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BUREAU OF INDIAN STANDARDS

***Draft* AGENDA**

Name of the Committee	No. of Meeting	Day	Date	Time	Venue
Electrical Appliances Sectional Committee, ETD 32	38th	Wednesday	28.07.2021	1030 hrs	Online

CHAIRMAN: Shri A K Rajput **MEMBER SECRETARY: Shri Sumit Bharadwaj**

Item 0 GENERAL

0.1 OPENING REMARKS BY THE CHAIRMAN

Item 1 CONFIRMATION OF THE MINUTES OF THE LAST MEETING

1.1 The minutes of the last meeting (37th meeting) of Electrical Appliances Sectional Committee, ETD 32 held on 04 July 2019 held at BIS HQ, circulated vide BISDG letter no. ETD 32/A-2.37 dated 05 July 2019. No comments have been received.

Item 2 COMPOSITION OF ELECTRICAL APPLIANCES SECTIONAL COMMITTEE, ETD 32

2.1 The present composition of Electrical Appliances Sectional Committee, ETD 32 is given at **Annex-1**

The Committee may consider the participation status of the member organizations and review the composition. The Committee is also requested to give suggestions for improvement in participation status of the members.

2.2 The Committee is requested to identify and involve talent available in the country related to the scope of the committee and suggest methodology to involve them in the proceedings of the Committee.

Item 3 PROGRAMME OF WORK

3.1 The present position of work under ETD 32 is given at **Annex-2.**

3.2 Review of Published Standards for Revision/Reaffirmation

BIS has identified a list of Indian Standards (Older than 1985). The committee may review the list of standards and inform the committee if there are any latest standards available for the same or if they are relevant to present conditions.

Item 4 APPROVALS OF DRAFT INDIAN STANDARDS FOR FINALIZATION

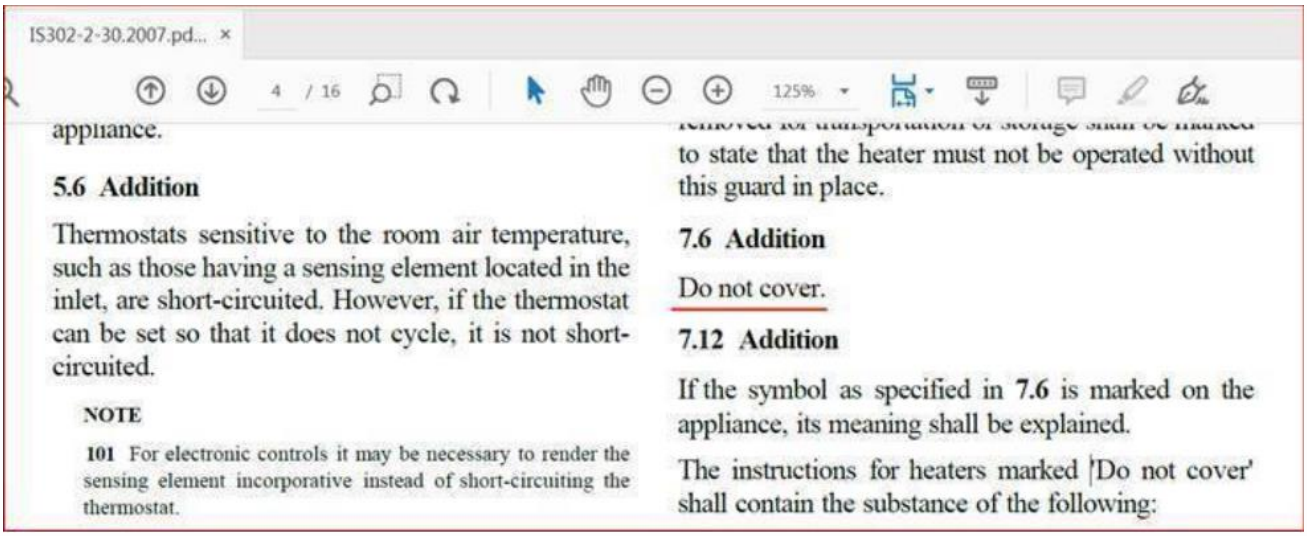
SI. No.	Doc No	TITLE	Remarks
1	ETD 32 (15971) (IS 302-2-2)	Safety of Household And Similar Electrical Appliances Part 2 Particular Requirements Section 2 Vacuum Cleaners And Water-Suction Cleaning Appliances	No comments received.
2	ETD 32 (15972) (IS 302-2-4)	Safety of Household And Similar Electrical Appliances Part 2 Particular Requirements Section 4 Spin Extractors	No comments received.
3	ETD 32 (15973) (IS 302-2-6)	Safety of Household And Similar Electrical Appliances Part 2 Particular Requirements Section 6 Cooking Ranges Hobs Ovens and Similar Appliances	Comments received from Bajaj are placed at **Annex-3**.
4	ETD 32 (15974) (IS 302-2-7)	Safety of Household And Similar Electrical Appliances Part 2 Particular Requirements Section 7 Domestic Electric Clothes Washing Machines	No comments received.
5	ETD 32 (15975) (IS 302-2-15)	Safety of Household And Similar Electrical Appliances Part 2 Particular Requirements Section 15 Appliances for Heating Liquids	Comments received from Havells and MED, BIS are placed at Annex 4 & 5 respectively.
6	ETD 32 (16013) (IS 302-2-9)	Safety of household and similar electrical appliances part 2 particular requirements section 9 particular requirements for grills toasters and similar portable cooking appliances	No comments received.
7.	ETD 32 (16833) (IEC 60456)	Domestic electric clothes washing machines for household use specification	No comments received
8.	ETD 32 (16992)	Household electric cooking appliances performance requirements of electric hobs	No comments received

Item 5 COMMENTS ON PUBLISHED STANDARDS

5.1 IS 302-2-30

Comments received from Shri Shekh Faridi, Dyson

"clause 7.6 of IS 302-2-30 where the symbol has to be depicted but it seems that symbol was missed out during editing".



IS302-2-30.2007.pd... ×

4 / 16 125%

appliance.

5.6 Addition

Thermostats sensitive to the room air temperature, such as those having a sensing element located in the inlet, are short-circuited. However, if the thermostat can be set so that it does not cycle, it is not short-circuited.

NOTE

101 For electronic controls it may be necessary to render the sensing element incorporative instead of short-circuiting the thermostat.

to state that the heater must not be operated without this guard in place.

7.6 Addition

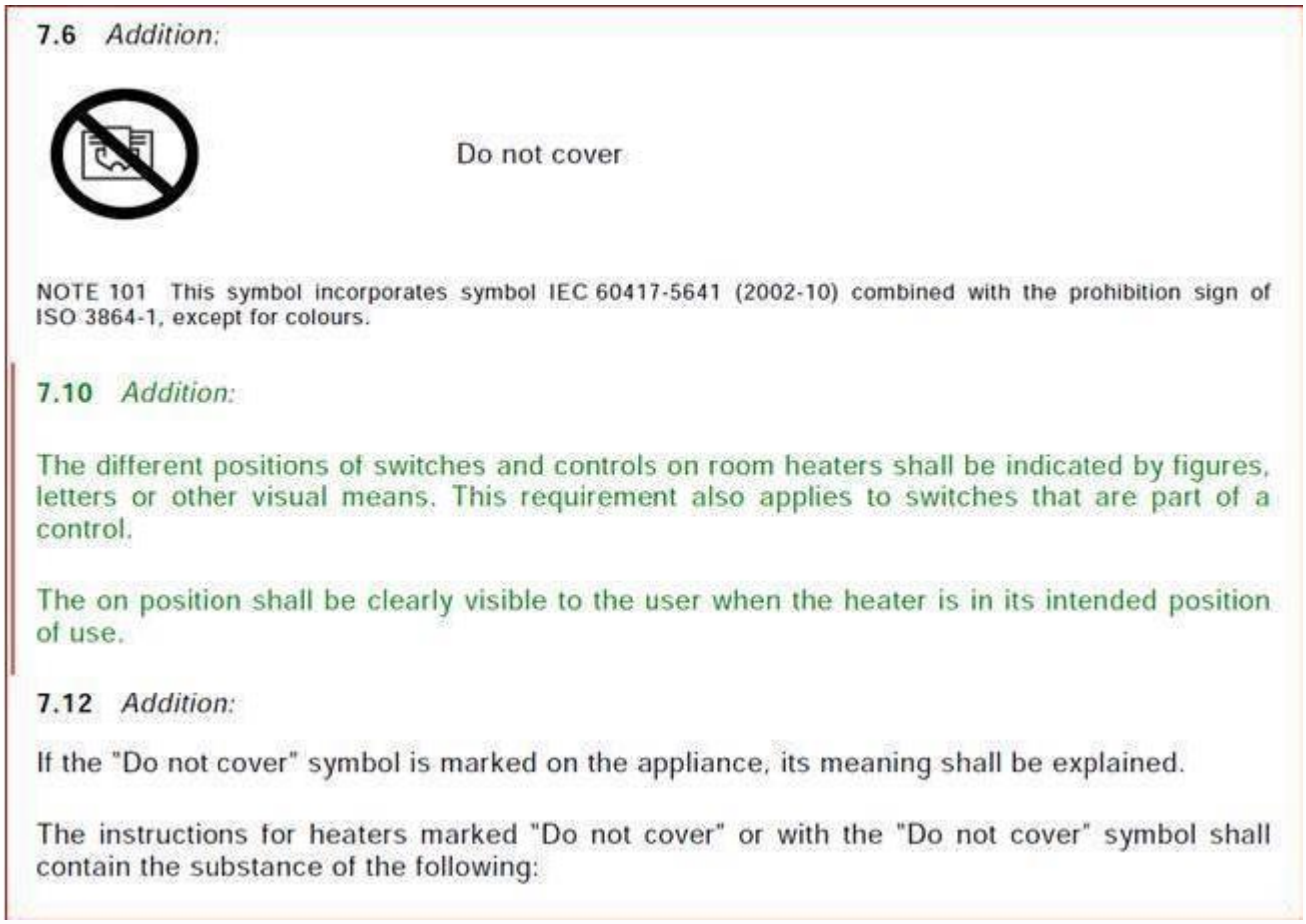
Do not cover.

7.12 Addition

If the symbol as specified in **7.6** is marked on the appliance, its meaning shall be explained.

The instructions for heaters marked 'Do not cover' shall contain the substance of the following:

Reference of IEC 60335-2-30 is attached herewith



7.6 *Addition:*

Do not cover

NOTE 101 This symbol incorporates symbol IEC 60417-5641 (2002-10) combined with the prohibition sign of ISO 3864-1, except for colours.

7.10 *Addition:*

The different positions of switches and controls on room heaters shall be indicated by figures, letters or other visual means. This requirement also applies to switches that are part of a control.

The on position shall be clearly visible to the user when the heater is in its intended position of use.

7.12 *Addition:*

If the "Do not cover" symbol is marked on the appliance, its meaning shall be explained.

The instructions for heaters marked "Do not cover" or with the "Do not cover" symbol shall contain the substance of the following:

5.2 IS 374

5.2.1. Comment is received from CETL, kakkalur Regarding testing of mechanical strength of ceiling fans.

5.2.2 Comments is received from IFMA on IS 374. In this regard, an amendment is drafted and is enclosed at Annex-6

5.3 Draft standards of IS 4250

To adequately address the shortcoming of the present test methods and to provide adequate reliability and durability from the consumer prospective, a draft is prepared by a working group is enclosed at Annex-7

The committee may consider.

Item 6 DATE AND PLACE FOR THE NEXT MEETING

Item 7 ANY OTHER BUSINESS

A request is received from the Department of Empowerment of Persons with Disabilities, Govt of India to include additional requirements in the relevant Indian standards that will help/assist the specially-abled persons under Accessible India Campaign (AIC).

An Email in this regard has been sent to all committee members enclosed at Annex-8

Committee may discuss.

Annex-1

S.No.	Organization	Member Name	Member Designation	Role
1	Central Electricity Authority, New Delhi	Shri Ashok Kumar Rajput	Chief Engineer (Research and Development Division), CEA	Chairperson
2	BSH Household Appliances Manufacturing Private Limited, Chennai	Shri Balasubramanian Anand	Product Approval Engineer	Alternate Member
3	BSH Household Appliances Manufacturing Private Limited, Chennai	Shri Madhanraj Ramalingam	Product Approval Specialist	Principal Member
4	Bajaj Electricals Limited, Mumbai	Shri Chandra Veer Singh	Sr. GM Quality Assurance	Principal Member
5	Bajaj Electricals Limited, Mumbai	Socratees C	Sr. Manager - Design Quality & Compliances	Alternate Member
6	Bajaj Electricals Limited, Mumbai	Anuj Mujumdar	Dy. Manager - Product Certification	Alternate Member
7	Bureau of Energy Efficiency, New Delhi	SH SAMIR PANDITA	Director	Principal Member
8	Bureau of Energy Efficiency, New Delhi	Shri Kamran Shaikh	Director	Alternate Member
9	Bureau of Energy Efficiency, New Delhi	Ms Neha Kumari	Joint Director	Young Professional
10	CG Power and Industrial Solutions, Mumbai	shri Mayur Nadkarni	Sr Manager-Design - (T&QA)	Principal Member
11	CG Power and Industrial Solutions, Mumbai	Shri Anoop Singh	Genaral Manager	Alternate Member
12	CG Power and Industrial Solutions, Mumbai	Shri Satyendra P. Singh		Alternate Member
13	Central Electricity Authority, New Delhi	Shri O.P. Suman	Dy. Director (DP &R)	Principal Member
14	Central Electricity Authority, New Delhi	Shri Omkishore	Assistant Director (DP & R)	Alternate Member
15	Central Power Research Institute, Bengaluru	Shri D. Venkatesh	Engineering Officer Gr. 2	Principal Member
16	Central Public Works Department, New Delhi	Shri A. K. Goel	SE(E)S&S	Alternate Member
17	Central Public Works Department, New Delhi	Shri Mukesh Vij	Chief Engineer (E) DR	Principal Member
18	Consumer Education and Research Centre, Ahmedabad	Ms. Shweta Mahajan	General Manager	Principal Member
19	Consumer Electronics and Appliances Manufacturers Association (CEAMA), Noida	Parkash Atam		Alternate Member
20	Consumer Electronics and Appliances Manufacturers Association (CEAMA), Noida	Ramesh Khanna	Executive Secretary	Alternate Member
21	Consumer Electronics and Appliances Manufacturers Association (CEAMA), Noida	J.K. Oberoi		Principal Member

22	Consumer Voice, New Delhi	Mr. B.K. Mukhopadhyay	Head technical	Alternate Member
23	Defence Research and Development Organization, Research Centre Imarat, Hyderabad	Prafulla Chandra	DSE(TL-AC System Design)	Principal Member
24	Defence Research and Development Organization, Research Centre Imarat, Hyderabad	Suresh Chandra	ADE/Electrical (D)	Alternate Member
25	Defence Research and Development Organization, Research Centre Imarat, Hyderabad	A.K. Shukla		Alternate Member
26	Development Commissioner Micro-Small and Medium Enterprises	Shri S K Saini	Asstt. Director (E&E)	Alternate Member
27	Development Commissioner Micro-Small and Medium Enterprises	Shri Dhanendra Prasad	Asst. Dir. Gr-1 (Electrical)	Alternate Member
28	Development Commissioner Micro-Small and Medium Enterprises	Shri S.K. Saini	AD Gr-II (Electronics]	Alternate Member
29	Development Commissioner Micro-Small and Medium Enterprises	Dr. S.K. Sahoo	Deputy Director (Electrical)	Alternate Member
30	Dyson Technology India Pvt Ltd, Gurugram, Haryana.	Shekh Tazimul Haque Faridi		Principal Member
31	Electrical Research and Development Association, Vadodara	Shri Rakesh Patel		Principal Member
32	Electrical Research and Development Association, Vadodara	Dr. Vinod Gupta	Asst. Director & Head	Alternate Member
33	Electronics Regional and Test Laboratory (North), New Delhi	Manjula Bhati		Principal Member
34	Government of Gujarat (IW), Energy and Petrochemical Department, Gandhinagar	Shri Mishra N.J.	Electrical Inspector (QC)	Principal Member
35	Havells India Limited, Noida	Pramod Deshpande	Senior Manager	Alternate Member
36	Havells India Limited, Noida	Shri Diwan Singh Kholia	Deputy Gen Manager	Alternate Member
37	Havells India Limited, Noida	Rajeev Kumar Gupta	Senior General Manager,	Principal Member
38	Ministry of Commerce and Industry, Department for Promotion of Industry and Internal Trade, New Delhi	S.K. Jain	Industrial Adviser	Principal Member
39	Ministry of Commerce and Industry, Department for Promotion of Industry and Internal Trade, New Delhi	Shri Mohd.Zakaria Khan Yusuf Zai	ADO	Alternate Member
40	National Test House, Kolkata	Uma Bhakta	Scientist SD (Civil)	Principal Member
41	National Test House, Kolkata	Shri T. Roy Barman		Alternate Member
42	National Water Mission Department of Water Resources, RD and GR Ministry of Jal Shakti, New Delhi	Suneel Kumar Arora	Advisor, National Water Mission	Principal Member
43	Petroleum Conservation Research Association, New Delhi	Surendra Pratap	Director (R & D)	Principal Member

44	Petroleum Conservation Research Association, New Delhi	Shri M P Bangwal		Principal Member
45	Petroleum Conservation Research Association, New Delhi	Shri P K Purkayashta	Additional Director (R&D)	Alternate Member
46	Philips India Limited, Gurugram	Vivek Sharma		Alternate Member
47	Philips India Limited, Gurugram	L.A. Kulkarni	Manager (Desn & Devt)	Principal Member
48	Philips India Limited, Gurugram	P.V. Kotasthane	Manager (Q&BI)	Alternate Member
49	Racold Thermo Limited, Pune	Ms. Trishala Chougule	Sr. Engineer QA,Ceritification	Alternate Member
50	Racold Thermo Limited, Pune	Shri Mahesh Bhangale	Manager(Quality Assurance)	Principal Member
51	S.S. Enterprises, Mumbai	Shri Ramsundar	Proprietor	Principal Member
52	UL India Private Limited, Bengaluru	V. Manjunath	Standards Manager	Principal Member
53	Venus Safety and Health Private Limited, Navi Mumbai	Shri I. Ram Kumar		Alternate Member
54	Venus Safety and Health Private Limited, Navi Mumbai	Shri R. Iyadurai	Director	Principal Member
55	Whirlpool Corporation, Gurugram	Balajee S Prasad		Alternate Member
56	Whirlpool Corporation, Gurugram	Poonam Dake	Manager GSR	Principal Member
57	In Personal Capacity	Shri P K Mukherjee	Personal Capacity	Principal Member

Annex-2

ETD32 : Electrical Appliances

Scope : To prepare standards for electrical appliances for household and similar purposes, including associated controls

Liaison : IEC TC- 61B, 61H, 61J SC- 61B, 61H, 61J (P): *Safety of household and similar electrical appliances* **IEC TC- 59A, 59C, 59D, 59F, 59L SC- 59A, 59C, 59D, 59F, 59L (P):** *Performance of household and similar electrical appliances*

Published Standards

SI. No.	IS No.	TITLE
1	IS 302 : Part 1 : 2008	Safety of household and similar electrical appliances Part 1 general requirements Sixth Revision
2	IS 302 : Part 2 : Sec 2 : 1997	Safety of household and similar electrical appliances Part 2 particular requirements Sec 2 vacuum cleaners and water suction cleaning appliances
3	IS 302 : Part 2 : Sec 3 : 2007	Safety of household and similar electrical appliances Part 2 particular requirements Sec 3 electric iron First Revision
4	IS 302 : Part 2 : Sec 4 : 1993	Safety of household and similar electrical appliances Part 2 particular requirements Sec 4 spin extractors
5	IS 302 : Part 2 : Sec 6 : 2009	Safety of household and similar electrical appliances Part 2 particular requirements Sec 6 cooking ranges hobs ovens and similar appliances First Revision
6	IS 302 : Part 2 : Sec 7 : 2010	Safety of household and similar electrical appliances Part 2 particular requirements Sec 7 domestic electric clothes washing machines First Revision
7	IS 302 : Part 2 : Sec 8 : 1994	Safety of household and similar electrical appliances part 2 particular requirements section 8 electrical shavers hair clippers and similar appliances
8	IS 302 : Part 2 : Sec 9 : 2009	Safety of household and similar electrical appliances Part 2 particular requirements Sec 9 toasters grills roasters and similar appliances First Revision
9	IS 302 : Part 2 : Sec 11 : 1994	Safety of household and similar electrical appliances Part 2 particular requirements Sec 11 tumbler dryers
10	IS 302 : Part 2 : Sec 12 : 1993	Safety of household and similar electrical appliances - Specification Part 2 particular requirements Sec 12 warming plates and similar appliances
11	IS 302 : Part 2 : Sec 13 : 1994	Safety of household and similar electrical appliances Part 2 particular requirements Sec 13 frying pans deep fat fryers and similar appliances
12	IS 302 : Part 2 : Sec 14 : 2009	Safety of household and similar electrical appliances Part 2 particular requirements Sec 14 electric kitchen machines First Revision
13	IS 302 : Part 2 : Sec 15 : 2009	Safety of household and similar electrical appliances Part 2 particular requirements Sec 15 appliances for heating liquids First Revision

14	IS 302 : Part 2 : Sec 21 : 2018	Safety of household and similar electrical appliances Part 2 particular requirements Sec 21 stationary storage type electric water heaters Second Revision
15	IS 302 : Part 2 : Sec 23 : 2009	Safety of household and similar electrical appliances Part 2 particular requirements Sec 23 appliances for skin or hair care First Revision
16	IS 302 : Part 2 : Sec 24 : 1994	Safety of household and similar electrical appliances Part 2 particular requirements Sec 24 refrigerators food - Freezers and ice - Makers
17	IS 302 : Part 2 : Sec 25 : 2014	Safety of household and similar electrical appliances Part 2 Particular requirements Section 25 Microwave ovens
18	IS 302 : Part 2 : Sec 26 : 2014	Safety of household and similar electrical appliances Part 2 particular requirements Sec 26 clocks First Revision
19	IS 302 : Part 2 : Sec 30 : 2007	Safety of household and similar electrical appliances Part 2 particular requirements Sec 30 room heaters First Revision
20	IS 302 : Part 2 : SEC 31 : 2009	Safety of household and similar electrical appliances Part 2 particular requirements Sec 31 range hoods
21	IS 302 : Part 2 : Sec 32 : 1994	Safety of household and similar electrical appliances Part 2 particular requirements Sec 32 massage appliances
22	IS 302 : Part 2 : Sec 35 : 2017	Safety of household and similar electrical appliances Part 2 particular requirements Sec 35 electric instantaneous water heaters Second Revision
23	IS 302 : Part 2 : Sec 45 : 1994	Safety of household and similar electrical appliances Part 2 particular requirements Sec 45 electric heating tools
24	IS 302 : Part 2 : Sec 46 : 1993	Safety of household and similar electrical appliances Part 2 particular requirements Sec 46 electric steam cookers
25	IS 302 : Part 2 : Sec 59 : 1999	Safety of household and similar electrical appliances Part 2 particular requirements Sec 59 insect killers
26	IS 302 : Part 2 : Sec 75 : 2018	Safety of Household and Similar Electrical Appliances Part 2 Particular Requirements Section 75 Commercial Dispensing Appliances and Vending Machines
27	IS 302 : Part 2 : Sec 76 : 1999	Safety of household and similar electrical appliances Part 2 particular requirements Sec 76 electric fence energizers
28	IS 302 : Part 2 : Sec 80 : 2017	Household and similar electrical appliances - Safety Part 2 - 80 particular requirements for fans First Revision
29	IS 302 : Part 2 : Sec 201 : 2008	Safety of household and similar electrical appliances Part 2 particular requirements Sec 201 electric immersion water heaters First Revision
30	IS 302 : Part 2 : Sec 202 : 1992	Safety of household and similar electrical appliances Part 2 particular requirements Sec 202 electric stoves
31	IS 302 : Part 2 : Sec 203 : 1994	Safety of household and similar electrical appliances Part 2 particular requirements Sec 203 electric call bells and buzzers for indoor use
32	IS 302 : Part 2 : Sec 204 : 1994	Safety of household and similar electrical appliances Part 2 particular requirements Sec 204 electric water boilers
33	IS 302 : Part 2 : Sec 206 : 1994	Safety of household and similar electrical appliances Part 2 particular requirements Sec 206 electric coffee makers
34	IS 302 : Part 2 : Sec 207 : 1994	Safety of household and similar electrical appliances Part 2 particular requirements Sec 207 electric hot plates
35	IS 302 : Part 2 : Sec 208 : 1994	Safety of household and similar electrtcal appliances Part 2 particular requirements Sec 208 single walled baking ovens

36	IS 302 : Part 2 : Sec 209 : 1994	Safety of household and similar electrical appliances Part 2 particular requirements Sec 209 low speed food grinding machines
37	IS 365 : 1983	Specification for electric hot plates Second Revision
38	IS 366 : 1991	Electric iron - Specification Fourth Revision
39	IS 367 : 1993	Electric kettles and jugs for household and similar use - Specification Fourth Revision
40	IS 368 : 2014	Electric immersion water heaters - Specification Fifth Revision
41	IS 369 : 2019	Household electric direct - Acting room heaters - Performance requirements Fourth Revision
42	IS 374 : 2019	Specification for electric ceiling type fans and regulators Third Revision
43	IS 555 : 1979	Specification for electric table type fans and regulators Third Revision
44	IS 959 : 1994	Specification for electric soldering irons Third Revision
45	IS 1169 : 1967	Specification for electric pedestal type fans and regulators First Revision
46	IS 1287 : 1993	Electric toasters - Specification Third Revision
47	IS 1401 : 2008	Protection of persons and equipment by enclosures - Probes for verification Second Revision
48	IS 1415 : 1966	Specification for electric hand - Lamps Revised
49	IS 1416 : 1972	Specification for safety transformers First Revision
50	IS 2082 : 2018	Stationary storage type electric water heaters - Specification Fifth Revision
51	IS 2268 : 1994	Electrical call bells and buzzers for indoor use - Specification Third Revision
52	IS 2312 : 1967	Specification for propeller type AC ventilating fans First Revision
53	IS 2994 : 1992	Electric stoves - Specification Second Revision
54	IS 2997 : 1964	Specification for air circulator type electric fans and regulators
55	IS B2997 : 1964	Specification for air circulator type electric fans and regulators
56	IS 3412 : 1994	Electric water boilers - Specification Second Revision
57	IS 3481 : 1966	Specification for electric portable lamp stands and brackets
58	IS 3588 : 1987	Specification for electric axial flow fans First Revision
59	IS 3724 : 2017	Cartridge type heating elements Non - Embedded Type - Specification First Revision
60	IS 3725 : 1966	Specification for resistance wires tapes and strips for heating flements
61	IS 3963 : 1987	Specification for roof extractor units First Revision
62	IS 4158 : 1986	Specification for solid embedded type electric heating elements First Revision
63	IS 4159 : 2021	Mineral Filled Sheathed Heating Elements
64	IS 4250 : 1980	Specification for domestic electric food - Mixers Liquidizers And Grinders First Revision
65	IS 4327 : 1967	Specification for electric fans and regulators for use in ships
66	IS 4894 : 1987	Specification for centrifugal fans First Revision
67	IS 5159 : 1969	Specification for mains - Operated electric shavers
68	IS 5161 : 1969	Specification for flexible electric heating pads for domestic use

69	IS 5579 : 1985	Pecification for neon testers First Revision
70	IS 5790 : 1985	Specification for domestic electric cooking ovens First Revision
71	IS 6272 : 1987	Specification for industrial cooling fans Man Coolers First Revision
72	IS 6290 : 1986	Specification for steam irons First Revision
73	IS 6365 : 1971	Laboratory Electric Ovens
74	IS 6390 : Part 2 : 1992	Domestic electrical clothes washing machines - Specification Part 2 requirements for tumbler dryers
75	IS 6446 : 1986	Spbcification for mica insulated heating elements First Revision
76	IS 6680 : 1992	Railway carriagefans - Specification First Revision
77	IS 7137 : 1973	Specification for portable hand - Held mains - Operated electric massagers
78	IS 7154 : 1994	Mains operated electric hair dryers First Revision
79	IS 7603 : 1975	Specification for portable low speed food grinding machines
80	IS 8506 : 1977	Specification for laboratory electrical resistance furnaces
81	IS 8978 : 1992	Specification for electric instantaneous water heaters Second Revision
82	IS 8985 : 1978	Specification for single walled baking ovens
83	IS 10436 : 1983	Specification for electric frying pans and deep fat fryers
84	IS 10975 : 1984	Electric Gas Lighters
85	IS 11676 : 1995	Microwave ovens for household and similar purposes - Specification First Revision
86	IS 11879 : 1986	Specification for electric steam cookers
87	IS 12289 : 1988	Specification for hand held electric engraving tools
88	IS 13231 : 1991	Warming plates - Specification
89	IS 13368 : 1992	Method of centrifugal test for double inlet fans Industrial Type
90	IS 13588 : 1993	Spring - Operated impact - Test apparatus and its calibration - Specification
91	IS 13836 : 1993	Potato peeling machine Electrically Operated - Specification
92	IS 13850 : 1993	Dish washing machine heavy duty ratchet type - Specification
93	IS 13886 : 1993	Specification for bimetallic thermostats and thermal cutouts for use with electric iron
94	IS 14144 : 1994	Electric coffee makers
95	IS 14145 : 1994	Mains operated clocks specification
96	IS 14155 : 1994	Domestic electric clothes washing machines for household use - Specification
97	IS 15644 : 2006	Safety of electric toys
98	IS/IEC 60730 : PART 1 : 1999	Automatic electrical controls for household and similar use part 1 General Requirements
99	IS/IEC 60730 : Part 2 : Sec 9 : 2011	Automatic Electrical Controls for Household and Similar Use Part 2 Particular Requirements Section 9 Temperature Sensing Controls

Annex-3

Sr.	Clause no.	Clause description – as per standard	Change proposed by BAJAJ ELECTRICALS LTD.	Justification	Action desired
1	11.7.101 of 302-2-6	11.7.101 Induction hob elements are operated for 30 min. Other hob elements are operated for 60 min.	Induction hob elements are operated for **45 min or till steady conditions are establish**. Other hob elements are operated for 60 min.	In most of the cases of Induction Cool Tops, the steady condition of temperature takes more than 30-min.	11.7.101 to be suitably modified.

ANNEX

FORMAT FOR SENDING COMMENTS ON BIS DOCUMENTS

(Please use A4 size sheet of paper only and type within fields indicated. Comments on each clauses/sub-clauses/table/fig. etc be started on a fresh box. Information in Column 4 should include reasons for the comments and suggestions for modified wording of the clauses when the existing text is found not acceptable. Adherence to this format facilitates Secretariat's work)

Doc. No.: __IS 302-2-15_TITLE: _**Appliances for Heating Liquids**_____

LAST DATE OF COMMENTS: ___30.01.2020_____

NAME OF THE COMMENTATOR/ORGANIZATION: Havells India Ltd

Sl. No.	Clause/Subclause/ para/table/fig. No. commented	Commentator/ Organization/ Abbreviation	Type of Comments (General/Editorial/ Technical)	Justification	Proposed change
01	IS 302-2-15/Note 102	Havells India Ltd	General- Rice cookers, Soy Milk makers, Tea Makers need to be covered under the scope of this standard	Rice cookers, Soy Milk makers, Tea Makers are covered in IEC 60335-2-15 which is the reference standard for IS 302-2-15	The same need to be incorporated in IS 302-2-15
02	IS 302-2-15/Cl no 3	Havells India Ltd	General- The details of sub clause 3.1.9.106 & 3.1.9.107 of IEC clause 3 is not mentioned in respective IS standard	The IS is derived from IEC so same to be revised in IS	Add the sub clause 3.1.9.106 & 3.1.9.107 of IEC 60335-2-15 clause 3 in IS 302-2-15
03	IS 302-2-15/Cl no. 3	Havells India Ltd	General- The details of sub clause 3.109,3.110,3.111,3.112,3.113 of IEC 60335-2-15 clause 3 is not mentioned in respective IS standard	The IS is derived from IEC so same to be revised in IS	Add the sub clause 3.109,3.110,3.111,3.112,3.113 of IEC 60335-2-15 clause 3 in IS 302-2-15

04	IS 302-2-15/ Cl. no.7	Havells India Ltd	General- the following to be added in the sub clause 7.1 'Soy milk makers shall have a level mark or other means to indicate when they are filled to rated capacity, unless they cannot be filled beyond their rated capacity'.	The IS is derived from IEC 60335-2-15 so same to be revised in IS	Add The details of sub clause 7.1 'Soy milk makers shall have a level mark or other means to indicate when they are filled to rated capacity, unless they cannot be filled beyond their rated capacity' of IEC 60335-2-15 clause 7 in IS 302-2-15
05	IS 302-2-15/Cl no. 7	Havells India Ltd	General- in sub-clause 7.12 Word "kettles " to be changed to "Appliances" of clause 7 of IS 302-2-15	The IS is derived from IEC so same to be revised in IS	in sub-clause 7.12 Word "kettles " to be changed to "Appliances" of clause 7 of IS 302-2-15 as mentioned in respective clause IEC 60335-2-15
06	IS 302-2-15/Cl no.8	Havells India Ltd	General- in sub-clause 8.1.2 Word "kettles " to be changed to "Appliances" of clause 8 of IS 302-2-15	The IS is derived from IEC so same to be revised in IS	in sub-clause 8.1.2 Word "kettles " to be changed to "Appliances" of clause 8 of IS 302-2-15 as mentioned in respective clause IEC 60335-2-15
07	IS 302-2-15/Cl. no.11	Havells India Ltd	General- The details of sub clause 11.3 of IEC clause 11 is not mentioned in respective IS standard	The IS is derived from IEC so same to be revised in IS	Add the sub clause 11.3 of IEC 60335-2-15 clause 11 in IS 302-2-15
08	IS 302-2-15/Cl.no. 11.7	Havells India Ltd	General- Add the following in IS 302-2-15 'For espresso coffee-makers having an outlet for supplying steam or hot water, the brewing period is immediately followed by a period during which the steam or water is supplied for the time stated in the instructions or for the following periods, whichever is more unfavourable: – for espresso coffee-makers having an outlet for supplying steam, 1 min; – for espresso coffee-makers	The IS is derived from IEC so same to be revised in IS	Add the details of sub clause 11.7.104 'For espresso coffee-makers having an outlet for supplying steam or hot water, the brewing period is immediately followed by a period during which the steam or water is supplied for the time stated in the instructions or for the following periods, whichever is more unfavourable: – for espresso coffee-makers having an outlet for supplying steam, 1 min; – for espresso coffee-makers having an outlet for supplying

			having an outlet for supplying hot water, the time necessary to produce 100 ml of water.'		hot water, the time necessary to produce 100 ml of water.' of clause 11 of IEC 60335-2-15 is not found in IS 302-2-15
09	IS 302-2-15/Cl.no.15	Havells India Ltd	General- The word 'Kettle' found of sub clause 15.2 **'**For cordless kettles, the test with the appliance on the horizontal plane is carried out with the appliance both on and off its stand' of clause 15 of IS 302-2-15	The IS is derived from IEC so same to be revised in IS	The word 'Kettle' to be replaced by 'Appliances' as mentioned in sub clause 15.2 a'For cordless appliances, the test with the appliance on the horizontal plane is carried out with the appliance both on and off its stand' of clause 15 of IEC 60335-2-15 in IS
10	IS 302-2-15/Cl.no.15	Havells India Ltd	General- The Word "kettles " of sub clause 15.102 of clause IS 302-2-15 to be changed to "Appliances" as mentioned in IEC 302-2-15	The IS is derived from IEC so same to be revised in IS	Add The Word "kettles " of sub clause 15.102 of clause IS 302-2-15 to be changed to "Appliances" as mentioned in IEC 302-2-15
11	IS 302-2-15/Cl.no.15	Havells India Ltd	General- The details of sub clause 15.103 of IEC clause 15 is not mentioned in respective IS standard	The IS is derived from IEC so same to be revised in IS	Add the sub clause 15.103 of IEC 60335-2-15 clause 15 in IS 302-2-15
12	IS 302-2-15/Cl. no.19	Havells India Ltd	Add the details as follows 'Induction rice cookers are operated under the conditions of Clause 11 with the rice container empty'	The IS is derived from IEC so same to be revised in IS	Add The details of sub clause 19.2 'Induction rice cookers are operated under the conditions of Clause 11 with the rice container empty' of clause 19 of IEC 60335-2-15 in IS 302-2-15
13	IS 302-2-15/Cl.no.19	Havells India Ltd	General-Add the following 'Induction rice cookers are operated under the conditions of Clause 11 with the rice container empty'	The IS is derived from IEC so same to be revised in IS	Add The details of sub clause 19.7 'Induction rice cookers are operated under the conditions of Clause 11 with the rice container empty' of clause 19 of IEC60335-2-15 in IS 302-2-15

14	IS 302-2-15/Cl. no. 19	Havells India Ltd	General-Add the following 'Soy milk makers are operated for one cycle of operation' General- The details of sub clause 19.104,19.105 of IEC clause 19 is not mentioned in respective IS standard	The IS is derived from IEC so same to be revised in IS	Add the sub clause 19.104,19.105 of IEC60335-2-15 clause 15 in IS 302-2-15
15	IS 302-2-15/Cl. no. 20	Havells India Ltd	General-Add the following 'This clause of Part 1 is applicable except as follows' is interpreted as 'This clause of Part 1 is applicable'	The IS is derived from IEC so same to be revised in IS	Add The details of IEC60335-2-15 of clause 20 'This clause of Part 1 is applicable except as follows' in IS 302-2-15
16	IS 302-2-15/Cl.no.20	Havells India Ltd	General- The details of sub clause 20.101,20.102,20.103 of IEC clause 20 need to be covered in respective IS standard	The IS is derived from IEC so same to be revised in IS	Add The details of sub clause 20.101,20.102,20.103 of IEC 60335-2-15 clause 20 in respective IS standard 302-2-15
17	IS 302-2-15/Cl.no.22	Havells India Ltd	Technical-The details of sub clause 22.7 '*The pressure is gradually increased hydraulically to two times the operating pressure*' of clause 22 of IEC is interpreted as *'The pressure is gradually increased hydraulically to six times the operating pressure*' in IS 302-2-15	The IS is derived from IEC so same to be revised in IS	Add The details of sub clause 22.7 '*The pressure is gradually increased hydraulically to two times the operating pressure*' of clause 22 of IEC 60335-2-15 instead of *'The pressure is gradually increased hydraulically to six times the operating pressure*' in IS 302-2-15
18	IS 302-2-15/Cl. no.22	Havells India Ltd	General- The details of sub clause 22.4 of IEC clause 22 is not mentioned in respective IS standard	The IS is derived from IEC so same to be revised in IS	Add The details of sub clause 22.4 of IEC 60335-2-15 clause 22 in respective IS standard 302-2-15
19	IS 302-2-15/Cl.no.22	Havells India Ltd	General- The details of sub clause 22.103 of IEC clause 22 as it is to be included into respective IS standard 302-2-15	The IS is derived from IEC so same to be revised in IS	includeThe details of sub clause 22.103 of IEC 60335-2-15 clause 22 as it is into IS standard 302-2-15

20	IS 302-2-15/Cl.no.22	Havells India Ltd	General- The details of sub clause 22.109 of IEC clause 22 is not mentioned in respective IS standard	The IS is derived from IEC so same to be revised in IS	Add The details of sub clause 22.109 of IEC 60335-2-15 clause 22 in respective IS standard
21	IS 302-2-15/Cl. no.22	Havells India Ltd	General- The details of sub clause 22.112,22.113,22.114 of IEC clause 22 need to be covered in respective IS standard	The IS is derived from IEC so same to be revised in IS	Add The details of sub clause 22.112,22.113,22.114 of IEC 60335-2-15 clause 22 in respective IS standard
22	IS 302-2-15	Havells India Ltd	General- The Word "kettles " of sub clause 24.4 of clause IS 302-2-15 to be changed to "Appliances" as mentioned in IEC 302-2-15	The IS is derived from IEC so same to be revised in IS	Add The Word "kettles " of sub clause 24.4 of clause IS 302-2-15 to be changed to "Appliances" as mentioned in IEC 60335-2-15
23	IS 302-2-15	Havells India Ltd	General- The details of sub clause 25.22 of IEC 60335-2-15 clause 25 need to be covered in respective IS standard	The IS is derived from IEC so same to be revised in IS	Add The details of sub clause 25.22 of IEC 60335-2-15 clause 25 in respective IS standard 302-2-15

Thanks & regards

Diwan Singh Kholia
Deputy General Manager
Havells India Ltd

Email **ELECTROTECHNICAL BIS**

Comments of MED 33 on IS 302-2-15

From : Mechanical Engineering Department <med@bis.gov.in>

Thu, Jan 28, 2021 06:17 PM

1 attachment

Subject : Comments of MED 33 on IS 302-2-15

To : ELECTROTECHNICAL BIS <eetd@bis.org.in>

Cc : Head-MED <hmed@bis.gov.in>

This has reference to amd no 3 to IS 2347:2017. In this amendment (see cl 4 and 8.13), provision of electrical requirements as per IS 302-2-15, in case Pressure cooker is provided with integral electrical heating device.

It may be noted that IS 2347 covers the cookers of water capacity upto 24 litres. Your attention is drawn at clause no 1g) of IS 302-2-15, where the capacity is restricted to 10 litres only.

The above matter was discussed in last meeting of Utensils, Cutlery and Domestic Hardware Sectional Committee, MED 33 and it was recommended that IS 302-2-15 may be reviewed to increase the water capacity to 24 litres.

It may further be noted that QCO as per IS 2347 has already been issued by DPIIT.

ETD is requested to do the needful please.

Chandan Gupta
Sc D, MED

2347A3.pdf
163 KB

Draft **AMENDMENT NO. 1**

To

IS 302-2-80:2017 Household and Similar Electrical Appliances — Safety

Part 2-80: Particular Requirements for Fans

(First Revision)

(*Page* 7, *Clause* **21.102**) - Substitute the following for the existing entries:

Ceiling fans shall have adequate strength. Compliance is checked by the following test.

Ceiling fans are mounted in accordance with the installation instructions. ~~A load of 10000 N is suspended from the body of the fan for 1 min.~~ A load equal to four times the mass of the fan is suspended from the body of the fan for 1 min

~~A torque of 50 Nm is then applied to the fixed body of the fan for 1 min. The test is repeated with the torque applied in the reverse direction~~. A torque of 1 Nm is then applied to the fixed body of the fan for 1 min. The test is repeated with the torque applied in the reverse direction.

~~Metal parts used in the suspension system shall have a minimum wall thickness of 1.5 mm. No parts of any hole or slot shall be closer than 5 mm from the edge.~~

~~The suspension system~~ The suspension system including any safety suspension system device shall not break, and the fan shall not be damaged to such an extent that compliance with 8.1, 16.3 and 29 is impaired.

NOTE — The suspension system shall be either bolted or screwed at the motor end and the suspension end. In case, it is screwed, the threads shall be such as to tend the joints to tighten when the fan is in motion. The joints shall be further secured by the use of lock nut or split pin.

Draft **AMENDMENT NO. 1**

To

IS 374:2019 Electric Ceiling Type Fans-Specification

(Fourth Revision)

(*Page* 2, *Clause* **6.2**) — Substitute the following for the existing entries:

The preferred sizes of ceiling fans shall be 600, 750, 900, 1050, 1200, 1320, 1400 and 1500 mm.

NOTE: Sizes of fans specified above are subject to a tolerance of ± 5 mm.

(*Page* 2, *Clause* **10.2**) - Substitute the following for the existing entries:

The regulator shall have an 'off' position preferably next to the lowest speed contact, and shall be provided with not less than five running positions except in case of continuously variable speed regulators. The speed difference at any running position shall not deviate by more than ±50 percent (for both induction motor and BLDC motor) from the ideal speed difference calculated on the basis of maximum and minimum speeds divided by the number of steps provided in the speed regulator.

NOTE — The following example illustrates the significance of this clause for a 5 speed regulator for Induction motor

Let the maximum speed of the fan be 400 rev / min and the minimum speed be 200 rev/min.

Then the ideal speed difference will be:

$(Speed_{max} – Speed_{min})$ / (# of speeds – 1) (400 – 200) / (5 – 1) = 200 / 4 = 50 rpm/min

The speed difference between any two running position should be between 75 rev/min and 25 rev/min.

(*Page* 3, *Clause* **10.7**)- Substitute the following for the existing entries:

Electronic type regulators and remotes shall be provided with radio and television interference suppressing devices, if required, so as to ensure that there is no appreciable noise /disturbance on radio/ television when operated outside a radius of 2 m from the regulator. Electronic type fan regulators shall comply with the requirement given in IS 11037. In addition, the regulator shall comply with the EMC requirements in accordance with IS 14700 (Part 2/Sec 3). For battery operated remote control, it shall meet the requirements of radio disturbance test in accordance with IS 6873 (Part 2/sec 2)".

(*Page* 4, *Clause* **14.3.1**) - Substitute the following for the existing entries:

The fan shall be tested in a test chamber having the following dimensions:

a) Length: 4.50 m,

b) Width: 4.50 m, and

c) Height: 3 m (See Fig. 1).

The material used for fabricating the test chamber shall be made of plywood with glass windows as per requirement.

The top of the test chamber shall be covered except for a centrally situated circular opening (top-opening), the diameter of which shall be between 1.1 and 1.2 times the blade sweep. The central diaphragm in which the top opening is located shall be not more than 6 mm thick.

The bottom of the chamber shall be cut away all round to a height of 450 mm from the ground level to provide adequate outlet for the air.

The outer chamber shall be provided at a uniform distance of 1 to 1.25 m laterally around the test chamber and reaching from the ground level to a height of not less than 3 m. One or more walls of a room may be utilized as sides of the outer chamber provided they comply with all the necessary conditions.

The observer shall take readings from a position between the chamber and outer screen, and a small shelf for electrical instruments may be provided in this space. Except for these, the space between the chamber and the outer screen and the space inside the test chamber shall be clear of all obstructions, and there shall be no heating or cooling apparatus anywhere in the system.

The room in which the test chamber and the outer screen are erected shall be suitably protected from extraneous draughts.

(*Page* 5, *Clause* **14.4.1**) - Substitute the following for the existing entries:

The peripheral speed of the fan at test voltage and rated frequency shall be as follows:

Sl No.	*Size of Fan (mm)*	*Maximum Peripheral Speed (m/s)*
(1)	(2)	(3)
i)	600 & 750	40
ii)	900 to 1400	30
iii)	1500	20

(*Page* 5, *Clause* **15.1**, Para 1) - Insert the following at the end:

Before starting the tests, the fan and its attachments are adjusted in accordance with the manufacturer's instructions for normal operation. Any controls shall be set for maximum continuous air flow unless the manufacturer's instruction states otherwise. Any other functions such as luminaires and other accessories shall be turned off.

(*Page* 6, *Table* 1) - Substitute the following for the existing entries:

TABLE 1
Performance Value of Fans
(*Clause* 15.1 and 15.2)

Sr. No.	**Fan Size mm**	**Minimum Air Delivery (m^3/min)**	**Minimum Service Value (m^3/min/W)**
1	600	100	1.5
2	750	115	1.7
3	900	130	3.1
4	1050	150	3.1
5	1200	210	4.0
6	1320	220	4.0
7	1400	245	4.1
8	1500	270	4.3

Note:

i) For any other sizes falling within the range of 600 mm to 1500 mm, the minimum air delivery and the minimum service value shall meet the performance prescribed corresponding to the next immediate size value.

ii) Air delivery values are on the basis of air velocity measurement up to 15 m/min

Doc No.: ETD 32(-----)
IS 4250 : 2019

भारतीय मानक

इलेक्ट्रिक फूड-मिक्सर (□□□ □□□□□□ □□ □□□□□□□□□□) □□ सेंटरीफ्यूगल जूसर □□ □□□ □□□□□□□□□□) *दूसरा पुनरीक्षण* (

Indian Standard

Specification for Electric Food-Mixers (Liquidizers and Grinders), Food Processor, Centrifugal Juicers

(*Second Revision*)

ICS 97.040.50

B U R E A U O F I N D I A N S T A N D A R D S
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110 002

July 2021 **Price Group**

Electrical Appliances Sectional Committee ETD 32

FOREWORD

This Indian Standard (Second Revision) was adopted by Bureau of Indian Standards, after the draft finalized by the Electrical Appliances Sectional Committee had been approved by the Electrotechnical Division Council.

This revision has been carried out to:

a) include the experience gained in the field since publication of the earlier version, and

b) align with the latest developments at the international level.

In this version, following major changes have been made:

a) For safety requirements, IS 302 (Part 2/Sec 14) has been referred;
b) All the amendments in the previous version of the standard has been incorporated; and
c) Requirements for endurance test has been changed.

The standard covers the general, safety and performances requirements of domestic electric food-mixers and centrifugal juicers.

This standard is to be read in conjunction with IS 302 (Part 2/Sec 14).

The purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis shall be rounded off in accordance with IS 2 : 1960 ‘Rules for rounding off numerical values (*revised*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

SPECIFICATION FOR ELECTRIC FOOD-MIXERS (LIQUIDIZERS AND GRINDERS), FOOD PROCESSOR AND CENTRIFUGAL JUICERS
(Second Revision)

1. SCOPE

This standard covers electric motor driven food-mixers (liquidizers and grinders), food processor and centrifugal juicers intended for household and similar purposes, their rated voltage being not more than 250 V for single phase appliances and 415 V for other appliances. Multipurpose machines which are used together with certain accessories are also covered by this standard as far as it applies. This Standard does not apply to hand held appliances.

2 REFERENCES

The following standards contain provisions, which through reference in this text, constitute provisions of this draft standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below

:IS No.	***Title***
302 (Part 1) : 2008	Safety of household and similar electrical appliances: Part 1 General requirements
302(Part 2/Sec 14) : 2009	Safety of household and similar electrical appliances: Part 2 Particular requirements, Section 14 Electric kitchen machines (*first revision*)
IS 460 (Part 1) : 1985	Test sieves: Part 1 Wire cloth test sieves
3077 : 1992	Roasted and ground coffee

3 TERMINOLOGY

3.1 For the purpose of this standard, the following definitions, in addition to the relevant definitions given in **3** of IS 302(Part 2/Sec 14) shall apply.

3.2 Food-mixer

A single appliance which can do the functions indicated at **3.3** and **3.4.**

3.3 Grinder

A portable appliance which by operation of high speed blades or cutters is intended primarily for pulverizing or powdering dry foodstuffs either raw or roasted, such as coffee seeds, cereals, grains, etc.

3.4 Liquidizer

A portable appliance which by operation of high speed blades or cutters is designed either for mixing liquids or for converting foods with or without the presence of' water (or vegetable oils) depending on the type of food, into forms of slurry or pulps.

3.4.1 Blender

Appliance intended to pulverize solids, such as ice, vegetables or fruit, and to combine them into a blend, or to merge liquids and solids into a blend (food blenders) or to combine liquids only (liquid blenders)

3.4.2 Food processor

Appliance intended to finely chop batches of meat, cheese, vegetables and other foods by means of cutting blades rotating in a container.

3.5 Centrifugal Juicer

An appliance or attachment designed to **extract** juice from fruits or vegetables by cutting into pieces and by centrifugal action.

3.6 Cycle of Operation

The operations of juice extraction, dismantling for removal of fluff (waste) and cleaning and reassembly.

3.7 Batch Operation

The operation of a juicer where the quantity of input of the fruits or vegetables is limited by the capacity of the vessel provided for the collection of either the juice extracted or the fluff (waste) without overflowing.

3.8 Continuous Operation

The operation of a juicer where the quantity of input of the fruits or vegetables is not limited by the capacity of the vessel provided for the collection of either the juice extracted or the fluff (waste).

3.09 Rated Capacity

The rated capacity shall be the maximum specified quantity handled by the unit for each complete batch of operation. The value shall be declared by the manufacturer.

3.10 Rated Input

Rated input shall be the maximum power drawn by the unit. The value shall be declared by the manufacturer.

3.11 Normal load

Denotes the load obtained when the appliance is operated under the load indicated in the instructions booklet in terms of recipes (can be different for grinder and liquidize:-) or the load necessary to attain the rated input (including the tolerances) at rated voltage in case the actual load in -terms of recipes is not indicated by the manufacturer in the instructions booklet.

3.12 Nominal Capacity

The nominal capacity or capacity shall be the maximum specified quantity of the vessels. This value shall be declared by the manufacturer.

4 GENERAL REQUIREMENTS

4.1 The relevant provisions of **4** of IS 302 (Part 2/Sec 14) shall apply in addition to **4.2.**

4.2 The metal components shall be of heat and moisture resisting nature and shall not be adversely affected by variations in temperature occurring under normal operating conditions or during the endurance test. The external finish of the body of the food-mixer shall not become stained due to spillage of food-stuff from the bowl of the food-mixer.

5 GENERAL CONDITIONS FOR THE TESTS

5.1 The relevant provisions of **5** of IS 302 (Part 2/Sec 14) shall apply except as stated otherwise in individual tests.

5.2 Unless the applications are designed to be fixed in normal use, it is tested as a portable appliance.

5.3 Endurance test (**18**) shall be carried out after the operation test (**34**).'

6 CLASSIFICATION

The relevant provisions of **6** of IS 302 (Part 2/Sec 14) shall apply.

7 MARKING

7.1 The relevant provisions **7** of IS 302-2-14 shall apply in addition to those indicated in **7.2** to **7.6.**

7.2 Each appliance shall be accompanied by an instructions booklet containing the following information:

a) Precautions:

1) While positioning of the appliance, and

2) Before switching on the appliance.

b) Warning:

1) About the parts of the appliance which shall not be brought into contact with liquids;

2) About keeping away from moving parts; and

3) About running the appliance empty, if necessary.

c) Instructions:

1) For assembling and dismantling the bowl for cleaning and servicing;
2) Type of supply to which the appliance may be connected, and instructions for electrical connections;
3) Instructions to the affect that after every use of food-mixer/juicer, pour little hot water into the bowl to remove left over material, specially sticky substances, so that the cutter will rotate freely during the subsequent use; and

4) The manufacturer may include instructions stating that the machine may be overhauled at least once in a year so that its useful life is increased.

d) Directions to switch off when the motor stalls or smoke emanates from the appliance, and.

e) Guide for operation, mentioning maximum quantity per loading and in the case of multi-speed appliances speed/control positions suitable for various operations.

7.3 If the appliance is delivered with alternative accessories, the rated input shall correspond to the most unfavourable accessory and speed setting.

7.4 Marking of Control Switch

The **'**on' or 'off' or both positions of the control switch shall be clearly marked. If any speed control device is provided, the various positions shall be clearly and indelibly marked.

7.5 Accessories sold separately by the appliance manufacturer shall be accompanied by an instructions sheet giving all relevant information, unless it is included in the manufacturer's instructions for the appliance.

7.6 BIS Certification Marking

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act*, 2016 and the Rules and Regulations framed thereunder, and the products may be marked with the standard mark.

8 PROTECTION AGAINST ACCESS TO LIVE PARTS

The relevant provisions of **8** of IS 302 (Part 2/Sec 14) shall apply.

9. STARTING OF MOTOR OPERATED APPLIANCES

The provisions of **9** of IS 302 (Part 2/Sec 14) shall not apply.

10. POWER INPUT AND CURRENT

The relevant provisions of **10** of IS 302 (Part 2/Sec 14) shall apply.

11. HEATING

The relevant provision of **11** of IS 302 (Part 2/Sec 14) shall apply.

Method:

11.1 The Food mixer/Juicer is operated under rated load and supplied with most unfavorable voltage between 0.94 times and 1.06 times the rated voltage. Food mixers may be operated with artificial generator load or any other mean, which can provide constant load consistently (Refer figure 1)

11.2 The appliance is operated:

a) For appliances for short time operation, having rated 'ON' time of not more than 5 minutes as declared by manufacturer. The Operation being carried out 6 times, the period of operation is 3 min ON and 2 min OFF.

b) For appliances for short time operation having rated 'ON' time of more than 5 minutes but not more than 30 min as declared by manufacturer. The Operation being carried out 6 times, the period of operation is 5 min ON and 2 min OFF.

c) For appliances for short time operation having rated 'ON' time of more than 30 min as declared by manufacturer. The Operation being carried out with number of times calculated by dividing declared rated ON time by 5 (rounded off to nearest integer). The period of operation is 5 min ON and 2 min OFF.

d) For appliances for continuous operation, The Operation being carried out until steady conditions are established, the period of operation is 5 min ON and 2 min OFF.

11.2.1 For Food Mixers which can be operated at different speeds shall be operated at highest speed.

11.2.2 For the windings, the measurement of temperature rise shall be carried out on the stator windings only.

11.3 The temperature of any material or insulation which may be exposed to excessive temperature during the operation of the appliance shall be measured. The values measured shall not exceed the values specified in Table 3 of IS 302-1 when measured by the methods indicated therein.

12. VOID

13. LEAKAGE CURRENT AND ELECTRIC STRENTGH AT OPERATING TEMPERATURE

The relevant provisions of **13** of IS 302 (Part 2/Sec 14) shall apply.

14. TRANSIENT OVER VOLTAGES

The relevant provisions of **14** of IS 302 (Part 2/Sec 14) shall apply.

15. MOISTURE RESISTENCE

The relevant provisions of **15** of IS 302 (Part 2/Sec 14) shall apply.

16. LEAKAGE CURRENT AND ELECTRIC STRENGTH

The relevant provisions of **16** of IS 302 (Part 2/Sec 14) shall apply.

17. OVERLOAD PROTECTION OF TRANSFORMERS AND ASSOCIATED CIRCUITS

The relevant provisions of **17** of IS 302 (Part 2/Sec 14) shall apply.

18. ENDURANCE

18. 1 The Food mixer/Juicer unit (excluding jars) is operated at rated input. To obtain rated input, food mixers/juicer unit shall be operated with artificial generator load which can provide constant loading consistently.

Refer annexure for generator load setup.
The food mixer/Juicer unit is operated for 24 ON hours at rated input at 1.06 times the rated voltage in cycles of ON and OFF periods and then for 24 ON hours at rated input at 0.94 times the rated voltage in cycles of ON and OFF periods.

a) Appliances for short time operation having rated 'ON' time less than 5 minutes as declared by manufacturer. The Operation being carried out 6 times, the period of operation is 3 min ON and 2 min OFF then adequate rest time to cool down the appliances to room temperature which is not more than 60 min

b) Appliances for short operation having rated 'ON' time more than 5 minutes as declared by manufacturer, The Operation being carried out 6 times, the period of operation is 5 min ON and 2 min OFF then adequate rest time to cool down the appliances to room temperature which is not more than 60 min

c) For appliances for short time operation having rated 'ON' time of more than 30 min as declared by manufacturer. The Operation being carried out with number of times calculated by dividing declared rated ON time by 5 (rounded off to nearest integer). The period of operation is 5 min ON and 2 min OFF then adequate rest time to cool down the appliances to room temperature which is not more than 60 min.

d) For appliances for continuous operation, The Operation being carried out is atleast 10 times or until steady conditions are established, whichever is more. The period of operation is 5 min ON and 2 min OFF then adequate rest time to cool down the appliances to room temperature which is not more than 60 min

The addition of ON time of all cycles shall be equal to the required 48 ON hours.

NOTE 1— The adequate rest period shall be the period enough to bring the appliance to the room temperature. Forced cooling can be applied during this off period.

Note 2- The appliance tested under the rated input condition, any control like OLP that limits the rated input loading during the test shall be short-circuited
Note 3- Food-mixer/juicer which can be operated at different speeds shall be operated at the highest speed setting.

Note 4- Consumable item like coupler are subjected to replace incase of breakage due to fitment in fixture hence excluded from failure mode.18.3 After the test food mixer shall be functional, compliance to be checked by operational test as per clause 34.4 or 34.5 (whichever applicable)

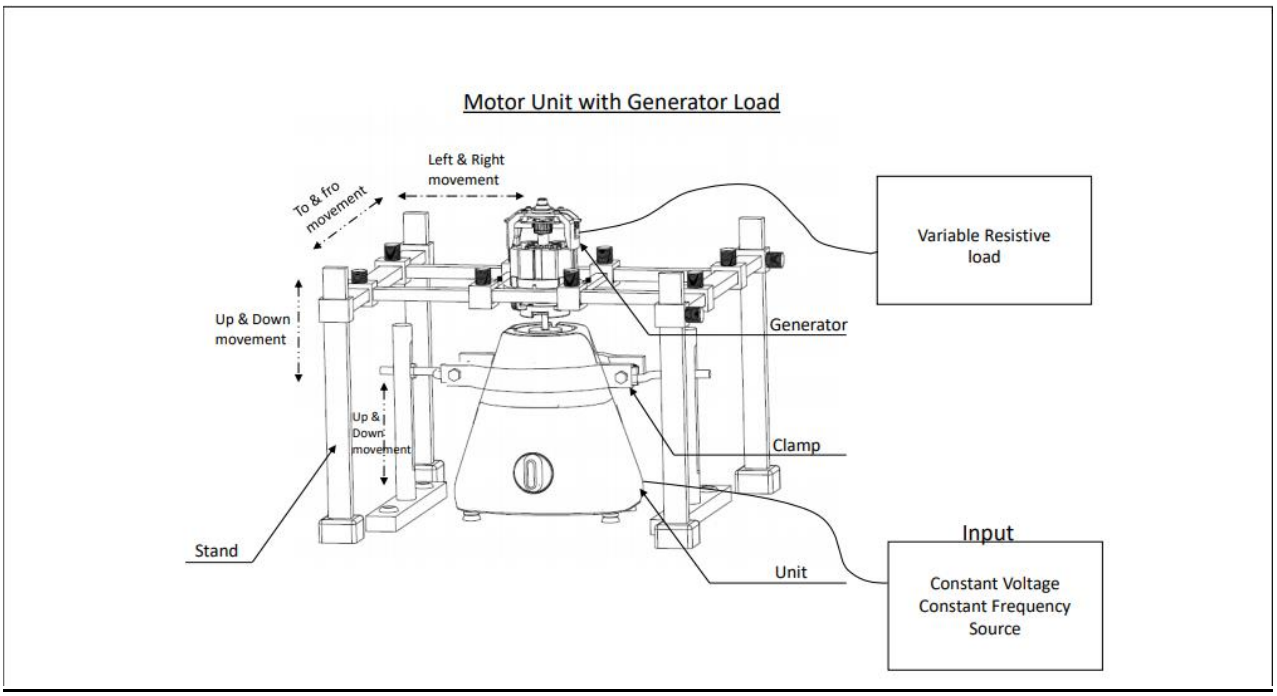
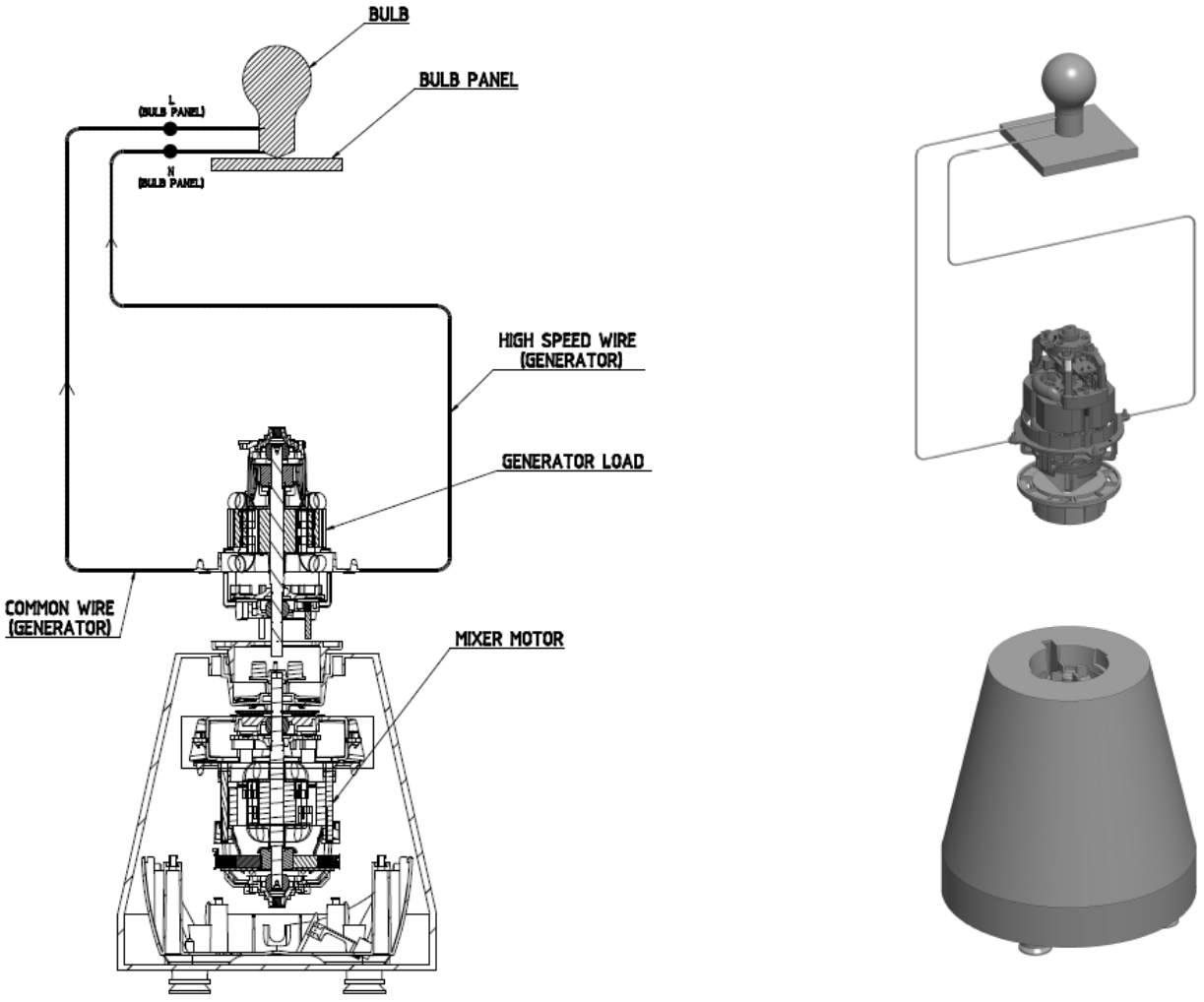

Motor Unit with Generator Load
Left & Right movement
To & fro movement
Up & Down movement
Up & Down movement
Stand
Variable Resistive load
Generator
Clamp
Unit
Input
Constant Voltage Constant Frequency Source

Figure-1

OR


BULB
BULB PANEL
L (BULB PANEL)
N (BULB PANEL)
HIGH SPEED WIRE (GENERATOR)
GENERATOR LOAD
COMMON WIRE (GENERATOR)
MIXER MOTOR

19. ABNORMAL OPERATION

The relevant provision of **19** of IS 302 (Part 2/Sec 14) shall apply.

20. STABILITY AND MECHANICAL HAZARDS

The relevant provisions of **20** of IS 302 (Part 2/Sec 14) shall apply except that the test probe test specified at **20.2** of IS 302 (Part 2/Sec 14) is carried out with the lid placed on the bowl and the bowl placed on the pedestal.

21. MECHANICAL STRENGTH

The relevant provisions of **21** of IS 302 (Part 2/Sec 14) shall apply.

22 CONSTRUCTION

22.1 The relevant provisions of **22** of IS 302 (Part 1) shall apply in addition to those specified in **22.2** to **22.10**.

22.2 The machine shall be compact, self-contained, and of rigid construction.

22.3 All parts required to be cleaned and kept in a hygienic condition shall be readily accessible without the use of special tools.

22.4 All castings and other materials required to be handled shall be smooth, round edged, free from blow holes, pits, foreign matter and surface imperfections.

22.5 Machined and formed parts shall be made to ensure complete interchangeability and parts subject to wear shall easily replaceable.

22.6 In the case of liquidizers, a lid shall be provided to retain food during preparation. When jars are provided with lid, the lid shall be held firmly either by hand or other adequate means while operating. A breather incorporated in the lid shall also be provided.

Note- For the lid placement on the Jars, suitable caution to be provided by the manufacturer on the lid and in the instruction booklet.

22.7 The design shall ensure that no accidental bodily contact is made with the cutters or blades during the operation of the machine.

22.08 The cutters and such other exposed parts of the machine in contact with food shall be of such material as to prevent fouling of foodstuffs and to resist corrosion and rusting. Stainless steel is one such material which can meet the above-requirements.

23 INTERNAL WIRING

The provisions of **23** of IS 302 (Part 2/Sec 14) shall apply.

24 COMPONENTS

24.1 The requirements given in **24.2** to **24.8** shall apply in additions to those given in **24** of IS 302 (Part 2/Sec 14).

24.2 Body or the Motor Housing

It shall be made of cast iron, cast aluminum, sheet metal, high impact thermosetting plastics or thermoplastics like acrylonitrile-butadiene-styrene (ABS) and polypropylene, of adequate strength and shall provide stability to the machine and shall also withstand all stresses encountered during normal use. Openings for ventilation of the motor shall be properly screened to ensure that no water gets into the appliance due to spillage.

24.3 Controls

Switches shall conform to the provisions of **36.1**. They may have stable positions for operation at various speeds. However, they may have a non-holding quick action position for instantaneous operation extending over controlled short durations.

24.4 Mechanical Power Coupling

The coupling shall be flexible and shall be fabricated out of materials which shall not deteriorate with extended normal use. It shall be able to withstand shock and vibrations of power transmission and speed changes (in case of multispeed machine).It shall be easily replaceable.

24.5 Bearings

The bearings may be of the sleeve or ball type. They shall be lubricated. The bearings shall have a life of at least as indicated in **18**.

24.6 Bowl

The container or the bowl in which food is converted into slurry, pulp or other liquids or in which dry food is pulverized shall be made out of materials which are neutral to food acids and salts, which do not deteriorate with age and which are able to withstand temperatures up to 100°C without change in their physical, mechanical and chemical structures, and properties. Preferred materials are clear or coloured or milky glass, clear or coloured high impact thermosetting plastic or stainless steel. The

bowl shall be easily removable from the machine, and shall be free from pits, cracks and crevices. It shall be smooth and shall not have corners and niches, to facilitate cleaning. The fixing arrangement of the bowl shall be adequately strong to stand repeated operations. It may be fitted witch handling grips.

24.7 Assembly

The bowl shall have arrangements for its stable and easy mounting on the motor housing without the use of any tools. Accurate guides shall be provided to ensure correct mounting. Where the bowl is detachable from base plate, a proper gasket shall be provided, also mechanical seal for leak proof assembly shall be provided. It shall be possible to remove the bowl with base plate if provided separately as one assembly for the purposes of emptying the contents.

24.8 Blades of Cutters

The material of the blades of cutters shall be stainless steel.

25 SUPPLY CONNECTIONS AND EXTERNAL FLEXIBLE CABLES AND CORDS

The relevant provisions of **25** of IS 302 (Part 2/Sec 14) shall apply.

26 TERMINALS FOR EXTERNAL CONDUCTORS

The relevant provisions of **26** of IS 302 (Part 2/Sec 14) shall apply.

27 PROVISION FOR EARTHING

The relevant provisions of **27** of IS 302 (Part 2/Sec 14) shall apply.

28 SCREWS AND CONNECTIONS

The relevant provisions of **28** of IS 302 (Part 2/Sec 14) shall apply.

29 CLEARANCES, CREEPAGE DISTANCES AND SOLID INSULATION

The relevant provisions of **29** of IS 302 /(Part 2/Sec 14) shall apply.

30 RESISTANCE TO HEAT AND FIRE

The relevant provisions of **30** of IS 302 (Part 2/-14 shall apply.

31 RESISTANCE TO RUSTING

The relevant provisions of **31** of IS 302 (Part 2/Sec 14) shall apply.

32 RADIATION, TOXICITY AND SIMILAR HAZARDS

The provisions of **32** of IS 302 (Part 2/Sec 14) is not applicable.

33 VOID

34 OPERATIONAL TESTS

34.1 The food-mixers shall be subjected to the operational tests for which it is declared suitable by the manufacturer. The tests with the recipes shall generally be conducted as per the method specified in the instructions booklet supplied by the manufacturer for the corresponding recipes. However, with respect to tests of grinding coffee, whisking egg whites and idli batter, if the method for making recipes are not given in the instruction booklet tests in **34.2, 34.3** and **34.4** shall be followed. The total time of actual operation of the machine in each test shall be noted and recorded with a stop-watch or a similar device. When the food-mixer is of intermittent operation type, each maximum period of operation during the test shall be equal to the period marked and each period of rest shall at least be equal to the rest period marked.

34.2 Grinding Coffee (for Machines Which Have a Dry Grinding Arrangement)

Freshly roasted coffee seeds corresponding to the grading ‘light roast’ of IS 3077 : 1992 shall be used for this test. The weight of seeds in grams shall be 40 percent of the rated capacity in millilitres of the

grinder bowl of the machine under test. The seeds shall be ground for an operational time of 3 min or less and the total time including periods of rest shall not exceed 5 min. If required, the material adhering to the sides and cover may be scrapped and loosened with a spoon, once during the test, when the machine is at rest. At the end of the test the material shall be removed and weighed. The result of grinding shall be assessed by sieve as per IS 460 (Part 1) successively through the following Indian Standard Sieves: 710,500 and 355 microns

The method of sieving indicated in IS 3077 : 1992 shall be used. The material retained on each of the first two sieves shall not be more than 20 percent of the weight obtained at the end of the test. The material passing through the third sieve shall not be less than 30 percent of the same weight.

NOTE — It is recommended that coffee seeds of the 'pea bury' variety supplied by the coffee board, are used for this test.

34.3 Whisking Egg Whites (for Machines which have Whisking Egg Arrangement)

Fresh eggs shall be used for this test. The whites shall be carefully separated and used at once. The weight in grams of the egg whites used in a test shall be 20 percent of the rated capacity of the liquidizer bowl in millilitres. The egg whites shall be initially at room temperature. They shall be whisked in the machine to produce a stiff froth. The actual operational time required shall not exceed 3 min, and the total time including periods of rest shall not exceed 5 min. The result shall be considered satisfactory if the bowl is inverted for 5 s and the material remains in the bowl.

34.4 Idli Batter

The general procedure for preparing the *IDLI* batter is to take decuticled black gram (*urad dal)* and parboiled rice in the proportions 1 : 2 by mass, soak them separately in the required quantity of water for 12 h and then to grind them separately before mixing 'them together. The black gram is ground to a smooth and frothy consistency, and the rice is ground to a fine semolina in water.

For the purpose of this test the solid ingredients shall be taken in the weights specified below for different sizes of liquidizer bowls and soaked in the quantity of water shown against each mass of solid. The soaked solid with the unabsorbed water shall then be transferred to the bowl and ground. Excess water to the extent of 20 percent can be added as and when needed for achieving smooth grinding results during grinding.

Rated Capacity of Bowl	Black Gram		Parboiled Rice	
Litres	Solids g	Water ml	Solids g	Water ml
0.5	100	225	100	113
1.0	200	450	200	225
1.5	300	675	300	338

NOTE — For intermediate capacities the quantity of solid ingredients shall be fixed by interpolation.

The maximum operational time for grinding each ingredient shall be 6 min with a period of rest as recommended by the manufacturer.

NOTE — To prepare a batter with the black gram and rice in the proportions 1:2 requires two batches of rice to be ground for every batch of black gram. For the present test one batch of each will suffice as the results of grinding are assessed without completing the mixture and cooking it in the form of *IDLIS.*

The results of grinding the black gram are assessed by working the mixture between the thumb and fingers. The mixture shall be smooth and frothy and no lumps shall be detected.

The results of grinding the rice shall be assessed by diluting the ground mixture with sufficient quantity of clean Water and sieving it successively through the following Indian Standard Sieves:

1.40 mm, 1.00 mm and 500 microns:

The ground material from the bowl is recovered as fully as possible by rinsing it with water, the same water being then used for dilution. After sieving, the water from the material retained by each sieve shall be allowed to drain away for 5 min and the material shall then be recovered and weighed.

The grinding shall be considered satisfactory if not more than 10 percent of the mass of rice originally taken is retained by the 1.40 mm sieve; not more than 15 percent by the 1 mm sieve and not more than 70 percent by the 0.5mm sieve.

34.5 Operational Tests for Juicers

34.5.1 A suitable quantity of washed and cleaned carrots or fresh seasonal fruits shall be taken and soaked in water at room temperature for 24 h. The top and tail shall be cut off. These shall be cut into smaller pieces approximately 20 mm thick and weighed.

The juicer shall be operated at the rated voltage as per the operating instructions given by the manufacturer. For juicers designed for batch operation, a quantity of about 350 g of carrots/ fresh seasonal fruits shall be used for each cycle of operation. The juicer shall be operated for 5 cycles of operation. The juicers designed for continuous operation shall be operated for 5 min or the rated operating time of the juicer whichever is less.

In either case, the juice extracted shall be filtered through a 0.25 mm sieve and the total quantity of juice weighed. The total time for juice extraction which is measured from the moments, the feeding of fruits is started till the juice stops coming out and excludes the time required for dismantling, cleaning and reassembly is noted. In case of juicers designed for batch operation, this time is the sum of time for juice extraction for five cycles for which the juicer is to be operated. The following results shall then be calculated:

a) The rate of juice extraction, in g/min (B/C); and
b) The amount of juice extracted expressed as a percentage of the carrots taken B/A

Where,

A = the total quantity of carrots taken, in g;

B = the total amount of juice extracted, in g; and

C = the total time taken for juice extraction, in minutes.

The juice pouring out of the vent provided for the purpose should have an even flow. The rate of juice extraction shall not be less than 250 g/min and the amount of juice extracted shall not be less than 50 percent.

34.5.2 The juicer shall be dismantled, cleaned and inspected. There shall be no spillage/leakage from the centrifugal mesh to such parts of the juicer which do not form the flow path of the extracted juice.'

35 TEMPERATURE WITHSTAND TEST FOR BOWL

Boiling water shall be poured into the bowl at room temperature rapidly to fill it to its capacity.

35.1 After the test the bowl shall be emptied and brought back to room temperature. The test shall be repeated five times. The bowl shall not show any sign of cracks and deformation and shall properly fit into the holder after the test.

NOTE — This test is not applicable in case the bowl is made of metal.

36 TEST FOR CONTROLS

36.1 Test for Switches

Controlling switches shall be capable of breaking the stalled motor current at the maximum rated voltage six times without failure. This test is carried out on d.c. unless the machine is marked ‘a.c. only’. (For the purpose of these tests the rated capacity shall be taken as equivalent to the rated input of the machine.)

37 STRENGTH OF ASSEMBLY

The bowl shall be assembled and mounted on the motor housing under the following controlled conditions six times. There shall be no chipping, cracking, or visible denting on the mounting surfaces:

a) Press fit joints using a force of 25 kgf, and

b) Screwed on joints using a screwing couple of 25 kgf. cm.

38 SCHEDULE OF TESTS

38.1 Type Tests

The tests specified in Table 1 shall constitute the type tests and shall be carried out on one sample of food-mixer/juicer selected preferably at random from a regular production lot.

38.1.1 *Criteria of Acceptance*

The sample shall successfully pass all the type tests for proving conformity with the requirements of this specification. If any of the samples should fail in any of the type tests, the testing authority, at its discretion, may call for fresh samples not exceeding twice the original number and subject them to all the tests or the test(s) in which the failure(s) occurred. No failure shall be permitted in the repeat test(s).

Table 1 Type Tests
(*Clause* **38.1**)

Sl No.	**Tests**	**Clause Reference**
(1)	**(2)**	**(3)**
i.	Protection against access to live parts	8
ii.	Power input and current	10
iii.	Heating	11
iv.	Leakage current and electric strength at operating temperature	13
v.	Transient over voltages	14
vi.	Moisture resistance	15
vii.	Leakage current and electric strength	16
viii.	Overload protection of transformers and associated circuits	17
ix.	Endurance	18
x.	Abnormal operation	19
xi.	Stability and mechanical hazards	20
xii.	Mechanical strength	21
xiii.	Construction	22
xiv.	Internal wiring	23
xv.	Components	24
xvi.	Supply connections and external flexible cables and cords	25
xvii.	Terminals for external conductors	26

xviii.	Provision for earthing	27
xix.	Screws and connections	28
xx.	Creepage distances, clearances and solid insulation	29
xxi.	Resistance to heat and fire	30
xxii.	Resistance to rusting	31
xxiii.	Operational tests	34
xxiv.	Temperature withstand test for bowl	35
xxv.	Test for controls	36
xxvi.	Strength of assembly	37

38.2 Acceptance Test

Table 2 shall constitute acceptance tests.

Table 2 Acceptance Tests
(*Clause* 38.2)

Sl No. **(1)**	**Tests** **(2)**	**Clause Reference** **(3)**
i)	Protection against access to live parts	8
ii)	Power input and current	10
iii)	Leakage current and electric strength at operating temperature	13
iv)	Moisture resistance	15
v)	Leakage current and electric strength	16
vi)	Provision for earthing	27
vii)	Operational tests	34
viii)	Temperature withstand test for bowl	35

38.3 Routine Tests

Table 3 shall constitute routine tests:

Table 3 Routine Tests
(*Clause* 38.3)

Sl No. **(1)**	**Tests** **(2)**	**Clause Reference** **(3)**
i)	Protection against access to live parts	8
ii)	Leakage current and electric strength at operating temperature	13
iii)	Provision for earthing	27

NOTE — A simple running test to verify satisfactory functioning shall be conducted on every food-mixer/juicer.

Email **ELECTROTECHNICAL BIS**

ETD 32 -Accessibility clause in Appliances Standards

From : ELECTROTECHNICAL BIS <eetd@bis.gov.in>

Mon, Jun 21, 2021 03:00 PM

1 attachment

Subject : ETD 32 -Accessibility clause in Appliances Standards

To : anand balasubramanian <anand.balasubramanian@bshg.com>, madhanraj ramalingam <madhanraj.ramalingam@bshg.com>, maninathk@bajajelectricals.com, harcharans@bajajelectricals.com, jagdish mulimani <jagdish.mulimani@bajajelectricals.com>, s@bajajelectricals.com, abhijeet vardhan <abhijeet.vardhan@bajajelectricals.com>, subhash shukla <subhash.shukla@bajajelectricals.com>, Sameer Pandita <spandita@beenet.in>, Neha Kumari <nehakumari@beenet.in>, mayur nadkarni <mayur.nadkarni@crompton.co.in>, anoop singh <anoop.singh@crompton.co.in>, satyendra singh <satyendra.singh@crompton.co.in>, omkishore@gov.in, Venkatesh D <dvenkat@cpri.in>, VIKAS RANA <delceedr.cpwd@nic.in>, seceel@yahoo.com, it@cercindia.org, atam@theeta.com, ramesh khanna99 <ramesh.khanna99@yahoo.com>, jugal koberoi <jugal.koberoi@gmail.com>, mukhopadhyay bhaskar <mukhopadhyay.bhaskar@gmail.com>, edse rdso <edse.rdso@gmail.com>, Sunil Kumar Saini <sunilk.saini@nic.in>, Dhanendra Prasad

<dhanendra.p@nic.in>, Sukanta Kumar Sahoo <sksahoo.dcmsme@dcmsme.gov.in>, shekh faridi <shekh.faridi@dyson.com>, rakesh patel <rakesh.patel@erda.org>, vinod gupta <vinod.gupta@erda.org>, MANJULA <mbhati@stqc.nic.in>, tilak nijhara <tilak_nijhara@ushainternational.com>, subroto banerjee <subroto.banerjee@cii.in>, Pallab bhattacharya <Pallab.bhattacharya@havells.com>, Pramod deshpande <Pramod.deshpande@havells.com>, diwansingh kholia <diwansingh.kholia@havells.com>, skcmjain@rediffmail.com, nthwr@mtnl.net.in, Dir Research and Development <dirrnd@pcra.org>, Kuntal Rastogi <adrnd@pcra.org>, PK Purkayastha <purakayasthapk@pcra.org>, vivek sharma <vivek.sharma@philips.com>, l a kulkarni <l.a.kulkarni@philips.com>, p v kotasthane <p.v.kotasthane@philips.com>, trishala s <trishala.s@racold.com>, mahesh bhangale <mahesh.bhangale@racold.com>, kaharram15@gmail.com, manjunath v <manjunath.v@ul.org>, ramkumar@venushomeappliances.com, ri@venushomeappliances.com, balajee prasad <balajee_prasad@whirlpool.com>, pkmukherjee09@yahoo.com, rajput ashok <rajput.ashok@gmail.com>, electrical shweta <electrical.shweta@cercindia.org>, technical@consumer-voice.org, dps9@rdso.railnet.gov.in, rmpuac@yahoo.com, dscsystem@gmail.com

Dear Sir,

This has reference to request received from the Department of Empowerment of Persons with Disabilities, Govt of India to include additional requirements in the relevant Indian standards that will help/assist the specially-abled persons under Accessible India Campaign (AIC).

The objective of the exercise is to develop standards for consumer products and services to benefit the access and usage of consumer products and services by people with disabilities. In order to assist standards developers (e.g. technical committees or working groups) to address accessibility in their standards, **ISO/IEC GUIDE 71:2014** (***Guide for addressing accessibility in standards***) is issued by IEC. (Copy of the ISO/IEC Guide 71 is attached with this email)

In view of the above, members are requested to kindly suggest measures/guidelines that we may add in the **ELECTRICAL APPLIANCES STANDARDS** for addressing the accessibility by specially-abled persons.

It is also proposed to constitute a working group for the above., therefore, members are requested to volunteer themselves for making a valuable contribution towards the Nobel cause.

Regards,

Sumit Bhardwaj
Scientist -C
Member Secretary (ETD 32)
विद्युत तकनीकी विभाग / Electrotechnical Department
भारतीय मानक ब्यूरो / Bureau of Indian Standards
उपभोक्ता मामले , खाद्य एवं सार्वजनिक वितरण मंत्रालय / Ministry of Consumer Affairs, Food & Public Distribution
भारत सरकार / Government of India
मानक भवन , 9 बहादुरशाह ज़फर मार्ग / Manak Bhawan, 9 Bahadur Shah Zafar Marg
नई दिल्ली - ११०००२ / New Delhi - 110002
दूरभाष Phone: +91 011 23231192, 2360 8271/8356/8427/8405
ईमेल email: eetd@bis.gov.in
वेबसाइट website: www.bis.gov.in

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