



PRODUCT MANUAL FOR COMMERCIAL COOKING RANGES INCLUDING GRILLERS FOR USE WITH LPG ACCORDING to IS 8251:2024

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure coherence of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification licence/certificate.

1.	Product	:	IS 8251:2024
	Title	:	COMMERCIAL COOKING RANGES INCLUDING GRILLERS FOR USE WITH LPG
	No. of Amendments	:	Nil
2.	Sampling Guidelines:		
a)	Raw material	:	Clause 5 of IS 8251: 2024
b)	Grouping guidelines	:	Please refer ANNEX – A
c)	Sample Size	:	1 No. of product (Burner, Griller, Oven, Broiler etc.) along with adequate number of components as necessary for complete testing
3.	List of Test Equipment	:	Please refer ANNEX – B
4.	Scheme of Inspection and Testing	:	Please refer ANNEX – C
5.	Requirements which can be tested in a day :		
	All Tests except Immersion Test of Non-Metallic Components as per Clause 5.3.		
6.	Scope of the Licence :		
	“Licence is granted to use Standard Mark as per IS 8251:2024 with the following scope:		
	Name of the product	Commercial Cooking Ranges including Grillers for use with LPG (Specify name of product covered)- Burners/ Grillers/ Oven/Broilers etc.	
	Type of Burner (For Burner)	T 22 / T 35 / T 50 / T 78 M 22 / M 35 / M 50 / M 78 RV, RL, Model 2, Model 4, G/C, Puffer, Infra radiant	
	Length of Burner	300 mm / 600mm / 900mm / 1200mm.	

New Delhi – 110002

ANNEX - A

Grouping Guidelines

1. The following parameters have been taken into consideration for developing the grouping guidelines for certification of Commercial Cooking ranges for use with LPG as per IS 8251: 2024:
 - (i) Type of the product: Burner, Griller, Oven, Broiler etc
 - (ii) Type of Burner: T 22 / T 35 / T 50 / T 78/M 22 / M 35 / M 50 / M 78/RV, RL, Model 2, Model 4, G/C, Puffer, Infra radiant
 - (iii) Length of Burner
2. Considering the above, following Guidelines will be followed for GoL/CSoL:
 - a) Each type of product (Griller/Oven/Broiler/Burner) shall be tested separately.
 - b) For Burners, sample of each type shall be tested.
 - c) For Burners, Burner having largest Length shall be drawn for testing to cover all Lengths of Burner. However, in-house test results for all remaining burners intended to be covered, shall also be submitted by the Firm.
3. The Firm shall declare the varieties of each product type along with the gas consumption which are intended to be covered in scope of licence and submit the drawing or suitable document to identify each variety. The Scope of the Licence may be restricted based on the Manufacturing and Testing capabilities of the Manufacturer.
4. During the operation of the licence, BOs shall ensure that all the varieties covered in the licence are tested in rotation, to the extent possible.

ANNEX - BList of Test Equipments**Major test equipment required to test as per the Indian Standard**

Sl. No.	Tests used in with Clause Reference	Test Equipment
2.	Determination of Swelling of Non Metallic materials (Immersion Test) as per Clause 5.3	a. Pentane b. Weighing Balance
3.	Gas Soundness as per Clause 10, and IS 5116	a. Air Compressor b. Air pressure gauge
4.	Gas Consumption as per Clause 30	a. Weighing Scale b. Air Compressor c. Gas Flow Meter d. Thermometer e. Pressure Gauge f. Barometer g. Anemometer h. Burner
5.	Ignition and flame stability as per Clause 31	a. Gas cylinder b. Burner c. Pressure Gauge d. Gas Flow Meter
6.	Flame Stability as per Clause 31.1	a. Gas cylinder b. Burner c. Pressure Gauge d. Gas Flow Meter
7.	Flash Back as per Clause 31.2	a. Vessel b. Burner c. Gas cylinder d. Distilled water e. Gas Flow Meter
8.	Formation of Soot as per Clause 31.3	a. Vessel b. Burner c. Gas cylinder d. Distilled water e. Pressure Gauge f. Rotating Vane Anemometer
9.	Resistance to draught as per Clause 33.1	a. Rotating Vane Anemometer b. Mini fan
10.	Combustion as per clause 33.2	Test set up as per Annex-B

11.	Thermal Efficiency as per Clause 35	a. Weighing Scale b. Thermometer c. Pressure Regulator, Manometer d. Air Conditioner e. Cylindrical Pan of stainless steel with Lids and Stirrer. f. Aluminium Pan with Lids and Stirrer. g. Test appliance as per Annex C of IS 8251:2024 h. Gas Cylinders
12	Oven heating capacity as per clause 36	Test set up as per Annex-D
13	Oven Maintaining rate as per Clause 37	Test set up as per Annex-E
14	Oven heat distribution as per Clause 38	Test set up as per Annex F
15	Broiler temperature as per Clause 39	Test set up as per Annex G
16	Broiler heat distribution as per clause 40	Test set up as per Annex H
17	Oven and Broiler door relief as per clause 41	Test set up as per cl. 41

The above list is indicative only and may not be treated as exhaustive.

ANNEX - C**Scheme of Inspection and Testing****1. QUALITY ASSURANCE PLAN**

1.1 It is expected that during operation of BIS licence, manufacturers will implement a Quality Assurance Plan (QAP) i.e. a plan of regular testing and in-process controls, designed to ensure that the product bearing the Standard Mark conforms to all requirements of the Indian Standard.

1.2 The manufacturers shall define a Quality Assurance Plan (QAP) defining the control unit (i.e. lot/batch etc.), the levels of control (i.e. the frequency and number of samples for conducting the different tests as per the Indian Standard) and declare the arrangement for testing i.e. whether in-house or subcontracting/sharing for each applicable test and submit the same to BIS Branch Office for information. The manufacturer shall comply with the QAP and maintain test records in accordance with para 2.1.

1.3 RECOMMENDED LEVELS OF CONTROL/CONTROL UNIT:

1.3.1 For the guidance of manufacturers, the recommended definition of Control Unit is the quantity of the same product (Burner/Griller/Ove/Broiler etc.) of same variety (For Burners of same type and length) manufactured from same from the same consignment of raw material/components under identical condition of production in a day.

1.3.2 For the guidance of manufacturers in preparing the Quality Assurance Plan, recommended levels of control are given in **Table 1**. Manufacturer has the discretion of declaring their own levels of control or accept the levels of control given in this document.

1.3.3 The manufacturer shall ensure inspection and testing as per the Quality Assurance Plan submitted by them on the whole production of the factory which is covered by this plan.

2. ENSURING COMPLIANCE THROUGH TESTING- Manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard for which they may have in-house test facilities. However, there is no obligation to maintain in-house laboratory. Licensee may use alternative arrangements for tests of the production as per the declared QAP. Various alternatives are available for operation of BIS certification as given below and the relevant guidelines for availing such relaxations by the manufacturers, as amended from time to time, are to be referred:

- i) Shared testing resources like common facility,
- ii) Cluster based testing facility,
- iii) Sub-contracting to outside laboratories which may either be:
 - a) BIS recognised/empanelled laboratories, or
 - b) Any accredited laboratory as per ISO/IEC 17025

2.1 TEST RECORDS- The manufacturers shall maintain test records for the tests carried out (either in-house or at a sub-contracted or at shared test facility) to establish conformity of the product to the Standard for operation of licence. For the tests being subcontracted or conducted at a shared test facility, test results issued by the laboratories or test facilities, shall be made available for inspection by BIS.

3. PACKING AND MARKING - Packing and Marking shall be done as per IS 8251: 2024. The Standard Mark as given in the Schedule of the licence shall be incorporated legibly and indelibly on the product, provided always that the material so marked conforms to each requirement of the specification.

3.1 Additional Marking requirements: Additionally, the following shall also be marked on tag or package :

- a) “For BIS certification details please visit www.bis.gov.in”

4. REJECTION - The production which conforms to the Indian Standard and covered under the scope of this licence shall be marked with the Standard Mark. Disposal of non-conforming product shall be done in such a way so as to ensure that there is no violation of provisions of BIS Act,2016.

Table 1

TABLE 1

(1)				(2)		
Test Details				Levels of Control		
Cl.	Requirement	Test Methods		No. of Sample	Frequency	Remarks
		Clause	Reference			
4	General	4	IS 8251 IS 5116	Each Burner		
5	MATERIAL					
	General	5.1	IS 8251 IS 5116	One	Each consignment	No further testing is required, if accompanied with test certificate or ISI marked
	Non –metallic alloy	5.3, Annex-D	IS 8251 IS 5116			
6	Design for Maintenance	6	IS 8251	Manufacturer shall exercise adequate levels of control in order to ensure that entire production conforms to specified requirements. Records shall be maintained.		
7	Workmanship and Finish	7	IS 8251			
8	Gas taps	8	IS 8251	One	Each Consignment	No further testing is required, if accompanied with test certificate or ISI marked
9	Injector jets	9	IS 8251			

10	Burners	10	IS 8251	Manufacturer shall exercise adequate levels of control in order to ensure that entire production conforms to specified requirements. Records shall be maintained		
11	Burner supports	11				
12	Primary Air Control	12	IS 8251	One	Each consignment	No further testing is required, if accompanied with test certificate or ISI marked
13	Bases, legs and frames1	13	IS 8251			
14	Pilot Burners and Safety shutoff devices	14				
15	Thermostats	15				
16	Flu collars and Flue Boxes	16				
17	Draft hoods	17				
18	Doors	18				
19	Burner Boxes and Burner Box lining	19				
20	Drip tray	20				
21	Oven and Broiler Linings	21				
22	Oven bottoms	22				
23	Extreme Bottoms and Brolier bottoms	23				
24	Oven racks and Broiler pans	24				
25	Rack supports	25				
26	Open top grates	26				
27	Solid top plates	27				
28	Insulation	28				
	PERFORMANCE					

30	Gas Consumption	30	IS 8251	One	Each Control Unit	-
31	Ignition and Flame stability	31.1, 31.2, 31.3	IS 8251	One	Each control unit	
32	Thermostat flame stability at bypass maintenance rate	32	IS 8251	One	Each Control Unit	
33.1	Resistance to Draught	33	IS 8251	One	Once in a month	-
33.2	Combustion	Annex B	IS 8251	One	Once in a month	
34	Surface temperature	34	IS 8251 IS 5116	One	Once in a month	
35	Thermal efficiency	Annex C	IS 8251	One	Once in a month	
36	Oven heating capacity	Annex D	IS 8251	One	Once in a month	
37	Oven maintaining rate	Annex E	IS 8251	One	Once in a month	
38	Oven heat distribution	Annex F	IS 8251	One	Once in a month	
39	Broiler temperature	Annex G	IS 8251	One	Once in a month	
40	Broiler heat distribution	Annex H	IS 8251	One	Once in a month	
41	Oven and Broiler door relief	41	IS 8251	One	Once in a month	