



उत्पाद मैनुअल
आइस क्रीम और कुल्फी — विशिष्टि
IS 2802:2022 के अनुसार

PRODUCT MANUAL FOR
ICE CREAM and KULFI - SPECIFICATION
ACCORDING TO IS 2802:2022

विभिन्न उत्पादों के लिए भारतीय मानक ब्यूरो) अनुरूपता मूल्यांकन (विनियम, 2018 की योजना -I के तहत प्रमाणन के संचालन में एकरूपता और पारदर्शिता के लिए इस उत्पाद मैनुअल का उपयोग सभी क्षेत्रीय / शाखा कार्यालयों और लाइसेंसधारियों द्वारा संदर्भ सामग्री के रूप में किया जाएगा। दस्तावेज़ का उपयोग बीआईएस प्रमाणन प्राप्त करने के इच्छुक संभावित आवेदकों द्वारा भी किया जा सकता है।

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure uniformity 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.

1.	मानक संख्या IS No.	:	IS 2802: 2022
	शीर्षक Title	:	Ice Cream and Kulfi - Specification
	संशोधनों की संख्या No. of amendments	:	01
2.	नमूना दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	a) Manufacturer to submit declaration/ undertaking for the raw materials, in compliance to Clause 5.1 (a) of IS 2802:2022. b) In case the manufacturer opts for addition of any Optional Ingredients as per provisions of Cl. 5.2.1 of IS 2802:2022, undertakings/declaration in compliance to clause 5.2.1 of IS 2802:2022 to be submitted. However, for addition of Sugar, Iodized salt and Potable water, manufacturer to maintain test certificate/test report conforming to IS 1151(for sugar), IS 7224(for Iodized salt) and IS 10500(for Potable water). c) In case, the manufacturer opts for addition of any Food Additives, it is required to submit declaration/undertaking in compliance to Cl. 6.6 of IS 2802: 2022.

		d) Manufacturer to submit declaration/ undertaking in compliance to hygienic requirements as per provisions of Cl. 7.1 of IS 2802: 2022.
b)	समूहीकरण दिशानिर्देश Grouping Guidelines	: Please see Annex – A
c)	नमूने का परिमाण Sample Quantity	: 1000g
d)	परीक्षण अनुरोध में घोषित किए जाने वाले पैरामीटर Parameters to be Declared in Test Request	: Type
3.	परीक्षण उपकरणों की सूची List of Test Equipment	: Please see Annex – B
4.	निरीक्षण और परीक्षण की स्कीम Scheme of Inspection and Testing	: Please see Annex – C
5.	Surveillance Plan	All surveillance visits to be planned in a way, that while proceeding for the inspection to a particular dairy, the market sample for that dairy may be drawn from the nearby market/source and transported to the dairy plant whilst maintaining the necessary handling and storage requirements (cold chain). This market sample would then be tested in the factory during the surveillance visit in addition to factory sample testing. However, if a lab (BIS Lab/BIS recognised OSL) is located nearby to the factory or place of drawal of market sample, the sample drawn, may be sent to the lab whilst maintaining the necessary handling and storage requirements (cold chain).
6.	एक दिन में संभावित परीक्षण Possible tests in a day	
	i) Odour and Flavour ii) Texture and Appearance iii) Freedom from Dirt iv) Fat v) Weight vi) Total solids vii) Milk fat viii) Milk protein ix) Acidity (as lactic acid) x) Sucrose xi) Phosphate Test of Mix Note: This section is for the guidance of BIS Certification Officers/Technical Auditors of BIS Authorized Outside Surveillance Agencies (OSAs) during factory inspection to provide readyreference regarding the tests which can be witnessed during the inspection in the factory by the officer/auditor.	
7.	लाइसेंस का दायरा /Scope of the Licence:	
	Licence is granted to use Standard Mark as per 2802:2022 with the following scope:	

	Name of the product	Ice Cream and Kulfi
	Type	a) Ice cream or Kulfi; and/or b) Medium fat Ice cream or Kulfi; and/or c) Low fat Ice cream or Kulfi

BUREAU OF INDIAN STANDARDS
Manak Bhawan, 9, Bahadur Shah Zafar Marg,
New Delhi – 110002

ANNEX – A
GROUPING GUIDELINES

1. Ice Cream or Kulfi have been classified into following 3 types (clause 4):

Sl. No.	Types
i.	Ice cream or Kulfi
ii.	Medium fat Ice cream or Kulfi
iii.	Low fat Ice cream or Kulfi

2. The manufacturer shall declare the type of Ice Cream or Kulfi, they intend to cover in the scope of licence. The sample of each type to be drawn and shall be subjected to testing for considering grant of licence/inclusion of that type

3. It shall be ensured that the firm is having all the necessary manufacturing and testing facilities for the manufacture and testing of the Types of Ice Cream or Kulfi to be included in the licence.

4. During the operation of licence, BO shall ensure that all the types of Ice Cream or Kulfi, covered in the license are drawn for independent testing on rotation over a period of time.

ANNEX-B
List of Test Equipment

Major test equipment required to test as per the Indian Standard

Sr. No.	Tests used in with Clause Reference	List of Chemicals
1	Weight, Cl. 6.5 and Table 1	Analytical Balance (LC=0.001 g), n-amyl Alcohol, Beaker, Volumetric flask, Glass funnel
2	Total solids, Cl. 6.5 and Table 1	Analytical balance, Desiccator, water bath, Drying oven (ventilated and capable of being maintained thermostatically at $102\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$), Flat-bottom dishes (height 20 mm to 25 mm, diameter 50 mm to 75 mm, made of appropriate material (e.g. stainless steel, nickel or aluminium), provided with well-fitting, readily removable lids), Homogenizer (optional)
3	Milk fat, Cl. 6.5 and Table 1	<u>Method as per IS 19396</u> Ammonia solution, containing a mass fraction of NH_3 of approximately 25 %, Ethanol ($\text{C}_2\text{H}_5\text{OH}$), or ethanol denatured by methanol, containing a volume fraction of ethanol of at least 94%, Indicator solution (optional), Bromocresol purple solution, Patent blue V, Diethyl ether, free from peroxides, Light petroleum, with any boiling range between $30\text{ }^{\circ}\text{C}$ and $60\text{ }^{\circ}\text{C}$, Analytical balance (capable of weighing to the nearest 1 mg, with a readability of 0.1 mg), Centrifuge (capable to produce a radial acceleration of around 80g to 90g at the outer end of the flasks or tubes), Distillation or evaporation apparatus, Drying oven (electrically heated, with ventilation port(s) fully open, capable of being maintained at a temperature of $102\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ throughout its working space. The oven shall be fitted with a suitable thermometer.), Water bath (capable of being maintained at a temperature of $37,5\text{ }^{\circ}\text{C} \pm 2,5\text{ }^{\circ}\text{C}$, $50\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$, $65\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$ and at boiling point), Fat-extraction flasks: ○ Mojonnier-type fat-extraction flasks ○ Extraction tubes-type fat extraction flask ○ Stoppers Rack, Wash bottle, Fat-collecting vessels, Measuring cylinders or delivering systems, Pipettes or delivering systems, Tongs, Blender, Boiling aids
4	Milk protein, Cl. 6.5 and Table 1	Potassium sulfate (K_2SO_4) (nitrogen free), Copper (II) sulfate pentahydrate, Sulfuric acid, Sodium hydroxide, Indicator solution (methyl red, ethanol), Boric acid, Hydrochloric acid, Ammonium sulfate, Tryptophan ($\text{C}_{11}\text{H}_{12}\text{N}_2\text{O}_2$) or lysine hydrochloride, Sucrose, Analytical balance, Grinding device, water bath, Digestion flasks (Kjeldahl), Boiling aids, e.g. hard pieces of porcelain or high-purity amphoteric alundum (i.e. carborundum) granules, plain, mesh size, Digestion apparatus, Distillation apparatus, Digestion block and tubes, Exhaust manifold, Centrifugal scrubber apparatus or filter pump or aspirator, Volumetric flasks, Distillation unit, Automatic titrator provided with a pH-meter, Filter paper, Illuminated magnetic stirrer plate
5	Acidity (as lactic acid), Cl. 6.5 and Table 1	Sulphuric Acid, Amyl Alcohol, Lactometer with lactometer Jar, Thermometer, Butyrometer and stoppers, Pipette 10-ml or automatic measures or tilt-measures for sulphuric acid, Centrifuge and water baths

6	Sucrose, Cl. 6.5 and Table 1	<u>Method as per IS 2802</u> Fehling's Solution, Copper Sulphate, Potassium Sodium Tartrate (Rochelle Salt) OR <u>Polarimetric method as per IS 11764</u> zinc acetate dihydrate $[Zn(C_2H_3O_2)_2 \cdot 2H_2O]$, Potassium hexacyanoferrate (II) trihydrate, Dilute hydrochloric acid, Ammonium hydroxide, Dilute acetic acid, Analytical balance, Filter funnel of diameter 8 cm to 10 cm, medium-grade filter papers of diameter 15 cm, Polarimeter tube exactly 2 dm long, Polarimeter or saccharimeter, Water bath
7	Phosphatase test of mix, Cl. 6.5 and Table 1	Water bath, Comparator with special discs of standard colour glasses calibrated in μg p-nitrophenol per ml milk and 2 x 25 mm cells, Test Tubes, Pipettes, Filter Paper (Whatman No. 2 or equivalent), Litmus Paper, Sodium Carbonate-Bicarbonate Buffer, disodium p-nitrophenyl phosphate, zinc sulphate, potassium ferrocyanide
8	Aerobic plate count, Cl. 6.5 and Table 1	Plate count agar (PCA), Oven, autoclave, incubator, Water baths, pH-meter, Petri dishes, Colony-counting equipment (optional), Spreaders
9	Coliform count, Cl. 6.5 and Table 1	Crystal violet neutral red bile lactose (VRBL) agar, Brilliant green lactose bile broth, Oven, autoclave, incubator, laminar flow cabinet, Water bath, Petri dishes, Total-delivery pipettes having nominal capacities of 1 ml, Colony-counting equipment, pH-meter, Loop
10	<i>Staphylococcus aureus</i> (Coagulase positive), Cl. 6.5 and Table 1	<u>Method as per IS 5887 (Part 8/Sec 1):</u> Baird-Parker agar medium, Brain-heart infusion broth, Rabbit plasma, Oven, autoclave, incubator, Water bath, Petri dishes, Straight wire, Pasteur pipette, Spreaders, pH-meter OR <u>Method as per IS 5887 (Part 8/Sec 2):</u> Rabbit plasma fibrinogen agar medium, Oven, autoclave, incubator, Water bath, Petri dishes, Colony-counting equipment
11	<i>Salmonella sp.</i> , Cl. 6.5 and Table 1	Oven, autoclave, incubator, laminar flow cabinet, Water bath, Petri dishes, Refrigerator, Loop, pH-meter, TSI agar, Urea agar(Christensen), L-Lysine decarboxylation medium, tryptone/tryptophan medium, Kovacs reagent, Salmonella O- and H-antisera, Buffered peptone water (BPW), Rappaport-Vassiliadis medium with soya (RVS broth), Modified semi-solid Rappaport-Vassiliadis (MSRV) agar, Muller-Kauffmann tetrathionate-novobiocin (MKTTn) broth, Xylose Lysine Deoxycholate agar (XLD agar), Nutrient agar, β -Galactosidase reagent (optional)
12	<i>Listeria monocytogenes</i> , Cl. 6.5 and Table 1	Acriflavine and nalidixic acid, Fraser broth, Listeria Agar, oven and autoclave, Drying cabinet, Incubators, Water bath, Sterile loops, pH meter, Graduated pipettes or automatic pipettes, Petri dishes, Microscope
13	<i>Sulphite reducing clostridia</i> , Cl. 6.5 and Table 1	<u>Method as per IS 18349 Part 1</u> Iron sulfite agar, Saline peptone diluents, Homogenization equipment, Water bath, Anaerobic jars, Incubator, Test tubes
14	<i>E. coli</i> , Cl. 6.5 and Table 1	<u>Method as per IS 16424:</u> Lauryl sulfate broth, EC broth, Peptone Water Medium, tryptone/tryptophan medium, Kovacs reagent, Oven, autoclave, incubator, Water bath, Petri dishes, Durham tubes, Loop, pH-meter, Total-delivery pipettes

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

ANNEX C
TO PRODUCT MANUAL FOR
ICE CREAM and KULFI
ACCORDING TO IS 2802:2022
Scheme of Inspection And Testing

1. LABORATORY - A laboratory shall be maintained which shall be suitably equipped (as per the requirement given in column 2 of Table 1) and staffed, where different tests given in the specification shall be carried out in accordance with the methods given in the specification.

1.1 The manufacturer shall prepare and implement a calibration plan for the test equipments.

2. TEST RECORDS – The manufacturer shall maintain test records for the tests carried out to establish conformity.

3. PACKING AND MARKING- –The Standard Mark(s) as given in the Schedule of the licence shall be printed/stenciled on each package of Ice-cream and Kulfi or printed on the label applied to the container as the case may be, provided always that the material in each container to which this mark is applied conforms to every requirement of the specification.

3.1 PACKING - The material shall be packed in suitable form of packing as per provisions of clause 8.1 of IS 2802: 2022.

3.2 MARKING - The information as mentioned under clause 8.2.1 of IS 2802:2022 shall be legibly and indelibly marked on each container. In addition, the following shall be incorporated on each container:

- i) BIS Licence No. (CM/L)
- ii) For details of BIS certification details please visit www.bis.gov.in’.

4. CONTROL UNIT – For the purpose of this scheme, the entire quantity of the same type of ice cream or kulfi manufactured and filled continuously in a day, shall constitute a Control Unit.

5. LEVELS OF CONTROL – The tests as indicated in column 1 of Table 1 and the levels of control in column 3 of Table 1, shall be carried out on the entire production of the factory which is covered by this scheme and appropriate records maintained in accordance with paragraph 2 above.

5.1 All the production which conforms to the Indian Standard and covered by this licence shall be marked with the Standard Mark.

6. HYGIENIC CONDITIONS – The product shall be processed, packed, stored and distributed under strict hygienic conditions as per provisions of IS 2491, cross-referred in clause 7.2 of IS 2802:2022.

7. REJECTIONS –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 (Levels of Control)

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or) S: Sub-contracting permitted	Levels of Control		
Cl.	Requirement	Test Method Cl. Ref.	Test Method IS		No. of Sample	Frequency	Remarks
6.1	Odour and Flavour	6.1	IS 2802	R	Firm to have adequate in-process controls to check compliance of this parameter as per the tolerances given in the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity		
6.2	Texture and Appearance	6.2	IS 2802	R	Firm to have adequate in-process controls to check compliance of this parameter as per the tolerances given in the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity		
6.3	Freedom from Dirt	6.3	IS 2802	R	Firm to have adequate in-process controls to check compliance of this parameter as per the tolerances given in the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity		
6.4	Fat	6.4	IS 2802	R	Firm to have adequate in-process controls to check compliance of this parameter as per the tolerances given in the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity		
6.5 & Table 1	Weight	Annex-B	IS 2802	R	One	Each control unit	
-do-	Total solids	---	IS 12333	R	One	Each control unit	
-do-	Milk fat	---	IS 19396	R	One	Each Control unit	
-do-	Milk protein	---	IS 11917	R	One	Each Control unit	

-do-	Acidity (as lactic acid)	14	IS 1479(Part-1)	R	One	Each control unit	
-do-	Sucrose	Annex-C	IS 2802 or IS 11764	R	One	Each control unit	
-do-	Phosphate Test of Mix	---	IS 8479(Part-1)	R	One	Each control unit	
6.5 & Table 2	Aerobic plate count	---	IS 5402(Part 2)	R	One	Each control unit	
-do-	Coliform count	---	IS 5401(Part 1)	R	One	Each control unit	
-do-	<i>E. coli</i>	---	IS 16424	S	One	Once in a month	
-do-	<i>Staphylococcus aureus</i> (Coagulase positive)	---	IS 5887(Part 8/ Sec 1 or Sec 2)	S	One	Once in a month	
-do-	<i>Salmonella sp.</i>	---	IS 5887 (Part 3/Sec 1)	S	One	Once in a month	
-do-	<i>Listeria monocytogenes</i>	---	IS 14988 (Part 1)	S	One	Once in a month	
-do-	<i>Sulphite reducing clostridia</i>	---	IS 18349 (Part 1)	S	One	Once in a month	