting and fixing the appliance within this space;</p>	
			<p>c) Minimum distances between the various parts of the appliance and the surrounding structure;</p>	
			<p>d) Minimum dimensions of ventilating openings and their correct arrangement;</p>	
			<p>e) Connections of the appliance to the supply mains and the interconnection of any separate components; and</p>	

Authorized By:





# Akshat Test Lab & Calibration Services

A-2/49, G.D. STEEL COMPOUND, SITE-IV, INDUSTRIAL AREA,  
SAHIBABAD, GHAZIABAD, U.P. PINCODE-201010  
(NABL ACCREDITED & BIS RECOGNISED LABORATORY)



Certificate No. TC-6104



Report No.: ATLCS/R/1902210004

ULR No.: TC61042100000133F

Page 5 of 19

S. No.	Test	Test Method	Requirements as per IS:302-2-30: 2007	Results
		IS:302-2-30: 2007 & IS 302-1:2008	f) Necessity to allow disconnection of the appliance from the supply after Installation, unless the appliance incorporates a switch complying with 24.3. The disconnection may be achieved by having the plug accessible or by Incorporating a switch in the fixed wiring in accordance with the wiring rules. (Cl.7.12.4 of IS 302-1:2008)	Not Applicable
			For appliance with type X attachment having a specially prepared cord, the instruction shall contain the substance of the following For X attachments, if the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer or its service agent. (Cl.7.12.5 of IS 302-1:2008).	Not Applicable
			For appliance with type y attachment, the instruction shall contain the substance of the following if the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard. (Cl.7.12.5 of IS 302-1:2008).	Satisfactory
			For appliance with type Z attachment the instruction shall contain the substance of the following The supply cord cannot be replaced. If the supply cord is damaged the appliance should be scrapped (Cl.7.12.5 of IS 302-1:2008).	Not Applicable
			The instruction for heating appliances incorporating a non-self-resetting thermal cut-out that is reset by disconnection of the supply mains shall contain the caution as per (Cl.7.12.6 of IS 302-1:2008).	Not Applicable
			Instructions and other text required by this standard shall be written in an official language of the country in which the appliance is to be sold (Cl.7.13 of IS 302-1:2008).	English
			The marking specified in 7.1. The marking required by this standard shall be clearly legible & durable. After the test of this standard, the marking shall be clearly legible. It shall not be easily to remove marking plate nor shall they show curling. (Cl.7.14 of IS 302-1:2008)	Satisfactory
			The height of symbol as specified in Cl.7.6 shall be at least 15 mm	Satisfactory
			The height of the words " Do not cover" shall be at least 3mm	Not Applicable
			The marking specified in 7.1 to 7.5 shall be on a main part of appliance. Markings on the appliance shall be discernible from the outside of the appliance but if necessary after removal of a cover. For portable appliances it shall be possible to remove or open this cover without the aid of a tool. (Cl.7.15 of IS 302-1:2008)	Satisfactory
			For Heaters for mounting at high level, the indication of the different positions of switches shall be visible from a distance of 1 m. (Cl.7.15 of IS 302-2-30:2007)	Not Applicable
			The Marking concerning covering shall be visible after the heater has been installed. It shall not be placed on the back of the portable heaters. (Cl.7.15 of IS 302-2-30:2007)	Not Applicable
			The Marking concerning removable fireguards shall be visible before fitting the fireguard. (Cl.7.15 of IS 302-2-30:2007)	Not Applicable
			The Radiators (Room heaters) may also be marked with the Standard mark (Cl.7.101 of IS 302-2-30:2007).	Not Marked

Authorized By:





# Akshat Test Lab & Calibration Services

A-2/49, G.D. STEEL COMPOUND, SITE-IV, INDUSTRIAL AREA,  
SAHIBABAD, GHAZIABAD, U.P. PINCODE-201010  
(NABL ACCREDITED & BIS RECOGNISED LABORATORY)



Certificate No. TC-6104

Report No.: ATLCS/R/1902210004

ULR No. : TC61042100000133F

Page 6 of 19

S. No.	Test Conducted	Test Method	Requirements as per IS:302-2-30: 2007	Results
2.	Classification and Rating. (Cl.6 of IS 302-2-30:2007).	IS:302-2-30: 2007 & IS 302-1:2008	Appliances shall be one of the following classes with respect to protection against electric shock: Class I, Class II, Class III	Class I
			Appliance shall have appropriate degree of protection against harmful ingress of water.	IPX0
			Heaters intended for use in greenhouses or building sites shall be at least IPX4. Cl. 6.2 of IS 302-2-30:2007).	Not Applicable
3.	Protection Against Access to Live Parts. (Cl.8 of IS:302-2-30:2007)	IS:302-2-30: 2007 & IS 302-1:2008	Appliances shall be constructed & enclosed that there is adequate protection against accidental contact with live parts as per (Cl.8 of IS 302-1:2008).	Satisfactory
			Detachable fireguards are not removed if their removal requires the use of a tool, provided that: a) Instructions state the plug must be removed from the socket- outlet before cleaning the reflector; or b) Heater incorporates a switch having a contact separation in all poles that provides full disconnection under overvoltage category III conditions (Cl. 8.1.1 of IS 302-2-30:2007)	Satisfactory
			If the appliance is marked with rated power input, & rated current then appliance should not deviate from the rated power input by more than the deviation shown in Table 1 i.e. (+5%, -10%) As per Cl. 10.1 of IS 302-2-30:2007.	1116W
5.	Heating. (Cl.11 of IS 302-2-30:2007 & IS 302-1:2008)	IS:302-2-30: 2007 & IS 302-1:2008	Appliance and their surroundings shall not attain excessive temperature in normal use as per IS 302-1: 2008.	Satisfactory
			Heating appliance are operated under normal operation and at 1.15 times rated power input Cl.11.4 of IS 302-1:2008	Satisfactory
			If the temperature rise limits exceeded in appliances incorporating motors, transformers or electronic circuits and the power input is lower than the rated power input, the test is repeated with the appliance supplied at 1.06 times the rated voltage. Cl. 11.4 of IS 302-2-30:2007	Not Applicable
			Motor-operated appliances are operated under normal operation and supplied with the most unfavourable voltage between 0.94 times and 1.06 times the rated voltage. Cl. 11.5 of IS 302-1:2008	Not Applicable
			Combined appliances are operated under normal operation and supplied with the most unfavourable voltage between 0.94 times and 1.06 times the rated voltage. Cl. 11.6 of IS 302-1:2008	Satisfactory
			Combined appliances are operated as heating appliances. Cl. 11.6 of IS 302-2-30:2007	Satisfactory
			Appliances are operated until steady conditions are established Cl. 11.7 of IS 302-2-30:2007	Satisfactory
			During the test, temperature rise Shall not exceed values as per Table 3: Walls, ceilings and floor of the test corner temp 65K Max	36.4K
			Insulation of Power supply Cord 50K Max.	4.8K
			Insulation of internal wiring 50K Max.	15.8K
			Moulded Material 60 K Max.	10.0K
			Winding temperature 115K Max.	41K
			Room Temperature	26°C
			The temperature rise of surfaces of heaters shall not exceed the values shown in Table 101. (Cl. 11.8 of IS 302-2-30:2007)	See below
			i. Heaters for mounting at high level and fireguards and their immediate surrounds No limit.	Not Applicable
			ii. Air-outlet grilles and their immediate surrounds that area of metal and accessible to the test rod	See below
			a. Fan heaters 175K	Not Applicable
			b. Others 130K	52K





# Akshat Test Lab & Calibration Services

A-2/49, G.D. STEEL COMPOUND, SITE-IV, INDUSTRIAL AREA,  
SAHIBABAD, GHAZIABAD, U.P. PINCODE-201010  
(NABL ACCREDITED & BIS RECOGNISED LABORATORY)



Certificate No. TC-6104

Report No.: ATLCS/R/1902210004

ULR No. : TC61042100000133F

Page 7 of 19

S. No.	Test Conducted	Test Method	Requirements as per IS:302-2-30: 2007	Results
			iii. Other surfaces that are accessible to the test rod: a. If of material 85K b. If of glass, ceramic or similar material 100K iv. Air-outer grilles of built-in heater having air outlet in the floor, window-sill or similar location: a. If of metal 45K b. If of other material 50K v. Surface of felt pad 60K	See below 13K Not Applicable See below Not Applicable Not Applicable Not Applicable
6.	Leakage Current and Electric Strength at Operating Temperature (Cl. 13 of IS 302-2-30:2007)	IS:302-2-30: 2007 & IS 302-1:2008	Leakage current : 0.21mA. High Voltage shall withstand 1000 Volts for one minute, No breakdown shall occur during the test. Appliances are operated until steady conditions are established Cl. 11.7 (Cl 13.1 of IS 302-1:2008)	0.016mA Withstood the test Satisfactory
7.	Transient Over Voltages (Cl. 14 of IS 302-30:2007).	IS:302-2-30: 2007 & IS 302-1:2008	Appliance shall withstand the Transient Over Voltages and no flash over shall occur when the impulse test voltage is applied 3 times for each polarity with intervals of at least 1s.	Not Applicable
8.	Moisture Resistance (Cl. 15 of IS 302-2-30:2007).	IS:302-2-30: 2007 & IS 302-1:2008	The enclosure of appliance shall provide the degree of protection against moisture in accordance with classification of the appliance. Appliances other than IPX0 are subjected to test as per Cl.15.1.1 of IS 302-1:2008. IPX1 appliances are tested as per Cl. 15.1.1. The humidity test is carried out for 48 h in humidity not less than 90% & temp. of the air is maintained within 1K of any convenient value $t$ between 15°C & 35°C. After the humidity treatment appliance shall withstand the test of Cl.16.	IPX0 Satisfactory
9.	Leakage Current and Electric Strength (Cl. 16 of IS 302-2-30:2007)	IS:302-2-30: 2007 & IS 302-1:2008	Leakage current : 0.21mA. High Voltage: Shall withstand 1250 Volts for one minute,	0.019mA Withstood the test
10.	Overload Protection of Transformers & Associated circuits (Cl.17 of IS 302-2-30:2007).	IS:302-2-30: 2007 & IS 302-1:2008	Appliance incorporating circuits supplied from a transformer shall be constructed so that in the event of short circuits which are likely to occur in normal use excessive temperature do not occur in the transformer in the circuit associated with the transformer. Compliance is checked by applying the most unfavourable short circuit or overload which is likely to occur in normal use, the appliance being supplied with 1.06 times or 0.94 times rated voltage, whichever is the more unfavourable. The temperature rise of the insulation of the conductors of safety extra low voltage circuit shall not exceed the relevant value specified in table 3 by more than 15K. The temperature of windings shall not exceed the value specified in table 8. (Cl.17 of IS 302-1:2008)	Not Applicable
11.	Abnormal Operation (Cl. 19 of IS 302-2-30:2007).	IS:302-2-30: 2007 & IS 302-1:2008	Appliances shall be constructed so that as a result of abnormal or careless operation, the risk of fire, mechanical damage impairing safety or protection against electric shock is obviated as far as is practicable. Cl. 19.1 of IS 302-1:2008 Appliances with heating elements are tested under the conditions specified in 11 but with restricted heat dissipation. The supply voltage, determined prior to the test, is that required to provide a power input of 0.85 times rated power input under normal operation when the power input has stabilized. This voltage is maintained through the test. Cl. 19.2 of IS 302-1:2008	Satisfactory Satisfactory

Authorized By:





# Akshat Test Lab & Calibration Services

A-2/49, G.D. STEEL COMPOUND, SITE-IV, INDUSTRIAL AREA,  
SAHIBABAD, GHAZIABAD, U.P. PINCODE-201010  
(NABL ACCREDITED & BIS RECOGNISED LABORATORY)



Certificate No. TC-6104

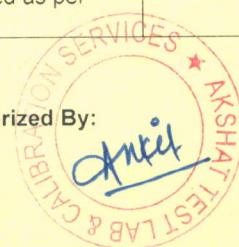
Report No.: ATLCS/R/1902210004

ULR No.: TC61042100000133F

Page 8 of 19

S. No.	Test Conducted	Test Method	Requirements as per IS:302-2-30: 2007	Results
		IS:302-2-30: 2007 & IS 302-1:2008	<p>The test of 19.2 is repeated but with a supply voltage, determined prior to the test, equal to that required to provide a power input of 1.24 times rated power input under normal operation when the power input has stabilized. This voltage is maintained throughout the test. Cl. 19.3 of IS 302-1:2008</p> <p>The appliance is tested under the conditions specified in 11. Any control that limits the temperature during the test of 11 is short-circuited. Cl. 19.4 of IS 302-1:2008</p> <p>The test of 19.4 is repeated on Class I appliances incorporating tubular sheathed or embedded heating elements. However, controls are short-circuited but one end of the element is connected to the sheath of the heating elements. 19.5 of IS 302-1:2008</p> <p>Appliances with PTC heating elements are supplied at rated voltage until steady conditions with regard to power input and temperature are established. The working voltage of the PTC heating element is until steady conditions are re-established. The voltage is then increased similar steps until 1.5 times working voltage is reached, or until the PTC heating element ruptures, whichever occurs first. 19.6 of IS 302-1:2008</p> <p>Appliance is operated under stalled conditions by locking the rotor. during the test temperature of winding shall not exceed as follows: Maximum value- 240°C. Cl. 19.7 of IS 302-1:2008</p> <p>During the tests appliance shall not emit flames, molten metal, or poisonous or ignitable gas in hazardous amounts and temperature rise shall not exceed following limits:</p> <p>Wooden Supports, walls, ceiling and floor of the test corner 150 K Max</p> <p>Insulation of supply cord 150 K Max</p> <p>The appliance Shall withstand High Voltage test at 1250 V Cl. 19.13 of IS 302-1:2008</p> <p>Appliances are operated as specified in Cl. 11 but the power input is 1.24 times the rated power input. (Cl.19.101 of IS 302-2-30:2007).</p> <p>Circular and similar portable heaters that emit heat in several directions are placed as close as possible to one of the walls of the test corner and operated at 1.24 times the rated power input. Cl. (19.102 of IS 302-2-30:2007).</p> <p>The heater when tested as per (Cl.19.103 of IS 302-2-30:2007), the temperature rise of the strips shall not exceed 150K but an overshoot of 25K is allowed during the first hour.</p> <p>The Built in heater when tested as per (Cl.19.104 of IS 302-2-30:2007), the temperature rise of the strips shall not exceed 150 K but an overshoot of 25 K is allowed during the first hour.</p> <p>Heaters having a liquid container that is intended to be filled by the user operated as specified in 11 but with the container empty. (Cl.19.105 of IS 302-2-30:2007).</p> <p>Fan heaters and other heaters incorporating motors are supplied at rated voltage with motor rotor locked as per (Cl.19.106. of IS 302-2-30:2007)</p>	Satisfactory
				Not Applicable
				Satisfactory
			42.3K	42.3K
			7.6K	7.6K
			Withstood the test	Withstood the test
			Not Applicable	Not Applicable
			Not Applicable	Not Applicable
			Not Applicable	Not Applicable
			Not Applicable	Not Applicable
			Not Applicable	Not Applicable
			Not Applicable	Not Applicable
			Not Applicable	Not Applicable

Authorized By:





# Akshat Test Lab & Calibration Services

**ATLCS**

A-2/49, G.D. STEEL COMPOUND, SITE-IV, INDUSTRIAL AREA,  
SAHIBABAD, GHAZIABAD, U.P. PINCODE-201010  
(NABL ACCREDITED & BIS RECOGNISED LABORATORY)



Certificate No. TC-6104

Report No.: ATLCS/R/1902210004

ULR No. : TC610421000000133F

Page 9 of 19

S. No.	Test Conducted	Test Method	Requirements as per IS:302-2-30: 2007	Results
		IS:302-2-30: 2007 & IS 302-1:2008	Fan heaters having an enclosure substantially of non-metallic material are operated at their working voltage as specified in 11 except that the motor is supplied separately at its working voltage. Thermal controls that operate during the test of 11 are short-circuited. (Cl.19.107. of IS 302-2-30:2007)	Not Applicable
			Portable fan heaters are operated as specified in 11. A rectangular sheet of paper is held against air inlets, without additional pressure. The paper has an area sufficient to cover the surface where air inlets are situated and is moved in any direction in order to restrict the airflow so that the most unfavourable conditions are established. (Cl.19.108 of IS 302-2-30:2007)	Not Applicable
			Portable fan heaters are operated as specified in 11 but placed so that the airflow is directed against one of the walls of the test corner. The heater is then moved as near as possible to the wall without the thermal cut-out operating. Thermal controls that operate during the test of 11 are short-circuited. The temperature rise of the wall shall not exceed 150 K. (Cl.19.109. of IS 302-2-30:2007)	Not Applicable
			Portable Visibly glowing radiant heaters are when tested as per (Cl.19.110 of IS 302-2-30: 2007) The temperature rise of the wall shall not exceed 70K.	32.4K Satisfactory
			Visibly glowing heaters for mounting at high level are operated as per (Cl.19.111 of IS 302-2-30:2007).	Not Applicable
			Portable Heaters are operated as specified in cl 11 but place on a softwood surface that is covered with a double layer of bleached cotton gauze. (Cl 19.112 of IS 302-2-30:2007).	Satisfactory
			Fan heaters having enclosures substantially of non-metallic material are operated as per (Cl.19.113 of IS 302-2-30:2007).	Not Applicable
			A quantity of oil is drained from the container of oil-filled radiators until the oil level is approximately 10 mm above the heating element. The container is then resealed and the appliance operated as specified in 11 but at rated power input. Cl. 19.114 of IS 302-2-30:2007	Not Applicable
12.	Stability & Mechanical Hazards (Cl.20 of IS 302-2-30:2007).	IS:302-2-30: 2007 & IS 302-1:2008	Portable heaters shall have adequate stability. Compliance is checked by the following test. Heaters incorporating an appliance inlet are fitted with a cord set. The appliance is placed in the most unfavourable normal position of use in a plane inclined at an angle of 15° to the horizontal. The appliance shall not overturn. Cl.20.1 of IS 302-2-30:2007	Satisfactory
			Moving parts of the appliance shall as far as is compatible with the use and working of the appliance be positioned or enclosed to positioned adequate protection against personal injury in normal use Cl 20.2 of IS 302-1:2008	Not Applicable
13.	Mechanical Strength (Cl.21 of IS 302-2-30:2007).	IS:302-2-30: 2007 & IS 302-1:2008	Appliance shall have adequate mechanical strength and be constructed to withstand such rough handling that may be expected in normal use. Compliance is checked by applying blows to handles, levers, knobs and similar parts. After the test the appliance shall show no damage that could impair compliance with this standard. (Cl.21.1 of IS 302-1:2008).	Passes the test

Authorized By:





# Akshat Test Lab & Calibration Services

A-2/49, G.D. STEEL COMPOUND, SITE-IV, INDUSTRIAL AREA,  
SAHIBABAD, GHAZIABAD, U.P. PINCODE-201010  
(NABL ACCREDITED & BIS RECOGNISED LABORATORY)



Certificate No. TC-6104

Report No.: ATLCS/R/1902210004

ULR No. : TC610421000000133F

Page 10 of 19

S. No.	Test Conducted	Test Method	Requirements as per IS:302-2-30: 2007	Results
			Accessible parts of solid insulation shall have sufficient strength to prevent penetration by sharp implements. Compliance is checked as per (Cl.21.2 of IS 302-1:2008).	Satisfactory
			The fireguard of Visibly glowing radiant heaters other than heaters for mounting at high level shall show no significant permanent deformation. Compliance is checked as per (Cl.21.101 of IS 302-2-30:2007).	Satisfactory
			Fixed appliances having a hinged part are tested as per (Cl.21.102 of IS 302-2-30:2007)The heater shall show no damage that could impair compliance with this standard.	Not Applicable
			The suspension means of panel heaters shall show no significant deformation. Compliance is checked as per (Cl.21.103 of IS 302-2-30:2007).	Not Applicable
14.	Construction (Cl.22 of IS 302-2-0:2007).	IS:302-2-30: 2007 & IS 302-1:2008	If the appliance is marked with the first numeral of the IP system, the relevant requirements of IS 12063 shall be fulfilled. Cl.22.1 of IS 302-1:2008.	IPX0
			For stationary appliances, means shall be provided to ensure all pole disconnection from supply mains. Such means shall be as per Cl.22.2 of IS 302-1:2008	Not Applicable
			Appliance with pins for insertion into socket-outlets shall not impose undue strain on these socket-outlets. The means for retaining the pins shall withstand the forces to which the pins are likely to be subjected in normal use. Compliance is checked as per Cl.22.3 of IS 302-1:2008.	Not Applicable
			Appliance for heating liquids and appliances causing undue vibration shall not be provided with pins for insertion into socket-outlets. Compliance is checked by inspection as per Cl. 22.4 of IS 302-1:2008.	Not Applicable
			Appliances intended to be connected to the supply mains by means of a plug shall be constructed so that in normal use there is no risk of electric shock from charged capacitors when the pins of plug are touched. Compliance is checked as per Cl.22.5 of IS 302-1:2008.	No Capacitor used
			Appliance shall be constructed so that their electrical insulation cannot be affected by water that could condense on cold surfaces or by liquid that could leak from containers, hoses, couplings and similar parts of the appliance. (Cl.22.6 of IS 302-1:2008).	Not Applicable
			Appliances containing liquid or gases in normal use or having steam-producing devices shall incorporate adequate safeguards against the risk of excessive pressure. Compliance is checked by inspection as per Cl.22.7 of IS 302-1:2008.	Not Applicable
			Appliances containing liquid shall be constructed so that they withstand the pressure likely to occur during use. Compliance is checked by subjecting the appliance to twice the highest pressure measured during the test of 19.101, 19.103 and 19.112. There shall be no leakage of liquid. Cl.22.7 of IS 302-2-30: 2007	Not Applicable
			Appliances having compartments to which access can be gained without the aid of a tool and that are likely to be cleaned in normal use, the electrical connections shall be arranged so that they are not subject to pulling during cleaning as per Cl.22.8 of IS 302-1:2008	No Compartment

Authorized By:



# Akshat Test Lab & Calibration Services

A-2/49, G.D. STEEL COMPOUND, SITE-IV, INDUSTRIAL AREA,  
SAHIBABAD, GHAZIABAD, U.P. PINCODE-201010  
(NABL ACCREDITED & BIS RECOGNISED LABORATORY)



Certificate No. TC-6104

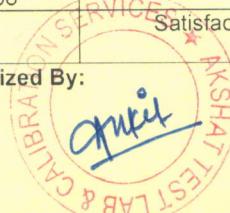
Report No.: ATLCS/R/1902210004

ULR No. : TC61042100000133F

Page 11 of 19

S. No.	Test Conducted	Test Method	Requirements as per IS:302-2-30: 2007	Results
		IS:302-2-30: 2007 & IS 302-1:2008	<p>Appliances shall be so constructed so that parts such as insulation, internal wiring, windings, commutators and slip rings are not exposed oil grease or similar substances, unless the substance has adequate insulating properties so that compliance with the standard is not impaired shall be as per Cl.22.9 of IS 302-1:2008</p> <p>Reset buttons of non-self resetting controls shall be located or protected so that their accidental resetting is unlikely to occur if this could result in hazard shall be as per Cl.22.10 of IS 302-1:2008</p> <p>Non detachable parts that protect against access to live parts, moisture or contact with moving parts shall be fixed in reliable manner and withstand the mechanical stress occurring during normal use. Compliance is checked as per (Cl.22.11 of IS 302-1:2008).</p> <p>Handle, knob, grips, levers and similar parts shall be fixed in a reliable manner so that they will not work loose in normal use. If these parts are used to indicate the position of switch or similar components shall as per Cl.22.12 of IS 302-1:2008</p> <p>Appliances shall be so constructed so that when handles are gripped in normal use, contact is unlikely between the operator's hand and parts having a temperature rise exceeding the value specified in Table 3 for handles which are held for short periods only in normal use shall be as per Cl.22.13 of IS 302-1:2008</p> <p>Appliances shall have no ragged or sharp edges. Compliance is checked by inspection as per Cl.22.14 of IS 302-1:2008</p> <p>Storage hooks and similar devices for flexible cords shall be smooth and well rounded. Compliance is checked by inspection as per Cl.22.15 of IS 302-1:2008</p> <p>Automatic Cord Reels shall be as per Cl.22.16 of IS 302-1:2008.</p> <p>Spacers intended to prevent the appliance from overheating walls shall be fixed so that it is not possible to remove them from the outside of the appliance by hand or by means of a screwdriver or a spanner. in accordance with Cl.22.17 of IS 302-1:2008</p> <p>Current carrying parts and other metal parts, the corrosion of which could result in a hazard, shall be resistant to corrosion under normal conditions of use; the relevant parts show no sign of corrosion. (Cl.22.18 of IS 302-1:2008).</p> <p>Driving Belts shall not be relied upon to provide the required level of insulation unless they are constructed to prevent inappropriate replacement as per Cl.22.19 of IS 302-1:2008</p> <p>Direct contact between live parts and thermal insulation shall be effectively prevented unless such material is non-corrosive, non-hygroscopic and non-combustible. Thermal insulation shall not be used for basic insulation of internal wiring. Compliance is checked by inspection as per Cl.22.20 of IS 302-1:2008</p> <p>Wood, cotton, Silk, ordinary paper and similar fibrous or hygroscopic material shall not be used as insulation, unless impregnated as per Cl.22.21 of IS 302-1:2008</p> <p>Appliance shall not contain asbestos as per Cl.22.22 of IS 302-1:2008</p>	Satisfactory
				Not applicable
				Satisfactory
				Satisfactory
				Satisfactory
				Not Applicable
				Not Applicable
				Not Applicable
				No corrosion observed
				Not Applicable
				Satisfactory

Authorized By:





# Akshat Test Lab & Calibration Services

A-2/49, G.D. STEEL COMPOUND, SITE-IV, INDUSTRIAL AREA,  
SAHIBABAD, GHAZIABAD, U.P. PINCODE-201010  
(NABL ACCREDITED & BIS RECOGNISED LABORATORY)



Certificate No. TC-6104

Report No.: ATLCS/R/1902210004

ULR No.: TC61042100000133F

Page 12 of 19

S. No.	Test Conducted	Test Method	Requirements as per IS:302-2-30: 2007	Results
		IS:302-2-30: 2007 & IS 302-1:2008	Oil containing polychlorinated biphenyl (PCB) shall not be used in appliances. Cl.22.23 of IS 302-1:2008	Satisfactory
			Bare heating elements shall be supported to prevent excessive displacement occurring during normal use. The rupture of a heating element shall not give to a hazard. Compliance is checked by inspection and by the flowing test: The heating element is cut in the most unfavourable place. The conductor shall not come into contact with accessible metal parts or fall out of the appliance Cl.22.24 of IS 302-1:2008.	Not Applicable
			Appliances, other than those of class- III, shall be constructed so that sagging heating conductors cannot come into contact with accessible metal part. Compliance is checked by inspection as per Cl.22.25 of IS 302-1:2008.	Not Applicable
			Appliances having parts of Class III construction shall be constructed so that the insulation between parts operating at safety extra-low voltage and other live parts complies with the requirements for double insulation or reinforced insulation. Cl. 22.26 of IS 302-1:2008	Not Applicable
			Parts connected by protective impedance shall be separated by double insulation or reinforced insulation. Compliance is checked as per Cl.22.27 of IS 302-1:2008.	Not Applicable
			For class II appliance connected in normal use to the gas mains or to the water mains, metal parts conductively connected to the gas pipes or in contact with the water shall be separated by live part by live parts by double insulation or reinforced insulation. Compliance is checked by inspection as per Cl.22.28 of IS 302-1:2008.	Class-I Appliance
			Class II appliances intended to be permanently connected to fixed wirings shall be constructed so that required degree of access to the live parts is maintained after installation. Compliance is checked by inspection as per Cl.22.29 of IS 302-1:2008.	Not Applicable
			Parts of Class II construction which serve as supplementary or reinforced insulation, and which could be omitted after reassembly shall be as per Cl.22.30 of IS 302-1:2008.	Class-I Appliance
			Clearance and creep age distances over supplementary insulation & reinforced insulation shall not be reduced below the value specified in 29 as a result of wear, if a part such as a wire, screw, nut or spring becomes loose or falls out of position, clearances and creep age distances between live parts and accessible parts shall not be reduced below the value specified for supplementary insulation. Compliance is checked by inspection, by measurement and by manual test as per Cl.22.31 of IS 302-1:2008.	Basic Insulation
			Supplementary and reinforced insulation shall be constructed and protected so that deposition of pollution resulting from wear of parts within the appliance does not reduce clearance and Creepage distances below the values specified in 29 as per Cl.22.32 of IS 302-1:2008.	Basic Insulation

Authorized By:





# Akshat Test Lab & Calibration Services

A-2/49, G.D. STEEL COMPOUND, SITE-IV, INDUSTRIAL AREA,  
SAHIBABAD, GHAZIABAD, U.P. PINCODE-201010  
(NABL ACCREDITED & BIS RECOGNISED LABORATORY)



Certificate No. TC-6104

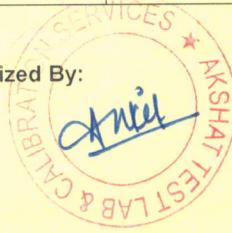
Report No.: ATLCS/R/1902210004

ULR No. : TC610421000000133F

Page 13 of 19

S. No.	Test Conducted	Test Method	Requirements as per IS:302-2-30: 2007	Results
			Conductive liquids that are or may become accessible in normal use shall not be in direct contact with live parts. Electrodes shall not be used for heating liquids. For Class II appliances, Conductive liquids that are or may become accessible in normal use shall not be in direct contact with basic insulation or reinforced insulation. Compliance is checked as per Cl.22.33 of IS 302-1:2008.	Not Applicable
			Shafts of opening knobs, handles, levers and similar parts shall not be live unless the shaft is inaccessible when the part is removed. Compliance is checked as per Cl.22.34 of IS 302-1:2008	Not Applicable
			For constructions other than those of Class III, Handles, levers and knobs which are held or actuated in normal use shall not become live in the event of an insulation fault. Cl.22.35 of IS 302-1:2008.	Satisfactory
			For appliances other than those of Class III, handles which are continuously held in the hand in normal use shall be constructed so that when gripped in normal use the operators hand is not likely to touch metal parts unless they are separated from live parts by double insulation or reinforced insulation. Cl.22.36 of IS 302-1:2008.	Not Applicable
			For Class II appliances, capacitors shall not be connected to accessible metal parts unless they comply with the requirements of 22.37 of IS 302-1:2008.	No capacitors used
			Capacitors shall not be connected between the contacts of a thermal cut-out as per Cl.22.38 of IS 302-1:2008.	No capacitors used
			Lamp holders shall be used only for connection of lamps. Compliance is checked as per Cl.22.39 of IS 302-1:2008.	Not Applicable
			Motor operated appliances and combined appliances which are intended to be moved while in operation shall be as per Cl. 22.40 of IS 302-1:2008.	Not Applicable
			Appliances shall not incorporate components. Other than lamps, containing mercury. Cl. 22.41 of IS 302-1: 2008	Satisfactory
			Protective impedance shall consist of at least two separate components whose impedance is unlikely to change significantly during the lifetime of the appliance. If any one of the components is short-circuited or open-circuited the values specified in 8.1.4 shall not be exceeded. Cl. 22.42 of IS 302-1:2008	Not Applicable
			Appliances which can be adjusted for different voltages shall be constructed so that accidental changing of the setting is unlikely to occur. (Cl.22.43 of IS 302-1:2008).	Not Applicable
			Appliances shall not have an enclosure that is shaped and decorated so that the appliance is likely to be treated as a toy by children. (Cl.22.44 of IS 302-1: 2008).	Satisfactory
			Heaters, other than heaters for mounting at high level, shall be guarded in order to prevent contact with heating element. (Cl.22.101 of IS 302-2-30:2007).	Satisfactory
			Fireguard shall have a total open area not less than 50 percent of the surface area of the fireguard. Compliance is checked by measurement (Cl. 22.102 of IS 302-2-30:2007)	Satisfactory
			Fireguard shall be securely attached to the heater so that it is not possible to detach them completely without the use of a tool. Compliance is checked by inspection and by manual test. (Cl. 22.103 of IS 302-2-30:2007)	Satisfactory

Authorized By:





# Akshat Test Lab & Calibration Services

A-2/49, G.D. STEEL COMPOUND, SITE-IV, INDUSTRIAL AREA,  
SAHIBABAD, GHAZIABAD, U.P. PINCODE-201010  
(NABL ACCREDITED & BIS RECOGNISED LABORATORY)



Certificate No. TC-6104

Report No.: ATLCS/R/1902210004

ULR No. : TC61042100000133F

Page 14 of 19

S. No.	Test Conducted	Test Method	Requirements as per IS:302-2-30: 2007	Results
			Appliance for wall mounting shall be constructed so that they can be securely fixed to the wall. (Cl.22.104 of IS 302-2-30:2007).	Not Applicable
			Accessible glass panel in direct contact with heating elements shall withstand thermal shock. The panel shall not be damaged.(Cl.22.105 of IS 302-2-30:2007).	Not Applicable
			Portable appliance shall not have openings on the underside that would allow small items to penetrate and touch live parts. (Cl.22.106 of IS 302-2-30:2007).	Satisfactory
			Visibly glowing radiant heaters intended to be fixed to a wall or ceiling shall be constructed so that the direction of radiation cannot be significantly changed without the use of a tool after the heater has been fixed. (Cl.22.107 of IS 302-2-30:2007).	Not Applicable
			Visibly glowing radiant heaters, other than heaters for mounting at high level, shall not incorporate thermostats, timers or similar means which switch on heating elements automatically; unless at least one heating element is already visibly glowing. The disconnection of the supply by a switch in the off position shall not rely on electronic components. Compliance is checked by inspection. (Cl.22.108 of IS 302-2-30:2007).	Satisfactory
15.	Internal Wiring (Cl.23 of IS 302-2-30:2007).	IS:302-2-30: 2007 & IS 302-1:2008	Wire ways shall be smooth and free from sharp edges. Wire shall be protected from coming in contact with burrs, cooling fins or similar edges. Holes in metal through which insulated wires pass shall have smooth well-rounded surface or be provided with bushings. Wiring shall be effectively prevented from coming into contact with moving parts. Internal wiring and electrical connections between different parts shall be adequately protected or enclosed as per Cl.23.1 of IS 302-1:2008.	Satisfactory
			Beads and similar ceramic insulations shall be fixed so that they cannot change their position or rest on sharp edges. Cl.23.2 of IS 302-1:2008	Satisfactory
			Different parts of an appliance that can move relative to each other in normal use or during user maintenance shall not cause undue stress to electrical connections and internal conductors. Compliance is checked as per Cl.23.3 of IS 302-1: 2008.	Satisfactory
			Bare internal wiring shall be rigid and fixed so that, in normal use, clearances of creep age distances cannot be reduced below the values specified in Cl.29 as per Cl.23.4 of IS 302-1: 2008.	Not Applicable
			The insulation of internal wiring shall withstand the electric stress likely to occur in normal use. Compliance is checked as per Cl.23.5 of IS 302-1: 2008.	Withstood the test
			When sleeving is used as supplementary insulation on internal wiring it shall be retained in position by positive means. Compliance is checked by inspection and by manual test as per Cl. 23.6 of IS 302-1: 2008.	Satisfactory
			Conductors identified by the colour combination green/Yellow shall only be used for earthing conductors. Compliance is checked as per Cl. 23.7 of IS 302-1: 2008.	Earthing wire color Green/Yellow
			Aluminium wires shall not be used for internal wiring. Compliance is checked by inspection as per Cl. 23.8 of IS 302-1: 2008.	Satisfactory

Authorized By:





# Akshat Test Lab & Calibration Services

A-2/49, G.D. STEEL COMPOUND, SITE-IV, INDUSTRIAL AREA,  
SAHIBABAD, GHAZIABAD, U.P. PINCODE-201010  
(NABL ACCREDITED & BIS RECOGNISED LABORATORY)



Certificate No. TC-6104

Report No.: ATLCS/R/1902210004

ULR No.: TC61042100000133F

Page 15 of 19

S. No.	Test Conducted	Test Method	Requirements as per IS:302-2-30: 2007	Results
			<p>Stranded Conductors shall not consolidated by lead-tin soldering. Where they are subjected to contact pressure unless the clamping means is constructed so that there is no risk of bad contact due to cold flow of solder. Compliance is checked as per Cl. 23.9 of IS 302-1: 2008.</p> <p>The insulation and sheath of internal wiring, incorporating in external hoses for the connection of an appliance to the water mains, shall be at least equivalent to that of light polyvinyl chloride sheathed flexible cord. Compliance is checked by as per Cl. 23.10 of IS 302-1: 2008.</p>	Satisfactory
				Not Applicable
16.	Component (Cl.24 of IS 302-2-30:2007).	IS:302-2-30: 2007 & IS 302-1:2008	<p>Components shall comply with the safety requirements Specified in the relevant Indian standard wherever exists as per (Cl.24.1 of IS 302-1:2008).</p> <p>Plug</p> <p>BONEX, 6A, 250V, AC , L, N &amp; Earthing Marked ISI Marked, IS 1293, CM/L- 8530013316, MADE IN INDIA</p> <p>Supply Cord</p> <p>BONEX, 1100V, 3 Core 0.75 sq mm. ISI Marked IS:694, CM/L- 31172246085</p> <p>For switches operating during the test of 19.112, the number of cycles of operation is 300. (Cl.24.1.3 of IS 302-2-30:2007).</p> <p>For thermostats of liquid-filled radiators that operate during the test of 11 to limit the surface temperature rise to 85 K, the number of cycles of operation is increased to 100 000. Cl. 24.1.4 of IS 302-2-30:2007</p> <p>For self re-setting thermal cut out, the number of cycle of operation shall not be less than 10000. Cl. 24.1.4 of IS 302-2-30:2007</p> <p>For non-self-resetting thermal cut-outs operating during the test of Cl.19.112, the number of cycles of operation shall not be less than 300 Cl. 24.1.4 of IS 302-2-30:2007</p> <p>For other non-self-resetting thermal cut-out, the number of cycles of operation shall not be less than 1000. (Cl.24.1.4 of IS 302-2-30:2007).</p> <p>Appliance shall not be fitted with:</p> <ul style="list-style-type: none"> <li>a) Switches or automatic controls in flexible cords</li> <li>b) Devices that cause the protective device in the fixed wiring to operate in the event of a fault in the appliance; and</li> <li>c) Thermal cut-outs that can be reset by a soldering Operation. (Cl.24.2 of IS 302-1:2008).</li> </ul> <p>Switches intended to ensure all-pole disconnection of stationary appliances, as required 22.2, shall be directly connected to the supply terminals and shall have a contact separation in all poles, providing full disconnection under overvoltage category II conditions. Cl. 24.3 of IS 302-1: 2008</p> <p>Plug and socket-outlets for extra-low voltage circuits, and those used as terminal devices for heating elements, shall not be interchangeable with plugs and socket-outlets listed in IS 1293 or with connectors and appliance inlets complying with the standard sheets of IS/IEC 60320-1. Cl. 24.4 of IS 302-1:2008</p>	<p>Satisfactory</p> <p>Not Applicable</p>

Authorized By:





# Akshat Test Lab & Calibration Services

A-2/49, G.D. STEEL COMPOUND, SITE-IV, INDUSTRIAL AREA,  
SAHIBABAD, GHAZIABAD, U.P. PINCODE-201010  
(NABL ACCREDITED & BIS RECOGNISED LABORATORY)



Certificate No. TC-6104

Report No.: ATLCS/R/1902210004

ULR No. : TC61042100000133F

Page 16 of 19

S. No.	Test Conducted	Test Method	Requirements as per IS:302-2-30: 2007	Results
			Devices incorporated in oil-filled radiators in order to comply with Cl.19.114 shall not be self-resetting. Compliance is checked by inspection. (Cl.24.101 of IS 302-2-30:2007).	Not Applicable
17.	Supply Connection and External Flexible Cords (Cl.25 of IS 302-2-30:2007).	IS:302-2-30: 2007 & IS 302-1:2008	<p>Appliance shall be provided with one of the following means for connection to the supply mains:</p> <p>a) Supply cord fitted with a plug;</p> <p>b) an appliance inlet having at least the same degree of protection against moisture as required for the appliance; and</p> <p>c) Pins for insertion into socket-outlets. (Cl.25.1 of IS 302-1:2008).</p> <p>Appliances, other than stationary appliances for multiple supplies, shall not be provided with more than one means of connection to the supply mains. Compliance is checked as per Cl. 25.2 of IS 302-1: 2008.</p> <p>Appliances intended to be permanently connected to fix wiring shall be as per Cl. 25.3 of IS 302-1:2008.</p> <p>For Appliances intended to be permanently connected to fixed wiring and having rated current not exceeding 16A. Compliance is checked as per Cl. 25.4 of IS 302-1: 2008.</p> <p>Supply cords shall be assembled to the appliance by one of the following methods:</p> <p>Type X attachment;</p> <p>Type Y attachment;</p> <p>Type Z attachment;</p> <p>Compliance is checked as per Cl. 25.5 of IS 302-1: 2008.</p> <p>Plugs shall not be fitted with more than one flexible cord. (Cl.25.6 of IS 302-1:2008).</p> <p>Supply cords shall not be lighter than:</p> <p>a ) Braided cord, if allowed in the relevant part:2;</p> <p>b) Ordinary tough rubber sheathed cord;</p> <p>c) Ordinary poly chloroprene sheathed flexible cord;</p> <p>d) Flat twin tinsel cord, if allowed in the relevant Part2;</p> <p>e) Light polyvinyl chloride sheathed cord, for appliances having a mass not exceeding 3Kg; and</p> <p>f) Ordinary polyvinyl chloride sheathed cord, for appliances having a mass Exceeding 3Kg. (Cl.25.7 of IS 302-1:2008).</p> <p>Supply cords of portable heaters intended to be used in greenhouses shall be poly chloroprene sheathed flexible cord.</p> <p>Supply cord of heater intended to be used on building sites shall not be lighter than heavy poly chloroprene sheathed flexible cord. Cl. 25.7 of IS 302-2-30:2007</p> <p>Conductors of supply cords shall have nominal cross sectional area not less than <math>0.75\text{mm}^2</math>. Cl. 25.8 of IS 302-1: 2008</p> <p>Conductor resistance for the supply cord shall be <math>26.0\Omega/\text{km}</math> max Cl. 25.8 of IS 302-1: 2008</p> <p>Length of the supply cord</p> <p>Supply cords shall not be in contact with sharp points or edges of the appliance. (Cl.25.9 of IS 302-1:2008).</p>	<p>Supply cord fitted with a plug</p> <p>Not Applicable</p> <p>Not Applicable</p> <p>Not Applicable</p> <p>Not Applicable</p> <p>Type Y attachment</p> <p>Satisfactory</p> <p>Light polyvinyl chloride sheathed cord</p> <p>Not Applicable</p> <p>Not Applicable</p> <p>Red- <math>0.75\text{mm}^2</math></p> <p>Black- <math>0.75\text{mm}^2</math></p> <p>Green/Yellow <math>0.75\text{mm}^2</math></p> <p>Red- <math>24.89\Omega/\text{km}</math></p> <p>Black- <math>24.91\Omega/\text{km}</math></p> <p>Green/Yellow <math>24.91\Omega/\text{km}</math></p> <p>&lt; 2 m</p> <p>Satisfactory</p>

Authorized By:





# Akshat Test Lab & Calibration Services

A-2/49, G.D. STEEL COMPOUND, SITE-IV, INDUSTRIAL AREA,  
SAHIBABAD, GHAZIABAD, U.P. PINCODE-201010  
(NABL ACCREDITED & BIS RECOGNISED LABORATORY)



Certificate No. TC-6104

Report No.: ATLCS/R/1902210004

ULR No.: TC610421000000133F

Page 17 of 19

S. No.	Test Conducted	Test Method	Requirements as per IS:302-2-30: 2007	Results
			<p>The supply cord of class-I appliance shall have a green/yellow core that is connected to the earthing terminal of the appliance and to the earthing contact of the plug. (Cl.25.10 of IS 302-1:2008).</p> <p>Conductors of the supply cords shall not be consolidated by lead-tin soldering where they are subjected to contact pressure, unless the clamping means is constructed so that there is no risk of a bad contact due to cold flow of the solder. (Cl.25.11 of IS 302-1:2008).</p> <p>The insulation of the supply cords shall not be damaged when moulding the cord to part of the enclosure. (Cl.25.12 of IS 302-1:2008).</p> <p>Inlet openings for supply cords shall be constructed so that the sheath of the supply cord can be introduced without risk of damage.(Cl.25.13 of IS 302-1:2008)</p> <p>During the tests, as per (Cl.25.15 of IS 302-1:2008), the cord shall not be damaged and shall show no appreciable strain at the terminals. After pull force is applied the cord shall not be longitudinally displaced by more than 2 mm.</p> <p>Cord anchorages for Type X attachments shall meet the requirements as per (Cl.25.16 of IS 302-1:2008).</p> <p>For type Y attachment and type Z attachment, cord anchorage shall be adequate. Compliance is checked by the test of (Cl.25.15 of IS 302-1:2008). Cl.25.17 of IS 302-1:2008.</p> <p>Cord anchorages shall be arranged so that so that they are only accessible with the aid of a tool or shall be constructed so that the cord can only be fitted with the aid of a tool. (Cl.25.18 of IS 302-1:2008).</p> <p>For Type X attachment, glands shall not be used as cord anchorages in portable appliances. Tying the cord into a knot or tying the cord with string is not allowed. (Cl.25.19 of IS 302-1:2008).</p> <p>The insulated conductors of the supply cord for Type Y attachment and Type Z attachment shall be additionally insulated from accessible metal parts by basic insulation for Class- I, appliance. (Cl.25.20 of IS 302-1:2008)</p> <p>The space for the connection of supply cords having Type X attachment, or for the connection of fixed wiring, (Cl.25.21 of IS 302-1:2008).</p> <p>The dimensions of pins of appliances that are inserted into socket-outlet shall be compatible with the dimension of the relevant socket-outlet. Dimension of the pins and engagement face are to be in accordance with the dimensions of the relevant plug listed in IS 1293. Cl. 25.25 of IS 302-1:2008</p>	<p>Earthing wire color Green/Yellow</p> <p>No lead-tin soldering</p> <p>Satisfactory</p> <p>No inlet opening</p> <p>Passes the test</p> <p>Type Y attachment</p> <p>No Cord anchorage used</p> <p>No Cord anchorage used</p> <p>Type Y attachment</p> <p>Satisfactory</p> <p>Not Applicable</p> <p>Not Applicable</p>
18.	Terminals for external conductors (Cl.26 of IS 302-2-30:2007).	IS:302-2-30: 2007 & IS 302-1:2008	For appliances having type Y attachment or type Z attachment, soldered, welded, crimped or similar connections may be used for the connection of external conductors. For class II appliances, the conductor shall be positioned or fixed so that reliance is not placed upon the soldering, crimping or welding alone to maintain the conductor in position as per Cl. 26.11 of IS 302-1:2008.	Crimped type connections

Authorized By:





# Akshat Test Lab & Calibration Services

A-2/49, G.D. STEEL COMPOUND, SITE-IV, INDUSTRIAL AREA,  
SAHIBABAD, GHAZIABAD, U.P. PINCODE-201010  
(NABL ACCREDITED & BIS RECOGNISED LABORATORY)



Certificate No. TC-6104

Report No.: ATLCS/R/1902210004

ULR No.: TC61042100000133F

Page 18 of 19

S. No.	Test Conducted	Test Method	Requirements as per IS:302-2-30: 2007	Results
19.	Provision for earthing (Cl.27 of IS 302-2-30:2007).	IS:302-2-30: 2007 & IS 302-1:2008	Earthing terminal shall be permanently and reliably connected to an earthing terminal for class-I appliance. Earthing terminals and earthing contacts shall not be connected to the neutral terminals. (Cl.27.1 of IS 302-1:2008).	Satisfactory
		IS:302-2-30: 2007 & IS 302-1:2008	Earthing terminals shall be adequately secured against accidental loosening. (Cl.27.2 of IS 302-1:2008).	Satisfactory
			For appliances with supply cords, the arrangement of the terminals, or the length of the conductors between the cord anchorage and the terminals shall satisfy the requirements of (Cl.27.3 of IS 302-1:2008).	No cord anchorage used
			All parts of the earthing terminal intended for the connection of external conductor shall have adequate resistance to corrosion.(Cl.27.4 of IS 302-1:2008).	Satisfactory
			The resistance shall not exceed 0.1 Ω, when tested as per Cl.27.5 of IS 302-1:2008.	0.043 Ω
20.	Screws and connections (Cl.28 of IS 302-2-0:2007).	IS:302-2-30: 2007 & IS 302-1:2008	Shall satisfy the requirements of the test as per Cl.28 of IS 302-1:2008.	Satisfactory
21.	Clearances, Creepage Distances and Solid Insulation (Cl. 29 of IS 302-2-30:2007).	IS:302-2-30: 2007 & IS 302-1:2008	Shall meet the requirements of Cl. 29.1 & 29.2 of IS 302-1:2008. A force of 2 N is applied for bare conductor & 30 N for accessible surfaces to try to reduce clearances & Creepage distances while making the measurements.	Satisfactory
			Minimum Clearance 1.5mm	More than 1.5mm
			Minimum Creepage distance 0.6 mm	More than 0.6mm
			Appliances shall be constructed so that Creepage distances are not less than those appropriate for the working voltage, taking into account the material group and the pollution degree. Cl. 29.2 of IS 302-1:2008.	Satisfactory
			For fan heaters, the microenvironment is pollution degree 3 unless threw insulation is enclosed or located so that it is unlikely to be exposed to pollution during normal use of the appliance. Cl. 29.2 of IS 302-2-30: 2007.	Not Applicable
22.	Resistance to heat and fire (Cl.30 of IS 302-2-30:2007).	IS:302-2-30: 2007 & IS 302-1:2008	Resistance to heat External parts of non metallic material, parts of insulating material supporting live parts including connections, and parts of thermoplastic material providing supplementary or reinforced insulation, shall be sufficiently resistant to heat are subjected to Ball Pressure Test. Cl. 30.1 of IS 302-1:2008	Satisfactory & Withstood the test
			For portable fan heaters, the temperature rise determined during the test of 19 are not taken into account. Cl. 30.1 of IS 302-2-30:2007	Not Applicable

Authorized By:





# Akshat Test Lab & Calibration Services

A-2/49, G.D. STEEL COMPOUND, SITE-IV, INDUSTRIAL AREA,  
SAHIBABAD, GHAZIABAD, U.P. PINCODE-201010  
(NABL ACCREDITED & BIS RECOGNISED LABORATORY)



Certificate No. TC-6104

Report No.: ATLCS/R/1902210004

ULR No.: TC61042100000133F

Page 19 of 19

S. No.	Test Conducted	Test Method	Requirements as per IS:302-2-30: 2007	Results
			<p>The glow-wire test is carried out on enclosures at a temperature of 650°C. Cl. 30.2.1 of IS 302-2-30:2007</p> <p>Fan heaters having an enclosure of substantially non-metallic material shall be resistant to fire. Compliance is checked by inspection and by subjecting the enclosure of the appliance to the needle-flame test of Annex E of Part 1 of this standard. The needle-flame test is not carried out on material classified as v-0 or v-1 according to IS 11000 (Part 2/ Sec 2), provided that the test sample was no thicker than the relevant part. Cl. 30.101 of IS 302-2-30:2007</p>	<p>Satisfactory &amp; Withstood the test</p> <p>Not Applicable</p>
23.	Resistance to rusting (Cl.31 of IS 302-2-30:2007).	IS:302-2-30: 2007 & IS 302-1:2008	Ferrous parts, the rusting of which might cause the appliance to fail to comply with this standard, shall be adequately protected against rusting. (Cl.31 of IS 302-2-30:2007).	Satisfactory
24.	Radiation, Toxicity and Similar Hazards (Cl.32 of IS 302-2-30:2007).	IS:302-2-30: 2007 & IS 302-1:2008	Appliances shall not emit harmful radiation or present a toxic or similar hazard. (Cl.32 of IS 302-2-30:2007).	Not Applicable

**Remarks:-** The sample conforms to IS 302-2-30: 2007 & IS 302-1:2008 with latest amendments with respect to the above test only.

Authorized By:



#### Terms & Conditions:

1. Test reports are valid only for the particular sample tested in our laboratory.
2. The sample not drawn by us and the analysis conducted as received basis unless specified otherwise.
3. Complaint about this report should be communicated in writing within 10 days of issue of the report.
4. This report will not be valid for judicial purpose.
5. Total liability of our lab is limited to invoiced amount.