



उत्पाद मैनुअल

स्टेनलैस स्टील के दूध के डिब्बे — विशिष्टि

IS 16440: 2016 के अनुसार

PRODUCT MANUAL

Stainless Steel Milk Cans — Specification

ACCORDING TO IS 16440: 2016

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<br>IS No.                       | : | IS 16440: 2016                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|    | शीर्षक<br>Title                             | : | Stainless Steel Milk Cans — Specification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|    | संशोधनों की संख्या<br>No. of amendments     | : | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 2. | नमूना दिशानिर्देश<br>Sampling Guidelines    |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| a) | कच्चा माल<br>Raw material                   | : | The raw material shall be conforming to the requirements specified in clause 5 of IS 16440: 2016.<br><br>Conformity of raw materials to the requirements may be established through supplier test certificate/test report from BIS recognized lab/empanelled lab or any other lab having accreditation as per IS/ISO/IEC17025 or in-house testing/combination thereof, as applicable)<br><br>Note: This section indicates the requirements for raw material(if specified in the IS)for which compliance is to be established during Grant of Licence/Change in Scope of Licence/Factory Surveillance. |
| b) | समूहीकरण दिशानिर्देश<br>Grouping Guidelines | : | Please refer to Annex-A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| c) | नमूने का परिमाण<br>Sample Quantity          | : | 2 Nos.<br><br>Note: This section indicates the quantity of the sample of the product and/or the raw material (if applicable), required to be sent to the laboratory for testing, for the purpose of Grant of Licence/Change in                                                                                                                                                                                                                                                                                                                                                                        |

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                              |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Scope of Licence/ Factory Surveillance (in case of market surveillance, effort may be made to procure the required quantity of product sample, as far as possible since raw material sample may not be available in market). |
| d) | परीक्षण अनुरोध में घोषित किए जाने वाले पैरामीटर<br><b>Parameters to be Declared in Test Request</b>                                                                                                                                                                                                                                                                                                                                                                                                                                          | Capacity<br><br>Note: Apart from the above, any other requirements/parameters may also be declared as per the standard, as applicable.                                                                                       |
| 3. | परीक्षण उपकरणों की सूची<br><b>List of Test Equipment</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | : Please refer to Annex-B                                                                                                                                                                                                    |
| 4. | निरीक्षण और परीक्षण की स्कीम<br><b>Scheme of Inspection and Testing</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | : Please refer to Annex-C                                                                                                                                                                                                    |
| 5. | <b>एक दिन में संभावित परीक्षण</b><br><b>Possible tests in a day</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                              |
|    | i. Capacity<br>ii. Shape and dimensions<br>iii. Thickness<br>iv. Mass<br>v. construction<br>vi. Pressure check for leakage/Bulging<br>vii. Drop test at rated capacity<br>viii. Hardness test<br>ix. Dye penetration test<br><br>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 ready reference regarding the tests which can be witnessed during the inspection in the factory by the officer/auditor. |                                                                                                                                                                                                                              |
| 6. | <b>लाइसेंस का दायरा /Scope of the Licence:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                              |
|    | "Licence is granted to use Standard Mark as per IS 16440: 2016 with the following scope:                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                              |
|    | Name of the product                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Stainless Steel Milk Cans                                                                                                                                                                                                    |
|    | Capacity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 5L/10L/ 20L/ 30L/ 40L/ 50L                                                                                                                                                                                                   |

**BUREAU OF INDIAN STANDARDS**  
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## ANNEX-A

### GROUPING GUIDELINES

1. Grouping of SS milk cans is carried out on the basis of method of manufacture and capacity as under:

| Method of Manufacture                                    | Capacity           | Group | Remarks                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------------------------------|--------------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Single piece construction without bottom ring            | 5L, 10L            | 1     | SS cans of similar thickness of the sheet or coil used in the manufacturing of the different parts of the can (Body, Neck, Lid) shall be drawn and tested for GOL/CSoL. If the sample drawn is of higher capacity of the milk can then lower capacity of milk can may be included in the scope of license.                                                                                                                              |
| Two piece construction joined by circumferential welding | 20L, 30L, 40L, 50L | 2     | SS cans of similar thickness of the sheet or coil used in the manufacturing of the different parts of the can (Body, Bottom, Neck, Lid) shall be drawn and tested for GOL/CSoL. If sample drawn is of higher capacity of the milk can then lower capacities of milk cans may be included in the scope of license.<br><br>Eg: If 50 L capacity SS can is drawn then capacities of 40L, 30L, 20L may be included in the scope of license. |

2. It shall, however, be ensured that the applicant/licensee has got complete manufacturing capabilities as well as testing facilities for the capacities required to be covered in the licence scope.
3. During the operation of license, BO shall ensure that all capacities covered in the license are drawn for independent testing on rotation over a period of time.
4. Scope of licence shall be restricted based on the manufacturing and testing facilities available.
5. During operation of licence, samples of each variety covered in the scope of licence, shall be tested in rotation, to the extent possible.

**ANNEX – B**

**LIST OF TEST EQUIPMENTS**

***(INDICATIVE LIST, FOR GUIDANCE ONLY)***

| <b>Sl. No.</b> | <b>Tests used in with Clause Reference</b>     | <b>Test Equipment</b>                                                                                                                                                     |
|----------------|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.             | Capacity, Clause 3 & Table 1                   | Steel scale (LC 1mm)                                                                                                                                                      |
| 2.             | Shape & Dimensions, Clause 4                   | Steel scale (LC-1mm)/Height Calipers, inner calipers and Vernier calipers (LC 1mm).                                                                                       |
| 3.             | Thickness of parts, Clause 5.4 & Table 2       | Micrometer ( LC 0.1mm).                                                                                                                                                   |
| 4.             | Weight, Clause 5.5 & Table 3                   | Weighing scale (Range: 0-50kg and LC: 50gm).                                                                                                                              |
| 5.             | Construction, Clause 5.6                       | Vernier calipers (LC: 1mm) and micrometer                                                                                                                                 |
| 6.             | Pressure check for leakage/Bulging, Clause 6.1 | Pressure guage, stop watch, Arrangement for immersion of can in water for pressure test.                                                                                  |
| 7.             | Drop Test at Rated Capacity, Clause 6.2        | Equipment to lift the filled can vertically, Hard concrete floor, Steel surface.                                                                                          |
| 8.             | Hardness Test, Clause 6.3                      | Testing machine, capable of applying a predetermined test force or test forces within the range of 9,807 N to 29, 42 kN, Indenter, Indentation diameter measuring system. |
| 9.             | Dye Penetration Test, Clause 6.4               | Red dye penetrant, Solvent Remover.                                                                                                                                       |
| 10.            | Profuse leakage through lids, Clause 6.5       | Apparatus to fill water.                                                                                                                                                  |

## ANNEX C

### SCHEME OF INSPECTION AND TESTING

#### 1. QUALITY ASSURANCE PLAN

1.1 It is expected that manufacturers (licensees/applicants) will implement a Quality Assurance Plan 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 defining the control unit (i.e. lot/batch etc.) and the levels of control (i.e. the frequency and number of samples for conducting the different tests as per the Indian Standard) and submit the same to BIS Branch Office for information. The manufacturer shall comply with the same and maintain test records in accordance with para 2.4.

#### 1.3 RECOMMENDED LEVELS OF CONTROL/CONTROL UNIT:

1.3.1 For the guidance of manufacturers, the recommended definition of control unit is: All the stainless steel milk cans of the same capacity manufactured in a day using same raw material and under similar conditions of manufacture.

1.3.2 For the guidance of manufacturers in preparing the Quality Assurance Plan, recommended levels of control are given in **Table 1**.

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. Alternatively, the manufacturer has the option of adherence to the quality plan as per levels of control recommended in column 3 of Table 1.

1.4 However, all manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard.

**2. ENSURING COMPLIANCE THROUGH TESTING-** It is expected that manufacturers (licensees/applicants) will establish a suitably equipped and staffed in house laboratory (In house testing facility) for testing at least those parameters of the Indian Standard which require routine testing for ensuring quality of the product. This includes in-process controls as may be defined and put in place by the manufacturer and testing parameters/requirements which can only be performed in the factory.

2.1 For the guidance of manufacturers, Table 1 giving the recommended levels of control is given below. Column 2 of Table 1 indicates routine tests where test equipment is required in house as "R" or other tests which can be subcontracted as "S". Subcontracting is permitted to BIS recognized/empanelled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025.

**2.2 For MSME manufacturers, the requirement of maintaining a laboratory/in-house testing facility for routine tests (indicated as "R" in Column 2 of Table 1) is also optional.**

2.2.1 MSME manufacturers may utilize common cluster based facilities as per guidelines for the utilization of cluster based test facilities by MSMEs or the provisions of Sharing of testing facilities or get testing done from BIS recognized/empaneled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025.

**2.3 Large Scale manufacturers shall maintain an in-house laboratory equipped at least with test facilities for routine tests (indicated as “R” in Column 2 of Table 1),** where different tests given in the specification shall be carried out in accordance with the method given in the specification. They shall also implement a calibration plan for the in-house test equipment.

2.3.1 Alternatively, in lieu of an in-house laboratory, large scale manufacturers can also utilize the provisions of Sharing of testing facilities as per the Guidelines for Grant of Licence available on BIS website [www.bis.gov.in](http://www.bis.gov.in). (Under Conformity Assessment>Product Certification Process). Even for subcontracted tests, provisions for sharing of testing facilities can be utilized.

**2.4 TEST RECORDS-** The manufacturers maintaining an in-house laboratory or utilizing common cluster based facilities or shared test facilities shall maintain test records for the tests carried out to establish conformity. For the tests being subcontracted to BIS recognized/empanelled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025, test reports issued by the laboratories shall be available for inspection by BIS.

**3. PACKING AND MARKING** - The Standard Mark as given in the Schedule of the licence shall be incorporated legibly and indelibly on each Stainless Steel Milk Can (including lid), provided always that the material so marked conforms to each requirement of the specification.

3.1 Packing and Marking shall be done as per the Indian Standard.

**3.2 Additional Marking requirements:** The material shall also be marked with the following additional requirement on each Stainless Steel Milk Can (including lid):

*a) Any other requirement not specified in the Indian Standard.*

**4. REJECTION** - All 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  
(ONLY FOR GUIDANCE PURPOSE)

| (1)           |                                      |             |                   | (2)                                                                            | (3)                                                                                                                                                                                                                                        |                   |         |
|---------------|--------------------------------------|-------------|-------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------|
| Test Details  |                                      |             |                   | Test equipment requirement<br>R: required (or)<br>S: Sub-contracting permitted | Levels of control                                                                                                                                                                                                                          |                   |         |
| Cl.           | Requirements                         | Test Method |                   |                                                                                | No. of samples                                                                                                                                                                                                                             | Frequency         | Remarks |
|               |                                      | Clause      | Reference         |                                                                                |                                                                                                                                                                                                                                            |                   |         |
| 3             | Capacity                             | 3           | IS 16440          | R                                                                              | One                                                                                                                                                                                                                                        | Each Control unit |         |
| 4, Table 1    | Shape & Dimensions                   | 4           | IS 16440          | R                                                                              | One                                                                                                                                                                                                                                        | Each Control unit |         |
| 5             | Manufacture                          | 5           | IS 5522 & IS 6603 | S                                                                              | One                                                                                                                                                                                                                                        | Each Consignment  |         |
| 5.4 & Table 2 | Thickness of parts                   | 5.4         | IS 16440          | R                                                                              | One                                                                                                                                                                                                                                        | Each Control unit |         |
| 5.5 & Table 3 | Mass of can                          | 5.5         | IS 16440          | R                                                                              | One                                                                                                                                                                                                                                        | Each Control unit |         |
| 5.6           | Construction                         | 5.6         | -do-              | R                                                                              | Firm to have adequate in-process controls to check compliance of this parameter as per the requirements specified in the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity. |                   |         |
| 6.1           | Pressure Check for leakage / Bulging | 6.1         | -do-              | R                                                                              | One                                                                                                                                                                                                                                        | Each Control unit |         |
| 6.2           | Drop Test at Rated Capacity          | 6.2         | -do-              | R                                                                              | One                                                                                                                                                                                                                                        | Each Control unit |         |
| 6.3           | Hardness Test                        | 6.3         | IS 1500 (Part 1)  | R                                                                              | One                                                                                                                                                                                                                                        | Each Control unit |         |
| 6.4           | Dye Penetration Test                 | 6.4         | IS 16440          | R                                                                              | One                                                                                                                                                                                                                                        | Each Control unit |         |
| 6.5           | Leakage test                         | 6.5         | -do-              | R                                                                              | One                                                                                                                                                                                                                                        | Each Control unit |         |