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BUREAU OF INDIAN STANDARDS**Minutes**

Name of the Committee	No. of Meeting	Date & Time	Venue
Dairy Equipment Sectional Committee, FAD 33	1 st	2 February 2024 10:30 hrs	Lal C Verman Hall, Manak Bhawan, New Delhi

CHAIRPERSON:

Dr. Pradyuman Barnwal
Chairman, FAD 33
 Head,
 Dairy Engineering Division,
 National Dairy Research Institute, Karnal

MEMBER SECRETARY:

Pradeep Sharma
Member Secretary, FAD 33
 Scientist-B/Assistant Director
 Food & Agriculture Department,
 Bureau of Indian Standards, New Delhi

Attendance is enclosed at Annex A (see p-8)

Item 0 GENERAL**0.1 Welcome by BIS**

Ms. Suneeti Toteja, Scientist-E and Head of the Food and Agriculture Department, extended a warm welcome to the committee members. She referred to the discussion held in the Food and Agriculture Division Council (FADC) and briefed the committee members on the rationale behind the establishment of a separate sectional committee for dairy equipment.

0.2 Opening Remarks by the Chairperson

Dr P. Barnwal, Chairperson of FAD 33, extended a warm and heartfelt welcome to all the committee members, expressing gratitude to FADC for appointing him as chair. He briefed the committee on its purpose and emphasized the importance of active participation in standardization efforts aimed at serving the nation and its consumers with hygienic and quality equipment.

Dr Barnwal provided an overview of the committee's current status, highlighting the number and types of Indian Standards available. He concluded by expressing his keen interest in the committee's work, noting his prior role as convenor of the panel in the Dairy Products Sectional Committee, FAD 19.

ITEM 1 CONSTITUTION OF DAIRY EQUIPMENT SECTIONAL COMMITTEE, FAD 33

The background information about the committee, FAD 33 was already well explained by Ms. Toteja and chairperson while delivering their welcome and opening remarks, respectively. Accordingly, the committee noted the information that, the Dairy Equipment Sectional Committee, FAD 33 was constituted as per the decision taken in the 28th meeting of Food and Agriculture Division Council held on 21st August 2023. The scope was proposed at the time of constitution of FAD 33 and the same was noted by the committee without any further modification. The scope of the committee is given below-

Scope: *“Standardization in the field of specifications and code of practices for equipment used for collection, handling, processing, packaging, storage & transportation and testing and analysis in dairy sector.”*

ITEM 2 SCOPE, ACTIVITIES & COMPOSITION OF THE SECTIONAL COMMITTEE

2.1 Scope & Activities of The Committee

The committee noted the scope and program of work of Dairy Equipment Sectional Committee, FAD 33. Furthermore, the committee noted that, there are total 16 out of 31 are Pre-year 2000 Indian Standards in the program of work of FAD 33.

2.2 Composition of The Sectional Committee

2.2.1 The committee noted the composition of Dairy Equipment Sectional Committee, FAD 33, which was approved in the 28th meeting of Food and Agriculture Division Council as per recommended by Dairy Products Sectional Committee, FAD 19.

2.2.2 The committee noted that, out of 24 member organizations, the nominations were received from 12 organizations only. Therefore, the committee requested BIS Secretariat to write those organizations once again for nominating the experts with the last date as 29 February 2024. However, the committee recommended withdrawing those organizations which do not provide the nomination within the above said timeline.

2.2.3 Subsequently, while reviewing the current composition, the committee recommended to co-opt following organization in the committee:

- a) GOMA Engineering Private Limited.
- b) GEA
- c) Indian Dairy Engineers Association
- d) NDDB, Anand

ITEM 3 ACTION POINTS EMERGING FROM THE PREVIOUS MEETINGS OF DAIRY PRODUCTS SECTIONAL COMMITTEE, FAD 19

3.1.1 Mr A. Subramani, Lactalis India, Chennai, Convenor of panel FAD19/P5, explained the last status of the panel. The committee, after considering the point of Mr Subramani reconstituted this panel and made FAD33/P1 “Processing Equipment For Dairy Sector” with the following panel members:

- a) Mr A. Subramani, Lactalis India, Chennai, *Convenor*
- b) Dr Ravi Kumar, In personal capacity (Retired from Sri Venkateshwara University, Tirupati, Andhra Pradesh)
- c) Mr Raj Kumar Malik, Indian Dairy Association, New Delhi

- d) Mr Ankit Deep, NDRI, Karnal
- e) Mr Rohit Kumar, Indian Stainless Steel Development Association
- f) Mr S. D. Jaisinghani, NDDDB, Anand
- g) Mr Prakash Maheshwari, IDMC, Anand
- h) Representative from Mother Dairy Fruit and Vegetable Limited, Delhi

3.1.2 Thereafter, the committee noted the following subjects and while reviewing the drafts, felt that the requirements should be specific not generic for better clarity and suggested the panel to modify the working drafts accordingly.

- a) Continuous Milk Pasteurizer — Specification'
- b) Equipment for the Sterilization of Milk and Other Liquid Dairy Products — Continuous-Flow Systems — Specification
- c) Cleaning-in-place of dairy factory equipment — Code of Practice

Subsequently, after due deliberation and considering the points of all the members, the committee approved these working drafts for P-draft and decided to circulate among committee members to seek comments once modified drafts received from panel.

3.2 IS 16440: 2016 Stainless Steel Milk Can — Specification

Sl. No.	Comment	Recommendation of panel	Decision
1	As per the <i>clause</i> 5.2 of IS 16440, the handle shall be made from round bar of stainless of diameter 12 mm and the bottom ring shall be made from sheet or coil stainless steel having thickness of 2 mm conforming to ISS 304 grade of IS 5522". However, it was apprised by Head HRBO (Haryana Branch Office of BIS) that IS 5522 pertains to Stainless steel sheet and strip, it is not a standard for round bars. Moreover, considering the fact that the handle does not come in to contact with milk, conformity of the handle may be made with respect to its chemical requirements only as per IS 6603. The tensile properties may not be considered for testing. — Comment from HRBO	The Panel recommended that IS 6603: 2001 'Stainless steel bars and flats — Specification (<i>first revision</i>)' may be referred in Cl. 5.1 and 5.2 for round bars in place of IS 5522.	The committee accepted as recommended by panel.
2	In <i>clause</i> 5.6.7 of IS 16440, passivation may be made optional, keeping it mandatory is too restrictive as every steel do not require — Comment from HRBO	The Panel decided to seek expert inputs from ISSDA on this comment, however, no input was received. Following which, Dr Subramani suggested that the Citric Acid passivation is highly recommended for easy disposal of the	The committee deliberated upon the comment and accepted the recommendation made by Mr Subramani. However, in passivation, the committee decided to keep the "Citric acid" only, given below in Table 1 .

		chemicals after passivation process and recommended the requirement given below in Table 1 to be incorporated.	
3	The requirement of curvature should be specified in the 40 L SS milk can in IS 16440: 2016 — Comment from Mr. A. Subramani	Dr Subramani submitted the input that Sharp Corners \leq 90 degree must be avoided. Internal corners and angles shall have a smooth and continuous radius of at least 1/8 inch (angles of less than 135°) & have a minimal radius of 3 mm (Preferably equal or larger than 6 mm).	The committee accepted as recommended by panel and suggested the panel to include the requirement for surface roughness also.

Table 1 Requirements for Passivation of Stainless Steel Cans

Grade of stainless steel	Nitric acid (Volume in percent)	Citric acid (Weight in percent)	at Temperature (°C)	for Time (in min)
300 Series	20-45		21-32	> 30
or		4-10	21-49	>20
400 series	45-55		49-54	>30
or		4-10	21-49	>20

3.3 IS 6684: 1972 Specification for Milk Can Trolleys

The committee discussed upon the comments received from Dr Ankit Deep, NDRI Karnal and decided to reallocate this draft to Dr Malik to prepare the draft revision and requested Mr Sanjeev Sharma, Punjab State Cooperative Milk Producers Federation Limited, Punjab to provide his technical comments to committee. The committee decided to send this draft into Wide Circulation (WC) for a period of 60 days to seek comments once draft revision prepared by Dr Malik.

3.4 IS 2342: 1963 Specification for Manually Operated Milk-Can Washer

The committee reviewed the comments received from Mr. Devender Gupta, IDMC and constituted a working group FAD33/WG1 “Revision of IS 2342 : 1963” by including Dr Ankit Deep and Mr Sanjeev Sharma as experts in the group. The committee suggested this group to include following points also while revising the standard.

- Instead of steam, hot water should be used in washing.
- Requirement for Pressure/head should be included.

3.5 IS 4883: 1980 Settling Tanks for Ghee — Specification (*first revision*)

The committee reviewed the comments received from Mr. Devender Gupta, IDMC and constituted a working group FAD33/WG2 “Revision of IS 4883 : 1980” by including Mr Sanjeev Sharma and Mr Pravin Prajapati, IDMC, Vithal Udyognagar as experts in the group.

3.6 IS 2336: 1963 Specification of Stainless Steel Milk Vats

The committee reviewed the standard and decided to include the requirements for vat of 200-liter capacity as suggested by Dr P. S. Minz, National Dairy Research Institute, Karnal. Subsequently, the committee requested Mr Pravin Prajapati to provide the draft revision and decided to send it into WC for a period of 60 days once revised draft received from Mr Pravin Prajapati.

3.7 IS 1825: 1983 Specification for Aluminium Alloy Milk cans (*second revision*)

The committee noted the recommendations made by Mr Gorenand Prasad, Scientist-B, BIS in the ARP report. Thereafter, the committee requested Dr P. S. Minz to prepare a draft revision of this standard considering the recommendations made by Mr Gorenand Prasad.

ITEM 4 REVIEW OF INDIAN STANDARD

4.0 The committee was apprised about the provision of the BIS Rules and Regulation for review of the existing Indian Standards in five years after its publication or earlier reaffirmation.

5.1 The committee noted that the following Indian Standards were due for review in February 2024. After having due deliberation, the decisions taken by the committee are as given [below](#):

Sl. No.	IS No.	Title	Decision
1	IS 11585: 2009	Insulated stainless steel silos for milk storage capacity 30, 40, 60 and 100 kilo litres — Specification (<i>first revision</i>)	The committee decided to reaffirm & revise and to make a working group FAD33/WG3 “Revision of IS 11585: 2009” by including experts from following organization. <ul style="list-style-type: none"> a) GOMA Engineering, Thane b) Repute Engineers Private Limited, Pune c) GEA, Vadodara d) IDMC, Vithal Udyognagar e) Tetra Pak India Private Limited, Pune
2	IS 2343: 2009	Specification for can washing trough	The committee decided to reaffirm & revise and to make a working group FAD33/WG4 “Revision of IS 2343: 2009” by including Dr P. S. Minz & representative from Engineering Division, NDDB Anand as experts for the revision of this standard.
3	IS 2492: 2019	Stainless Steel Road Milk Tankers — Specification (<i>second revision</i>)	The committee decided to reaffirm & revise and to make a working group FAD33/WG5 “Revision of IS IS 2492: 2019” by including Mr Saurabh Vyas, IDMC & representative from Engineering Division, NDDB Anand as experts for the revision of this standard.
4	IS 2688: 2009	Insulated stainless steel horizontal milk storage tank - Specification (<i>first revision</i>)	The committee decided to reaffirm. However, the committee suggested BIS secretariate to seek comments from following Industries: <ul style="list-style-type: none"> a) GOMA Engineering, Thane b) Repute Engineers Private Limited, Pune c) Milk Tech Engineers,
5	IS 2689: 2019	Stainless Steel Batch Pasteurizer — Specification (<i>first revision</i>)	The committee decided to reaffirm.
6	IS 2829: 2019	Steam - Jacketed ghee pans/boilers — Stainless-Steel — Specification (<i>second revision</i>)	The committee decided to reaffirm.
7	IS 4938: 2009	Insulated stainless steel milk storage tank, vertical type — Specification (<i>first revision</i>)	The committee decided to reaffirm.
8	IS 5253: 1969	Guidelines for cleaning and sterilizing dairy equipment	The committee decided to reaffirm and revise and to make a working group FAD33/WG6 “Revision of IS

			<p>IS 5253 : 1969” by including following for suitably aligning this standard with the practices mentioned in ISO and EU standards.</p> <ul style="list-style-type: none"> a) Mr Devender Gupta b) Dr Ankit Deep c) Dr Yogesh Kumar, SMC College of Dairy Science, Anand d) Mr Somnath Pagire, Tetra Pak India Private Limited, Pune e) Mr Sanjeev Sharma f) Mr Anuj Koundal
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5.2 The committee noted the information that following Indian Standards were due for review in November 2023 and the same were circulated among the committee members and further, reaffirmed with the approval of the Chairperson of the committee in January, 2024

- a) IS 9853: 2018 Stainless steel accessories for village milk collection center — Specification (*first revision*)
- b) IS 9854: 2018 Code for construction of milk delivery vans (*first revision*)

ITEM 5 NEW WORK ITEM PROPOSAL

The committee noted the subject proposed by the BIS officer in the workshop for development of Indian Standards on Plastic Milk Cans. However, the committee also considered the point that the use of plastic in food sector is not promoted by Food Safety and Standard Authority of India, GoI. Therefore, after extensive deliberation upon the subject, the committee suggested BIS Secretariat to write to Central Institute of Petrochemicals Engineering & Technology, Chennai and Indian Institute of Packaging, Mumbai to seek input upon it.

ITEM 6 TIME AND PLACE FOR THE NEXT MEETING

The committee decided to hold the next meeting virtually in March 2024.

ITEM 7 ANY OTHER BUSINESS

There being no other business, the meeting ended with a hearty vote of thanks of the Chairperson to all members of FAD 33.

ANNEX-A**ATTENDANCE FOR****1ST MEETING OF DAIRY EQUIPMENT SECTIONAL COMMITTEE, FAD 33****Date:** 02 February 2024**Meeting type:** Physical**Venue:** Lal C Verma Hall,**Manak Bhawan, New Delhi**

Sl. No.	Organization Name	Members Name
1.	National Dairy Research Institute, Karnal	Dr. P. Barnwal (<i>Chairperson</i>) (Physical)
2.	ICAR - Central Institute of Post-Harvest Engineering & Technology (CIPHET), Ludhiana	Dr. Ravi Prakash (Virtual)
3.	ICAR - National Dairy Research Institute, Karnal	Dr. Chitranayak Sinha (Physical) Dr. P. S. Minz (Physical)
4.	Indian Institute of Technology Kharagpur, Kharagpur	Dr. Bhupendra M Ghodki (Physical) Dr. Ronit Mandal (Virtual)
5.	Indigenously Manufacture Dairy Components Limited, Vithal Udyognagar	Mr. Pravin Prajapati (Physical)
6.	Jupiter Glass Works, New Delhi	Mr. Amreek Singh Puri (Physical)
7.	Mother Dairy Fruit and Vegetable Limited, Delhi	Mr. Anuj Koundal (Physical) Mr. Saurabh Chaudhary (Physical)
8.	NDDDB CALF Limited, Anand	Mr. Hriday Darji (Virtual)
9.	Punjab State Cooperative Milk Producers Federation Limited, Punjab	Mr. Sanjeev Kumar Sharma (Physical)
10.	SMC College of Dairy Science, Anand	Mr. Yogesh Kumar Vitthalbhai Vekariya (Physical)
11.	Tetra Pak India Private Limited, Pune Industry	Mr. Praveen Kumar Tiwari (Physical)
12.	Food & Agriculture Department, BIS, New Delhi	Ms. Suneeti Toteja, Scientist-E and Head
13.	Food & Agriculture Department, BIS, New Delhi	Shri Pradeep Sharma (Scientist - B/Assistant Director)
Special Invitees		
13.	Lactalis India, Chennai	Dr. A. Subramani (Virtual)