Laboratory	**Bharat Test House Private Limited, 781, HSIIDC Industrial Estate, Rai, Sonepat, Haryana**		
Accreditation Standard	**ISO/IEC 17025: 2005**		
Discipline	**Electrical Testing**	**Issue Date**	**31.01.2014**
Certificate Number	**T-1688**	**Valid Until**	**30.01.2016**
Last Amended on	**-**	**Page**	**1 of 33**

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
I.	**CABLES & WIRES**			
1.	**PVC Insulated Cable Upto 1100 V** (IS: 694-2010) **Pvc Insulated (heavy duty) Cables Upto 1100 V** (IS:1554 (Pt.-1)-1988) **Xlpe PVC Sheathed Cables up to 1100 V** (IS: 7098(Pt.-11988) **Elastomer Insulated Cable upto 1100 V** (IS: 9968(Pt.-11988) **Aerial Bunched cables for Working Voltage Upto and Including 1100 Volt** (IS: 14255 : 1995) **Motor Vehicle Cables** (IS:2465:1984)	Wrapping test for Aluminium Conductor	IS 8130:1984 IS10810 (Pt 3)-1984	-
		Thickness of Insulation & Sheath	IS: 10810 (Pt 6)-1984	Upto 150 mm LC 0.1 mm
		Loss of mass test	IS 5831:1984 IS: 10810 (Pt 10)-1984	Amb - 200°C 0 to10mg/cm^2
		Ageing in air oven	IS 5831:1984 IS: 10810 (Pt 11)-1984	Amb - 200°C TS Variation Upto ±50% Elongation Variation Upto ±50%
		Shrinkage test	IS 5831:1984 IS: 10810 (Pt 12)-1984	Amb - 200°C 0 to 10%
		Heat shock test	IS 5831:1984 IS: 10810 (Pt 15)-1984	Amb - 200°C
		Hot deformation test	IS 5831:1984 IS:10810 (Pt 15)-1984	Amb - 200°C Upto 960 g 0 to 100%
		Insulation resistance	IS 5831:1984 IS 10810 (Pt 43)-1984 DIN VDE 0276-605-2009	Upto 50 M ohm km
		Volume Resistivity	IS:10810 (Pt 43)-1984	Upto 10^{17} Ohm cm
		High Voltage test	IS:10810 (Pt 45)-1984	Upto 15 kV
		AC High Voltage test (Water immersion)	IS: 10810 (Pt 45)-1984 DIN VDE 0276-604-2008	Upto 5 kV

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Last Amended on	**-**	**Page**	**2 of 33**

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Winding Wires For Submersible Motors {IS 8783 (Part 4/ Sec –Sec 3):1995}	DC High Voltage test (Water immersion)	IS: 10810 (Pt 45)-1984	Upto 5 kV
		Flammability test	IS: 10810 (Pt 53)-1984	Upto 300 mm dia 0 to 5 min Upto 600 mm
	Shot Firing Cables (for use other than in shafts) (IS 5950:1984)	Cold Bend Test	IS 10810 (Pt 20)-1984 DIN VDE 0276-605-2009	Qualitative
	Welding Cable (IS 9857:1990)	Cold Impact Test	IS 10810 (Pt 21) -1984	Qualitative
	Polyvinyl Chloride Insulated Cables Of Rated Voltage Upto And Including 450/750V (IEC 60227-:1993, IEC 60227-4:1992, IEC 60227-5:2011, IEC 60227-6:2001, IEC 60227-7:1995)	Additional ageing tests	Clause 10.9 of IS 694-2010	Qualitative
		Conductor Resistance	IS 8130 : 1984 IS 10810 (Pt-5)- 1984	0.2 µohms to 11 ohm
		Annealing test for Copper Conductor	IS 8130:1984 IS 10810 (Pt 1)-1984 IEC 60228-2004	Upto 10kN 0 to40%
		Tensile strength for Aluminium Conductor	IS 8130:1984 IS 10810 (Pt 2) -1984 IEC 60228-2004	Upto 10 kN
	Power Cables With Extruded Insulation And Their Accessories For Rated Voltage of 1 kV	Tensile strength & Elongation at break of insulation & sheath	IS 5831:1984 IS:10810 (Pt 7) -1984 IEC 60811-100:2012	Upto 250 kg
		Hot set test	IS:10810 (Pt 30) -1984 IEC 60811-100:2012	Amb - 200°C Upto 25 mm

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	(*U*m = 1,2 kV) and 3 kV (*U*m = 3,6kV) (IEC 60502-1:2004) **Flat Polyvinyl Chloride**	Water absorption (Gravimetric)	IS:10810 (Pt 33) -1984 IEC 60811-100:2012	Amb - 200°C Upto 300gm
		Tests for Sheath		
	Sheathed Flexible Cables (BS EN 50214:2006) **Rubber Insulated Cables** (BS 5467:1997 IEC 60245-3:1994) **Electric Cables — PVC Insulated, Armoured Cables for voltages of 600/1000V and 1900/3300 V** (BS 6346:1996) **Power Cables Rated 2000 V or less for the Distribution Of Electrical Energy** (ANSI/NEMA WC 70-2009/ ICEA S-95-658-2009) ;	Tensile strength & Elongation at break	IS:10810 (Pt 7)-1984 IEC 60811-100:2012	10 to 20N/mm^2 100 to 250%
		Ageing in air oven	IS:10810 (Pt 11)-1984 IEC 60811-100:2012	Variation Upto ±50%
		Shrinkage test	IS:10810 (Pt 12)-1984	Amb - 200°C Upto 300mm
		Hot deformation test	IS:10810 (Pt 15)-1984	Amb - 200°C Upto 960 g 0 to80%
		Heat shock test	IS:10810 (Pt 14)-1984	Qualitative
		Flammability test	IS:10810 (Pt 53)-1984	Upto 100 mm dia 0 to5 min Upto 600 mm
		Test for armouring Wires & strips IS 3975:1999		
		Dimension for armouring material	IS:10810 (Pt 36)-1984	Upto 25 mm
		Tensile strength & Elongation at break	IS: 10810 (Pt 37)-1984	200 to 600 N/mm^2 Upto 600%
		Torsion test on Galvanised steel wire for armouring	IS:10810 (Pt 38)-1984	0 to 100 turns

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Armoured Fire-Resistant Cables having Thermosetting Insulation and Low Emission of Smoke and corrosive gases When Affected by Fire (BS 7846:2009 Electric cables 600/1000 V), **Low Voltage Cables for Automobiles** (JIS C 3406:1993) **Road Vehicles Low Tension Cables** (DIN 72551-6:1996) **High Temperature Electric Wire** (JSS 51034:1992) **Cables Ao axial High Frequency** (JSS 6145-24: 2007)	Winding test on Galvanised steel strips for armouring	IS: 10810 (Pt 39)-1984	-
		Uniformity of Zinc coating	IS: 10810 (Pt 40)-1984	-
		Mass of Zinc coating	IS: 10810 (Pt 41)-1984	Upto 500 g 0 to 250 g/m^2
		Resistivity & Conductance test of Armour (Wires/strips)	IS:10810 (Pt 42)-1984	Upto 19.99 k ohm
		Thickness of Insulation & sheath	IS: 10810 (Pt 6)-1984	Upto 140 mm
		Oxygen Index Test	IS 10810 (Pt 58) ASTM D2863 – 12	10 to 40%
		Flame Retardance Test on Single Cable	IS 10810 (Pt 61)-1988	0 to 800 mm
		Flame Retardance Test on Bunched Cable	IS 10810 (Pt 62)-1993	0 to 3500 mm
		Temperature Index	IS 10810 (Pt 64)-2003	200 to 500 °C
		Smoke Density	IS 10810 (Pt 63) -1993 / ASTM D2843-10 IEC 61034-2:2005	20 to 50%
		Halogen Acid Gas Evolution	IS 10810(Pt 59) -1988 IEC 60754-1:2011	10 to 30%
		Overall Dimensions	IEC 60811-100:2012	1 to 100 mm
		Thermal stability	IS 10810 (Pt- 60) -1988	60 to 150 minute

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Aging in Air Bomb	IS 10810 (pt 56) -1987 IEC 60811-100:2012	20 to 50%
		Aging in Oxygen Bomb	IS 10810 (pt 16) -1986 IEC 60811-100:2012	20 to 50%
		Oil resistance	IS 10810 (pt 31)-1984 IEC 60811-100:2012	10 to 50%
		Ozone resitance	IS 2465: 1984 Cl.17 IEC 60811-100:2012	-
		Water absorption (Vacuum oven)	IS 10810 (Pt 33) -1984	0.1 to 2.5 mg/cm^2
		Melt flow index	IS 10810 (pt 23) -1984 IEC 60811-100:2012	Upto 10 g/10 minute
		Vicat softening point	IS 10810 (pt 22) -1984	50 to 140°C
		Carbon Black and/or mineral content	IS 10810 (pt 32) -1984 IEC 60811-100:2012	Upto 600°C
		Effect of lubricating oil/brake fluid/diesel/petrol	IS 10810(Pt 31) -1984	TS Variation Upto ±60% Elongation Variation Upto ±60%
		Ozone test	IS 10810(Pt 13)-1984	Qualitative
		Specific Tests for Auto Cables		
		Oil resistance	JIS 3406:1993	Qualitative
		Heat resistance	JIS 3406:1993	Qualitative
		Low temp.	JIS 3406:1993	Qualitative
		Abrasion resistance	JIS 3406:1993	Upto 5000 mm

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
II.	**CONDUCTORS & CONDUCTING MATERIALS**			
1.	**Aluminium Conductors For Overhead Transmission Purpose** (IS 398 (Part 1):1996 IS 398 (Part 2):1996 IS 398 (Part 3):1976 IS 398 (Part 4):1994 IS 398 (Part 5):1992) {Upto 100 mm^2}	Dimension	IS 398(Part 1): 1996	0 to 25 mm 0 to 150 mm
		Breaking load - Aluminium - Steel	IS 398(Part 1): 1996	0 to 2000 N 0 to 5000 N
		Wrapping test	IS 398(Part 1):1996, IS 398(Part 2):1996, IS 398(Part 4):1994, IS 398(Part 5):1992	Qualitative
		Ductility test	IS 398(Part 1):1996, IS 398(Part 2):1996, IS 398(Part 4):1994, IS 398(Part 5):1992	Qualitative
		Resistance test	IS 398(Part 1):1996, IS 398(Part 2):1996, IS 398(Part 4):1994, IS 398(Part 5):1992	Upto 1 Ω
III.	**DOMESTIC ELECTRICAL APPLIANCES**			
1.	**a) Electric Iron** **b) Steam Iron** IS: 302-2-3 :2007 IEC 60335-2-3 **c) Electric Immersion Water Heater** IS 302-2-201 :2008 IEC 60335-2-74:2002 IEC 60335-2-73:2002	Marking / Marking & Instructions	Cl 7 of IS 302-1:2008, 302-2 and IEC:60335-1:2010 & IEC:60335-2	Visual Examination
		Protection against electric shock / Protection against access to live parts	Cl 8 of IS 302-1:2008, IS 302-2 and IEC:60335-1:2010 & IEC:60335-2	Standard Test Finger Upto 75V
		Input and current / Power Input and current	Cl 10 of IS 302-1:2008, 302-2 and IEC:60335-1:2010 & IEC:60335-2	Upto to 5000 W

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Electric Radiator/ Room Heaters IS 302-2-30 : 2007 IEC 60335-2-30 **d)Stationary Storage Type Electric Water Heater** IS:302-2-21-2011 IEC 60335-2-21 :2012 **e) Electric Stoves** IS 302-2-202: 1992 **f) Mineral Filled Sheathed Heating Elements** IS 4159:2002 **g)Electric Instantaneous h)**Water Heater IS 302-2-35:2011 IEC 60335-2-35:2012 **i) Domestic Electric Food Mixers** IS 4250:1980	Temperature rise / Heating	Cl 11 of IS 302-1:2008, IS 302-2 and IEC:60335-1:2010& IEC:60335-2	Upto 150°C
		Operation under over load conditions of appliances with heating element	Cl 12 of IS 302-1:1979/302-2	Upto to 6000 W
		Electrical Insulation and Leakage current at operating temperature / Leakage current and electric strength at operating temperature	Cl 13 of IS 302-1:2008, IS 302-2 and IEC:60335-1:2010& IEC:60335-2	Upto 750µA Upto 5kV
		Transient over voltage test	Cl 14 of IS 302-1:2008, IS 302-2 and IEC:60335-1:2010& IEC:60335-2	Upto 4kV 1.2/50µs
		Moisture resistance	Cl 15 of IS 302-1:2008, IS 302-2 and IEC:60335-1:2010& IEC:60335-2	20 to 99%RH
		Insulation resistance and electric strength(After humidity treatment)/ Leakage current and electric strength	Cl 16 of IS 302-1:2008, IS 302-2 and IEC:60335-1:2010& IEC:60335-2	Upto 1000 MΩ Upto 5 kV 0 to 750µA
		Overload protection of Transformers and associated circuits/Overload protection	Cl 17 of IS 302-1:2008, IS 302-2 and IEC:60335-1:2010& IEC:60335-2	Upto 400°C
	Electric Toasters, Grills, Roasters and Similar j) Appliances IS 302-2-9:2009 **k)Domestic Electric Cooking Ovens** IS 302-2-6:2009	Endurance	Cl 18 of IS 302-1:1979, IS 302-2 and IEC:60335-1:2010& IEC:60335-2	Upto 1000 MΩ Up to 5 kV
		Abnormal operation	Cl 19 of IS 302-1:2008, IS 302-2 and IEC:60335-1:2010	Upto 400°C

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	l) Mains Operated lectric Hair Dryers IS302-2-23:2009 **m) Electric Coffee Machines** IS 302-2-206:1994	Stability and mechanical hazards	Cl 20 of IS 302-1:2008, IS 302-2 and IEC:60335-1:2010& IEC:60335-2	Upto 600
		Mechanical strength	Cl 21 of IS 302-1:2008, IS 302-2 and IEC:60335-1:2010& IEC:60335-2	0.5 Joule
		Construction	Cl 22 of IS 302-1:2008, IS 302-2 and IEC:60335-1:2010& IEC:60335-2	Visual Examination
		Internal wiring	Cl 23 of IS 302-1:2008, IS 302-2 and IEC:60335-1:2010& IEC:60335-2	0 to 3kV
		Components	Cl 24 of IS 302-1:2008, IS 302-2 and IEC:60335-1:2010& IEC:60335-2	Visual Examination
		Supply connection & external flexible cables & cords / Supply connection & external flexible cords	Cl 25 of IS 302-1:2008, IS 302-2 and IEC:60335-1:2010& IEC:60335-2	Pull 30 to 100 N, Torque 0.1 to 0.35 Nm
		Terminals for external conductors	Cl 26 of IS 302-1:2008, IS 302-2 and IEC:60335-1:2010& IEC:60335-2	Upto 50 mm
		Provision for earthing	Cl 27 of IS 302-1:2008, IS 302-2 and IEC:60335-1:2010& IEC:60335-2	0 to 20 V, 0 to 50 Amps
		Screws and connections	Cl 28 of IS 302-1:2008, IS 302-2 and IEC:60335-1:2010& IEC:60335-2	0.1 to 3 Nm
		Creepage distance & clearances / Clearances, Creepage distances and solid insulations	Cl 29 of IS 302-1:2008, IS 302-2 and IEC:60335-1:2010& IEC:60335-2	Upto 25 mm

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Resistance to heat, fire and tracking / Resistance to heat and fire	Cl 30 of IS 302-1:2008, IS 302-2 and IEC:60335-1:2010& IEC:60335-2	Upto 250°C 0 to 10 mm; Upto 1200°C 0 to 5 min;
		Resistance to rusting	Cl 31 of IS 302-1:1979, IS 302-2 and IEC:60335-1:2010& IEC:60335-2	Upto 150°C Upto 95% RH
		Finish	Cl 33 of IS 302-1:1979, IS 302-2 and IEC:60335-1:2010& IEC:60335-2	Qualitative
Performance Test				
2.	**Electric Iron** IS: 366-1991, IEC 60311-2002	Measurement of Heating up time	Cl 10 IS : 366-1991 IEC 60311-2002	Upto 15 minutes
		Measurement of Sole plate temperature	Cl 11 IS: 366-1991, IEC 60311-2002	Upto 300°C
		Measurement of Temperature Distribution	Cl 12 IS: 366-1991, IEC 60311-2002	Difference upto 25°C
		Measurement of Initial Over swing Temp and Heating up excess temperature	Cl 13 IS: 366-1991, IEC 60311-2002	Upto 250°C; Upto 60°C
		Measurement of Cyclic Fluctuation of Temperature	Cl 14 IS: 366-1991, IEC 60311-2002	Fluctuation Up to 40°C
		Measurement of Temperature Drop under load	Cl 15 IS: 366-1991, IEC 60311-2002	Upto 20°C
		Measurement of Thermostatic Stability	Cl 16 IS: 366-1991, IEC 60311-2002	0 to 3 kV; Upto 50°C

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Finish	Cl 17 IS: 366-1991, IEC 60311-2002	0 to 50°C Upto 95%RH
		Measurement of Sole plate temperature	Cl 11 IS: 366-1991, IEC 60311-2002	Upto 300°C
3.	**Electric Immersion Water Heater** IS 368:1992 Reaffirmed in 2004	Endurance	Cl 10 IS: 368-1992	0 to 5kV
		Finish	Cl 11 IS: 368-1992	Qualitative
4.	**Electric Radiator** IS 369:1992 reaffirmed in 2001 IEC 60675:1994	Temperature rise of surface on which the appliance is placed or supported	Cl 11 of IS 369:1992 Cl 9 of IEC 60675:1994	Upto 100°C
		Endurance	Cl 12 of IS 369:1992	0 to 5kV
	Electric Stoves IS 2994: 1992 Reaffirmed in 2004	Endurance Test	Cl 10 of IS 2994:1992	0 to 5kV
5.	**Electric Immersion Water Heater** IS 368:1992 Reaffirmed in 2004	Finish	Cl 11 of IS 2994:1992	0 to 50°C Upto 95%RH
		Thermal Efficiency	Cl 12 of IS 2994:1992	Upto 80%
		Endurance	Cl 10 IS: 368-1992	0 to 5kV
6.	**Stationary Storage Type Electric Water Heater** IS 2082: 1993 IEC 60379: 1996	Verification of Rated Capacity	Cl 15 of IS 2082:1993 Cl 13 of IEC 60379:1996	Upto 200 Liters
		Standing Loss per 24 Hrs.	Cl 16 of IS 2082:1993 Cl 14 of IEC 60379:1996	Upto 5.0 KWh/day
		Hot Water Output	Cl 17 of IS 2082:1993 Cl 15 of IEC 60379:1996	Upto 80°C

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Reheating Time	Cl 18 of IS 2082:1993 Cl 16 of IEC 60379:1996	Upto 180 minutes
		Mixing Factor	Cl 19 of IS 2082:1993 Cl 17 of IEC 60379:1996	Upto 60%
		Deviation from Dial Calibration	Cl 20 of IS 2082:1993 Cl 18 of IEC 60379:1996	Upto 20°C
		Cyclic Temperature Variation	Cl 21 of IS 2082:1993 Cl 19 of IEC 60379:1996	Upto 20°C
		Finish	Cl 22 of IS 2082:1993	Visual
		Endurance	Cl 23 of IS 2082:1993	Qualitative
7.	**Electric Instantaneous Water Heater** IS 8978:1992 reaffirmed in 1999	Finish	Cl 10 of IS 8978:1992	Qualitative
		Endurance	Cl 12 of IS 8978:1992	Qualitative
8.	**Propeller Type AC Ventilating Fan** IS:2312-1967 reaffirmed in 2005	Sizes	Cl 3.1 IS:2312-1967	Upto 1000 mm
		Design and general construction	Cl 6 IS:2312-1967	Qualitative
		Finish	Cl 7.1 IS:2312-1967	Visual
		Speed regulators	Cl 9 IS:2312-1967	Qualitative
		Starting	Cl 10 IS:2312-1967	Upto 250 V
		Interchangeability	Cl 11 IS:2312-1967	Upto 2000W Upto 30 m/s

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Silent operation	Cl 12 IS:2312-1967	Upto 130 dB
		Marking	Cl 13 IS:2312-1967	Visual Examination
		Air delivery	Cl 14.2/15.1 IS:2312-1967	Up to 30 m/s
		Power factor	Cl 14.6 IS:2312-1967	Upto 0.99 PF
		Electrical Input	Cl 14.11 IS:2312-1967	Upto 2000W
		AC Leakage	Cl 14.7 IS:2312-1967	Upto 600µA
		High Voltage	Cl 14.8 IS:2312-1967	Upto 5KV
		Insulation Resistance	Cl 14.9 IS:2312-1967	Upto 1000 MΩ
		Temperature Rise	Cl 14.3 IS:2312-1967	Upto 150°C
		Moisture Proofness	Cl 14.4 IS:2312-1967	0 to60°C Upto 95%RH
		Mechanical Endurance	Cl 14.5 IS:2312-1967	Qualitative
		Earthing Continuity	Cl 14.10 IS:2312-1967	Upto 20 V, Upto 50 Amps
		Fan Speed	Cl 14.12 IS:2312-1967	0 to3000 RPM
9.	**Domestic Electric Food Mixers** IS 4250:1980	Operational Tests	Cl. 34 of IS 4250:1980	Upto 2 minutes
		Temperature Withstand test for bowl	Cls. 35 of IS 4250:1980	Qualitative
		Test for Controls	Cls. 36 of IS 4250:1980	0 to 400V
		Strength of Assembly	Cls. 37 of IS 4250:1980	Upto 35 kgf.cm

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
IV.	**ROTATING ELECTRICAL MACHINES**			
1.	**Electric Ceiling Type Fans and Regulators** IS 374:1979 reaffirmed 2005 EN/IEC 60335-2-80:2002 IS 302-2-80 :2003	Sizes and speeds	Cl 3.1 of IS 374:1979	Up to 1600 mm
		Design and general construction	Cl 6 of IS 374:1979	Visual Examination
		Temperature rise	Cl 7.3/10.4 of IS 374:1979	0 to150°C
		Creepage distance & clearances	Cl 7.6 of IS 374:1979	0 to 25 mm
		Finish	Cl 7.7 of IS 374:1979	Qualitative
		Speed regulators	Cl 7.9 of IS 374:1979	Upto 2000 RPM
		Starting	Cl 10.8 of IS 374:1979	Upto 250 V
		Interchangeability	Cl 7.11 of IS 374:1979	0 to 200W 0 to 30m/s
		Silent operation	Cl 7.1 of IS 374:1979	Upto 130 dB
		Marking	Cl 9.1 of IS 374:1979	Visual Examination
		Air delivery test	Cl 10.3 of IS 374:1979	0 to 30m/s Upto 500m3/min
		Suspension system	Cl 6.10 & 10.14 of IS 374:1979	1000 kg Up to 60 Nm
		Mechanical endurance test (for regulators only)	Cl 6.5/10.12 of IS 374:1979	Qualitative
		Mechanical strength (for regulators only)	Cl 7.4/10.13 of IS 374:1979	0.5 Joule
		Leakage current	Cl 7.2.2/10.5 of IS 374:1979	0 to 600µA
		High voltage	Cl 7.2.3/10.6 of IS 374:1979	0 to 5KV

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Insulation resistance	Cl 10.7 of IS 374:1979	Upto 1000 MΩ
		Protection against electric shock	Cl 7.1/10.11 of IS 374:1979	0 to 75 V 0 to 75 N
		Fan Speed and Input	Cl 10.9 of IS 374:1979	0 to 2000 RPM & 0 to 200W
		Earthing connection	Cl 10.10 of IS 374:1979	0 to 20 V, 0 to 50 Amps
		Moisture resistance (for regulators only)	Cl 6.5/10.12 of IS 374:1979	0 to 60°C Upto 99%RH
2.	**Single Phase small AC and Universal Electric Motors** IS:996-2009 {Upto 2HP}	Type of Enclosures	Cl 10 of IS:996-2009	0 to 3kV 0 to 2000 W 0 to 10A 0 to 4000RPM
		Earthing	Cl 9.5 IS:996-2009	Visual
		Test for Torques	Cl 12.1 IS:996-2009	0 to 10Nm
		Temperature rise	Cl 12.2 IS:996-2009	0 to 150°C
		Breakaway starting current	Cl 12.5 IS:996-2009	Up to 20A
		Insulation resistance	Cl 12.7 IS:996-2009	Upto 1000 MΩ
		High voltage	Cl 13.1 IS:996-2009	0 to 3kV
		Moisture proofness	Cl 13.2 IS:996-2009	Upto 99%RH
		Leakage current	Cl 13.3 IS:996-2009	0 to 5mA
		Marking	Cl 16 IS:996-2009	Visual Examination
		Test for no-load	Cl 17.3(a) IS:996-2009	0 to 2000W, 0 to 10A,4000rpm

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Full load performance	Cl 12.5 IS:996-2009	0 to 2000W, 0 to 10A,4000rpm
		Momentary overload test	Cl 12.1.2 IS:996-2009	Upto 1 min
		Ingress Protection	Cl 4.6.1 of IS:996-2009	Qualitative
3.	**Electric Table Type Fans & Regulators**	Sizes, speed & Types	Cl 3 of IS 555:1979	Up to 500 mm
		Design and general construction	Cl 6 of IS 555:1979	0 to 3kV; 0 to 25 mm; 0 to 4 mtr Supply Cord
		Temperature rise	Cl 7.3/10.4 of IS 555:1979	0 to 150°C
		Creepage distance & clearances	Cl 7.5/10.16 of IS 555:1979	0 to 25 mm
		Finish	Cl 7.6 of IS 555:1979	Qualitative
		Speed regulators	Cl 7.8 of IS 555:1979	0 to 2000RPM
		Starting	Cl 10.8 of IS 555:1979	Upto 250 V
		Interchangeability	Cl 7.9 of IS 555:1979	Qualitative
		Marking	Cl 9 of IS 555:1979	Visual Examination
		Air delivery test	Cl 8/ 10.3 of IS 555:1979	0 to 30m/s Upto 120 m3/min
		Insulating Materials	Cl 7.7 of IS 555:1979	0 to 150°C; 0 to 99.9%RH, 0 to 60°C

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Mechanical endurance test (for regulators only)	Cl 7.4/10.13 of IS 555:1979	Qualitative
		Leakage current	Cl 7.2.1.2/10.5 of IS 555:1979	0 to 600 µA
		High voltage	Cl 7.2.1.3/10.6 of IS 555:1979	0 to 5KV
		Insulation resistance	Cl 7.2.1.1/10.7.1 of IS 555:1979	Upto 1000 MΩ
		Protection against electric shock	Cl 7.1/10.11 of IS 555:1979	0 to 75 V 0 to 75 N
		Fan Speed and Input	Cl 10.9 of IS 555:1979	0 to 2500 RPM, 0 to 150 W & PF Upto 0.99
		Earthing connection	Cl 10.10 of IS 555:1979	0 to 20 V, 0 to 50 Amps
		Moisture resistance	Cl 10.12 of IS 555:1979	0 to 99 % R.H. 0 to 60 °C
		Oscillating Mechanism	Cl.7.11 of IS 555:1979	0 to 150˚
		Service Value	Cl 8 of IS 555:1979	Upto 2 m3/min/W
		Cord Grip Test	Cl 10.14 of IS 555:1979	Pull 30 to 100 N, Torque 0.1 to 0.35 Nm

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
4.	**Fans (Including Ceiling Fans, Exhaust Fans, Pedestal Fans, Table Fans, Duct Fans etc.) {IS 302-2-80-80:2003, IEC 60335-2-80(Ed. 2.2)}**	Marking / Marking & Instructions	Cl 7 of IS 302-1, 302-2-80 & IEC:60335-1(Ed.5.0) & IEC:60335-2-80	Visual Examination
		Protection against electric shock / Protection against access to live parts	Cl 8 of IS 302-1, 302-2-80 & IEC:60335-1(Ed.5.0) & IEC:60335-2-80	Standard test fingers
		Input and current / Power Input and Current	Cl 10 of IS 302-1, 302-2-80 & IEC:60335-1(Ed.5.0) & IEC:60335-2-80	0 to60V 0 to 6000 W. 0 to 30 A. 0 to 250 V.
		Temperature Rise / Heating	Cl 11 of IS 302-1, 302-2-80 & IEC:60335-1(Ed.5.0) & IEC:60335-2-80	0 to 400°C
		Electrical Insulation and Leakage current at operating temperature / Leakage current and electric strength at operating temperature	Cl 13 of IS 302-1, 302-2-80 & IEC:60335-1(Ed.5.0) & IEC:60335-2-80	0 to5mA up to 5kV
		Transient over voltage test	Cl 14 of IS 302-1, IEC:60335-1(Ed.5.0) & IEC:60335-2-80	0 to10kV 1.2/50µs
		Moisture resistance	Cl 15 of IS 302-1, 302-2-80 & IEC:60335-1(Ed.5.0) & IEC:60335-2-80	20 to99%RH 0 to 100°C

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Insulation resistance and electric strength(After humidity treatment)/ Leakage current and electric strength	Cl 16 of IS 302-1, 302-2-80 & IEC:60335-1(Ed.5.0) & IEC:60335-2-80	Up to 5 kV 0 to 5 mA
		Overload protection of Transformers and associated circuits/Overload protection	Cl 17 of IS 302-1, 302-2-80 & IEC:60335-1(Ed.5.0) & IEC:60335-2-80	0 to 400°C
		Abnormal operation	Cl 19 of IS 302-1, 302-2-80 & IEC:60335-1(Ed.5.0) & IEC:60335-2-80	0 to 400°C
		Stability and mechanical hazards	Cl 20 of IS 302-1, 302-2-80 & IEC:60335-1(Ed.5.0) & IEC:60335-2-80	0 to 30^0 0 to 100N
		Mechanical strength	Cl 21 of IS 302-1, 302-2-80 & IEC:60335-1(Ed.5.0) & IEC:60335-2-80	0.5 J 0 to 50 N Upto 14Nm 0 to 4 Ton
		Construction	Cl 22 of IS 302-1, 302-2-80 & IEC:60335-1(Ed.5.0) & IEC:60335-2-80	0 to 200N
		Internal wiring	Cl 23 of IS 302-1, 302-2-80 & IEC:60335-1(Ed.5.0) & IEC:60335-2-80	Up to 3 kV
		Components	Cl 24 of IS 302-1, 302-2-80 & IEC:60335-1(Ed.5.0) & IEC:60335-2-80	Visual Examination

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Supply connection & external flexible cords	Cl 25 of IS 302-1, 302-2-80 & IEC:60335-1(Ed.5.0) & IEC:60335-2-80	Pull 30 to 100 N, Torque 0.1 to 0.35 Nm
		Terminals for external conductors	Cl 26 of IS 302-1, 302-2-80 & IEC:60335-1(Ed.5.0) & IEC:60335-2-80	0 to 5Nm
		Provision for earthing	Cl 27 of IS 302-1, 302-2-80 & IEC:60335-1(Ed.5.0) & IEC:60335-2-80	0 to 20 V 0 to 50 A
		Screws and connections	Cl 28 of IS 302-1, 302-2-80 & IEC:60335-1(Ed.5.0) & IEC:60335-2-80	0 to 5Nm
		Creepage distance & clearances / Clearances, Creepage distances and solid insulations	Cl 29 of IS 302-1, 302-2-80 & IEC:60335-1(Ed.5.0) & IEC:60335-2-80	Upto 50 mm
		Resistance to heat, fire and tracking / Resistance to heat and fire	Cl 30 of IS 302-1, 302-2-80 & IEC:60335-1(Ed.5.0) & IEC:60335-2-80	0 to 300°C 0 to 1000°C
		Resistance to rusting	Cl 31 of IS 302-1, 302-2-80 & IEC:60335-1(Ed.5.0) & IEC:60335-2-80	20 to 99 % RH 0 to 200°C
		Radiation, Toxicity & Similar Hazard	Cl 32 of IS 302-1, 302-2-80 & IEC:60335-1(Ed.5.0) & IEC:60335-2-80	-

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
V.	**LAMPS, LUMINARIES & ACCESSORIES**			
1.	**Self Ballasted Lamps for General Lighting Service (CFL)** IS 15111: Part 1 & Part 2 : 2002 IEC 60968 : 2012 IEC 60969 : 1988	Marking	Cl 6 of IS 15111: Part 1:2002 IEC 60968 : 2012	Visual Check
		Interchangeability	Cl 7 of IS 15111: Part 1:2002 IEC 60968 : 2012	Visual Check GO & NOGO Gauges
		Protection against electric shock	Cl 8 of IS 15111: Part 1& Part 2 :2002 IEC 60968 : 2012	Standard Test Finger 0 to 75V
		Insulation resistance and electric strength after humidity treatment	Cl 9 of IS 15111: Part 1:2002 IEC 60968 : 2012	Upto 99% RH, upto 5KV Upto 1000 MΩ
		Cap temperature rise	Cl 11 of IS 15111: Part 1:2002 IEC 60968 : 2012	Upto 150 °C
		Resistance to heat	Cl 12 of IS 15111: Part 1:2002 IEC 60968 : 2012	0 to 250 °C 0 to 5mm
		Resistance to Flame & Ignition	Cl 13 of IS 15111: Part 1:2002 IEC 60968 : 2012	0 to 800 °C 0 to 99 sec
		Fault Conditions	Cl 14 of IS 15111: Part 1:2002 IEC 60968 : 2012	Upto 1000 MΩ
		Dimensions	Cl 6 of IS 15111: Part 2:2002 IEC 60969 : 2001	0 to 150 mm
		Starting and Run up	Cl 8 of IS 15111: Part 2:2002 IEC 60969 : 2001	0 to 10 min

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Lamp wattage	Cl 9 of IS 15111: Part 2:2002 IEC 60969 : 2001	Upto 75 W
		Luminous flux	Cl 10 of IS 15111: Part 2:2002 IEC 60969 : 2001	0 to 20000 lm
		Colour	Cl 11 of IS 15111: Part 2:2002 IEC 60969 : 2001	Upto 8000 K.
		Lumen maintenance	Cl 12 of IS 15111: Part 2:2002 IEC 60969 : 2001	0 to 20000 lm
		Life test	Cl 13 of IS 15111: Part 2:2002 IEC 60969 : 2001	Upto 10000 hrs
		Harmonics	Cl 14 of IS 15111: Part 2:2002 IEC 60969 : 2001	0 to 50th harmonic
		Lamp Efficacy	Cl 15 of IS 15111: Part 2:2002 IEC 60969 : 2001	0 to 20000 lm Upto 100lm/W
		Power factor	Cl 16 of IS 15111: Part 2:2002 IEC 60968 : 1999 IEC 60969 : 2001	Upto 0.99 PF
2.	**Luminaires** (General Purpose, Recessed Luminares, Street Lighting, Portable Luminaires) IS 10322 (Part 5/Sec1):2012, IS 10322 (Part 5/Sec2):2012, IS 10322 (Part 5/Sec3):2012,	Classification, Marking	Cl 5 & 6 IS 10322 (Part 5/Sec1,2& 3):2012 Cl 4 & 5 of 10322 (Part 5/Sec 4):1987	Visual Check
		Creepage distances and clearances	Cl 4 IS 10322 (Part 4)-1984	Upto 25 mm
		Provision for earthing	Cl 20 IS 10322 (Part 2)-1982	0 to 20 V, 0 to 50 Amps
		Terminals	Cl 10 IS 10322 (Part 5/Sec1, 2 & 3):2012 Cl 9 of 10322 (Part 5/Sec 4):1987	Upto 25 mm Upto 6Nm

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	IS 10322 (Part 5/Sec4):1987 IEC 60598-2 EN 60598-2-1:1989 UL 153 :2002	External and Internal wiring	Cl 11 IS 10322 (Part 5/Sec1, 2 & 3):2012 Cl 10 of 10322 (Part 5/Sec 4):1987	Pull upto 120 N, Torque 0.15 to 0.35 Nm
		Protection against electric Shock	Cl 12 IS 10322 (Part 5/Sec1, 2 & 3):2012 Cl 11 of 10322 (Part 5/Sec 4):1987	Standard test finger 0 to 75 V
		Insulation resistance test & Electric strength	Cl 15 IS 10322 (Part 5/Sec1, 2 & 3):2012 Cl 13.6 of 10322 (Part 5/Sec 4):1987	Upto 1000 MΩ Upto 5 kV Upto 5 mA
		Resistance to heat, fire & tracking	Cl 16 IS 10322 (Part 5/Sec1, 2 & 3):2012 Cl 13.7 of 10322 (Part 5/Sec 4):1987	Upto 250°C 0 to 10 mm; Upto 1200°C 0 to 5 min; 0 to 200V
		Resistance to dust & moisture	Cl 14 IS 10322 (Part 5/Sec1, 2 & 3):2012 Cl 13.5 of 10322 (Part 5/Sec 4):1987 IEC 60529:1989	0 to 99% RH, 0 to 60°C
		Mechanical strength Test	Cl 5 IS 10322 (Part 4):1984	0.35Nm
		Endurance test and thermal test	Cl 13 IS 10322 (Part 5/Sec1, 2 & 3):2012 Cl 13.4 of 10322 (Part 5/Sec 4):1987 Cl 6 IS 10322 (Part 4):1984	Upto 250°C

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Photometric test	Cl 17 IS 10322 (Part 5/Sec1, 2 & 3):2012 Cl 13.8 of 10322 (Part 5/Sec 4):1987	Upto 20000 lux
3.	**Tubular Fluorescent Lamps**	Visual Examination & Checking for marking	Cl. 6.3 IS: 2418-(Part 1)-1977	Visual
		Insulation Resistance Test	Cl. 6.5 IS: 2418-(Part 1)-1977	Upto 1000 MΩ
		Burning Test	Cl. 6.6 IS: 2418-(Part 1)-1977	Visual Examination
		Starting Characteristics Test	Cl. 6.7 IS: 2418-(Part 1)-1977	0 to 300V 0 to 60min
		Test for Electrical, Luminous & Color Characteristics	Cl. 6.8 IS: 2418-(Part 1)-1977	0 to 15000 lm
		Life Test	Cl. 6.9 IS: 2418-(Part 1)-1977	Upto 10000 hrs
4.	**Tungsten Filament Lamps for Domestic and Similar General Lighting Purposes**	Marking	Cl. 6 of IS 418:2004	Visual
		Lamp Dimensions	Cl. 7 of IS 418:2004	Upto 200 mm 0.01 mm
		Wattage	Cl. 8.1 of IS 418:2004	Upto 200 W
		Luminous Flux Initial	Cl. 8.2 of IS 418:2004	0 to 20000 lm
		Lumen Maintenance	Cl. 9 of IS 418:2004	0 to 20000 lm
		Life Test	Cl. 10 of IS 418:2004	Upto 5000 hrs
		Protection against Accidental Contact	Cl. 4.3 of IS 15518-1:2004	Using Standard Gauges

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Cap Temp. Rise	Cl. 4.4 of IS 15518-1:2004	Upto 200 °C
		Resistance to Heat	Cl. 4.5.3 of IS 15518-1:2004	0 to 200 °C 0 to 2.0 Nm
		Insulation Resistance	Cl. 4.6 of IS 15518-1:2004	Upto 1000 MΩ
		Creepage Distances	Cl. 4.8 of IS 15518-1:2004	0 to 25 mm
		Safety at end of life	Cl. 4.9 of IS 15518-1:2004	Qualitative
		Interchangeability	Cl. 4.10 of IS 15518-1:2004	Visual Check
VI.	**WIRING ACCESSORIES**			
1.	**Plug and Socket Outlet of Rated Voltage Upto and Including 250 Volts and Rated Current Upto and Including 16 Amperes** IS:1293-2005	Rating	Cl .6.1 & 6.2 & Table 1 IS:1293-2005	Visual
		Classification	Cl .7 of IS:1293-2005	Visual
		Marking	Cl .8 of IS:1293-2005	Visual
		Checking of Dimensions	Cl .9 of IS 1293-2005	0 to 50mm
		Protection against electric shock	Cl .10 of IS:1293-2005	0 to 75V
		Provision for earthing	Cl .11 of IS:1293-2005	0 to 20 V, 0 to 50 Amps
		Terminals	Cl .12 of IS:1293-2005	Upto 50mm Upto 80N
		Construction requirements of Fixed socket outlet	Cl .13 of IS:1293-2005	Upto 120 N
		Construction of plug and portable socket outlets	Cl .14 of IS:1293-2005	0 to 5mm 0.01mm

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Interlocked socket-outlet	Cl .15 of IS:1293-2005	Qualitative
		Resistance to ageing	Cl .16.1 of IS:1293-2005	Upto 100°C Upto 60% RH
		Resistance to Humidity	Cl .16.3 IS:1293-2005	Upto 100°C Upto 95% RH
		Insulation Resistance	Cl .17.1 of IS:1293-2005	Upto 1000MΩ
		Electric Strength	Cl .17.3 of IS:1293-2005	Upto 3kV
		Operation of earthing contact	Cl .18 IS:1293-2005	0 to 80°C
		Temperature rise test	Cl .19.1 & Table 15 IS:1293-2005	0 to 80°C
		Making and Breaking Capacity	Cl .20 IS:1293-2005	Qualitative Pf Upto 0.9, Upto 50 Amp
		Normal operation	Cl .21.1 IS:1293-2005	Qualitative Pf upto 0.9, Upto50 Amp,
		Force Necessary withdraw the plug	Cl .22 of IS:1293-2005	Upto 100 N, LC:0.1N
		Flexible cables and their connection	Cl .23 of IS:1293-2005	Upto 60N, LC:0.1N 0 to 50mV
		Mechanical strength	Cl .24 of IS:1293-2005	150 gm; 0 to 200N
		Resistance to Heat	Cl .25.1 IS:1293-2005	Upto 150°C

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Ball Pressure Test	Cl .25.2 & 25.3 IS:1293-2005	Upto 250°C
		Compression Test	Cl .25.4 IS:1293-2005	20N Upto 100°C
		Screw current carrying parts and connection	Cl .26.1 to 26.6 IS:1293-2005	Upto 3Nm
		Creep age distance, clearance and distance	Cl .27.1 to 27.3 & Table 23 IS:1293-2005	Upto 25 mm
		Resistance to insulating Material to abnormal heat Resistance to Abnormal heat and to fire	Cl.28. 1.1 & Cl.28.1.2 of IS 1293 :2005	0 to 1000°C 0 to 99sec; 0 to 250°C
		Resistance to rusting	Cl.29 IS:1293-2005	0 to 150°C
2.	**Switches for Domestic and Similar Purposes** IS 3854:1997 Reaff. 2002	Marking and visual Inspection	Cl. 8 IS: 3854:1997	Visual Inspection
		Protection against Electric Shock	Cl. 10 IS 3854:1997	0 to 75V 0 to 75N
		Terminal and screws	Cl. 12 IS 3854:1997	Upto 50mm Upto 6Nm Upto 50mV
		Insulation resistance Test	Cl. 16 IS 3854:1997	Upto 1000MΩ
		Electric Strength test	Cl. 16 IS 3854:1997	Upto 3 KV
		Resistance to ageing & moisture	Cl. 15 IS 3854:1997	Upto 60°C Upto 70%RH

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Temperature rise	Cl. 17 IS 3854:1997	Upto 80°C
		Making and breaking capacity	Cl. 18 IS 3854:1997	Qualitative Pf Upto 0.9 Upto 40A Upto 300V
		Normal operation	Cl. 19 IS 3854:1997	Qualitative Upto 40A Upto 300V
		Resistance to Heat	Cl.-21 IS 3854:1997	Upto 250°C 0 to 10mm
		Creepage distance and clearance	Cl.-23 IS 3854:1997	Upto 25 mm
		Resistance to rusting	Cl.-25 IS 3854:1997	Upto 50°C Upto 95%RH
		Resistance to tracking	Cl.-24.2 IS 3854:1997	Upto 200 Volt
		Mechanical Strength Test	Cl. 20 IS:3854-1997	150 gm; 0 to 200N
		Making and breaking capacity	Cl. 18 IS 3854:1997	Qualitative Pf Upto 0.9 Upto 40A Upto 300V

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
3.	**Ceiling Roses** IS 371-1999	Markings	Cl. 9 of IS 371-1999	Visual Examination
		Dimensions	Cl. 10 of IS 371-1999	0 to 100 mm
		Accessibility of Live Parts	Cl. 11 of IS 371-1999	Standard Test Finger; 5N, 0 to 75V 0 to 360°
		Provision for Earthing	Cl. 12 of IS 371-1999	0 to 20 V, 0 to 50 A
		Terminals	Cl. 13 of IS 371-1999	0 to 3Nm 0 to 150 mm; 0 to 50mV
		Construction	Cl. 14 of IS 371-1999	0 to 150mm; 0 to 250°C; 25N; 0 to 15 Min
		Resistance to Moisture and Humidity, IR and Electric Strength	Cl. 15 of IS 371-1999	0 to 50°C Upto 80% RH 0 to 1000 MΩ 0 to 3 KV
		Temperature Rise	Cl. 16 of IS 371-1999	0 to 80°C
		Mechanical Strength	Cl. 17 of IS 371-1999	0.15kg 0 to 150mm
		Resistance to Heat	Cl. 18 of IS 371-1999	0 to 200°C 0 to 5mm

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Resistance to Abnormal Heat, Fire and Tracking	Cl. 19 of IS 371-1999	0 to 1000°C 0 to 99 sec; 0 to 250V
		Screws, Current Carrying Parts & Connectors	Cl. 20 of IS 371-1999	Upto 3Nm
		Creepage Distances & Clearances	Cl. 21 of IS 371-1999	0 to 25 mm
		Resistance to Excessive Residual Stress & to Rusting	Cl. 22 of IS 371-1999	0 to 150°C
4.	**Pressure Sensitive Adhesive Tape**	Tensile strength	Cl.4.1 of IS: 7809(Pt 3/sec1) 1986	0 to 200 N/0.1N Upto 300N/10mm
		Adhesion to Steel	Cl. 4.2 of IS: 7809(Pt 3/sec1) 1986	0 to 200 N/0.1N Upto 3.0 N/10mm
		Adhesion to Backing	Cl. 4.3 of IS: 7809(Pt 3/sec1) 1986	0 to 200 N/0.1N Upto 3.0 N/10mm
		Electric strength at Room Temperature	Cl. 4.4 of IS: 7809(Pt 3/sec1) 1986	Upto 50 kV/mm
		Electric strength after humidity conditioning	Cl. 4.5 of IS: 7809(Pt 3/sec1) 1986	Upto 50 kV/mm Upto 95% RH/0.1% RH
		Flammability	Cl. 4.6 of IS: 7809(Pt 3/sec1) 1986 IS 7809-2:1977	0 to 100 mm
		Electrolytic Corrosion	Cl. 4.7 of IS: 7809(Pt 3/sec1) 1986 IS:8516:2011	108 to 1012 ohms

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Stability to Accelerated Ageing	Cl. 4.8 of IS: 7809(Pt 3/sec1) 1986	0 to 80°C, 0 to 90%RH
VII.	**SWITCHGEAR & PROTECTIVE EQUIPMENT**			
1.	**Circuit Breakers for Over Current Protection or Household and Similar Installations** IS/IEC 60898-1:2002, IS/IEC 60898-2:2003 {Uptp 63A}	Marking	Cl. 6 & Cl. 9.3 of IS/ IEC 60898-1:2002	Visual
		Clearances & Creepage Distances	Cl. 8.1.3 of IS/IEC 60898-1:2002	0 to 25 mm
		Screws, current carrying Parts and Connections	Cl. 8.1.4 & Cl.9.4 of IS/ IEC 60898-1:2002	0.1 to 6Nm
		Terminals for External Conductors	Cl. 8.1.5 & Cl. 9.5 of IS/ IEC 60898-1:2002	Upto 100 N
		Non- Interchangeability	Cl. 8.1.6 of IS/IEC 60898-1:2002	Qualitative
		Mechanical Mounting of Plug-in type circuit breaker	Cl. 8.1.7 & Cl. 9.13 of IS/ IEC 60898-1:2002	Upto 80 N
		Protection Against Electric Shock	Cl. 8.2 & 9.6 of IS/IEC 60898-1:2002	0 to 75V 0 to 75N
		Di-electric Strength of main Circuit	Cl. 8.3.1 & Cl.9.7.3 of IS/IEC 60898-1:2002	Upto 3 kV
		Isolation Capability	Cl. 8.3.2, Cl. 9.7.6.1 & Cl. 9.7.6.3 of IEC 60898-1:2002	0 to 6kV, 0 to 5mA
		Di-electric Strength at rated impulse withstand voltage	Cl. 8.3.3 & Cl. 9.7.6.2 of IS/ IEC 60898-1:2002	0 to 6kV
		Temperature Rise	Cl. 8.4 & Cl. 9.8.2 of IS/ IEC 60898-1:2002	0 to 100°C

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Uninterrupted Duty (28 Day Test)	Cl. 8.5 & Cl. 9.9 of IS/ IEC 60898-1:2002	125 A 30 V AC 0 to 150°C
		Automatic Operation (Tripping Characteristics)	Cl. 8.6 & Cl. 9.10 of IS/ IEC 60898-1:2002	Upto 2000 A
		Mechanical & Electrical Endurance	Cl. 8.7 & Cl. 9.11 of IS/ IEC 60898-1:2002	Upto 63A
		Resistance to Mechanical Shock & Impact	Cl. 8.9 & Cl. 9.13 of IS/ IEC 60898-1:2002	Qualitative
		Resistance to Heat	Cl. 8.10 & Cl. 9.14 of IS/ IEC 60898-1:2002	0 to 300°C
		Resistance to abnormal Heat & Fire	Cl. 8.11 & Cl. 9.15 of IS/ IEC 60898-1:2002	0 to 600°C
		Resistance to Rusting	Cl. 9.16 of IS/IEC 60898-1:2002	0 to 125˚C
VIII.	**FREQUENCY & TIME MEASURING INSTRUMENTS**			
1.	**Clocks**	Marking / Marking & Instructions	IS 302-2-26 : 1994	Visual Examination
		Protection against electric shock / Protection against access to live parts		Standard test finger Upto 75V
		Starting of Motor Operated Appliances		0-500 V 0-25 A
		Temperature rise / Heating		Upto 150°C

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Electrical Insulation and Leakage current at operating temperature / Leakage current and electric strength at operating temperature	IS 302-2-26 : 1994	Upto 750µA up to 5kV
		Transient over voltage test		Upto 6 kV 1.2/50µs
		Moisture resistance		20-99%RH
		Insulation resistance and electric strength(After humidity treatment)/ Leakage current and electric strength		Upto 1000 MW Up to 5 kV 0-750µA
		Overload protection of Transformers and associated circuits/Overload protection		Upto 400°C
		Abnormal operation		Upto 400°C
		Stability and mechanical hazards		Upto 30^0
		Mechanical strength		0.25 Nm
		Construction		Qualitative
		Internal wiring		0-3kV
		Components		-

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Supply connection & external flexible cables & cords / Supply connection & external flexible cords	IS 302-2-26 : 1994	Pull 30 to 100 N, Torque 0.1 to 0.35 Nm
		Terminals for external conductors		Upto 50 mm
		Provision for earthing		0 to 20 V, 0 to 50 Amps
		Screws and connections		0.1 to 3 Nm
		Creepage distance & clearances / Clearances, Creepage distances and solid insulations		Upto 25 mm
		Resistance to heat, fire and tracking / Resistance to heat and fire		Upto 250°C 0-10 mm; Upto 1200°C 0-5 min;
		Resistance to rusting		Upto 150°C Upto 95% RH