उत्पाद मैनुअल
खाद्य और पेय पदार्थों के लिए तीन खंड से बने गोल खुले शीर्ष वाले धातु के कैन
आई एस 18427: 2024 के अनुसर

PRODUCT MANUAL
THREE PIECE ROUND OPEN TOP METAL CANS FOR FOODS AND BEVERAGES
According to IS 18427: 2024

यह उत्पाद नियमावली सभी क्षेत्रीय/शाखा कार्यालयों और लाइसेंसधारियों द्वारा विभिन्न उत्पादों के लिए भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम, 2018 की योजना-I के अंतर्गत प्रमाणन के संचालन में एकरूपता और पारदर्शिता सुनिश्चित करने के लिए संदर्भ सामग्री के रूप में उपयोग की जाएगी। बीआईएस प्रमाणन प्राप्त करने के इच्छुक भावी आवेदक भी इस दस्तावेज़ का उपयोग कर सकते हैं।

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 18427: 2024
	शीर्षक / Title	:	Three Piece Round Open Top Metal Cans for Foods and Beverages
	संशोधनों की संख्या **No. of amendments**	:	01
2.	**नमूनाकरण दिशानिर्देश / Sampling Guidelines**		
a)	**कच्चा माल** **Raw material**	:	Tin plate (Cl. 5.1) Lacquers and Decorative Coatings (Cl. 5.2) Inks (Cl. 5.3) Lining Compound/Can End Sealants (Cl. 5.4.2) Side Stripe Systems (Cl. 5.5) Aluminium Alloys (EoE) (Cl. 5.6.2) Aluminium Tagger (Cl. 5.7) Aluminium Foils (POE) (Cl. 5.8.2) Surface Lubrications and Rust Prevention Oils (Cl. 5.9)
b)	**समूहीकरण दिशानिर्देश** **Grouping Guidelines**	:	Please refer **ANNEX – A**
c)	**नमूने का परिमाण** **Sample Quantity**	:	15 nos.
d)	**परीक्षण अनुरोध में घोषित किए जाने वाले पैरामीटर** **Parameters to be Declared in Test Request**		• Tinplate coating • SR/DR (as per Table 2) • Material of EoE (in case Al alloy is used, grade of alloy is to be declared). • Type of Decorative finish (Cl. 7.1.2.2) • Material of lining used to lined NEO ends / rings for RLT assembly (as per Cl. 7.2.3).

			• Type of welding (Cl. 7.3) • Types of Necking (Cl. 7.4) • Type of beading (Cl. 7.6) • Seam specification for (Cl. 7.7.2): - Thermally Processed Food Cans - Non-Thermally Processed Food Cans in addition to the parameters given in scope of the licence under S. No. 6. *Note: Apart from the above, any other requirements/ parameters may also be declared as per the standard, as applicable.*
3.	**परीक्षण उपकरण की सूची List of Test Equipment**	:	Please refer **ANNEX – B**
4.	**निरीक्षण एवं परीक्षण योजना Scheme of Inspection and Testing**	:	Please refer **ANNEX – C**
5.	**एक दिन में संभावित परीक्षण Possible tests in a day**	:	• All tests (except Migration test - Cl. 8.3) *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. लाइसेंस का दायरा / Scope of the Licence:

"License is granted to use Standard Mark as per **IS 18427: 2024** with the following scope:

Name of the product		Three Piece Round Open Top Metal Cans for Foods and Beverages	
Types	**Based on design**	Top side RLT (Ring, Lid & Tagger) seamed Can / Top side POE (Peel Off End) seamed Can / Top side NEO (Non - Easy Open) end seamed Can / Top side EOE (Easy Open End) seamed Can / One end single necked-in Can / Both side single necked-in Can / Top side double necked-in and bottom side single necked -in Can / Any other design (as declared by the manufacturer)	
	Based on type of food packed	Thermally Processed Food products / Non - Thermally Processed Food products	
Material Grade		(To be declared by the manufacturer as per Cl. 5.1)	
Lacquering		Internal lacquered cans with	External Plain Cans
			External Lacquered Cans
		Internal plain cans with	External Plain Cans
			External Lacquered Cans
Nominal Dia		As per Table 5	
Nominal Capacities		As per Table 6	

ANNEX - A
Grouping Guidelines

1. Three Piece Round Open Top Metal Cans for Foods and Beverages as per IS 18427: 2024 are classified based on the following:

<table>
<tr><td rowspan="2">Types</td><td>Based on design</td><td colspan="2">Top side RLT (Ring, Lid & Tagger) seamed Can /
Top side POE (Peel Off End) seamed Can /
Top side NEO (Non - Easy Open) end seamed Can /
Top side EOE (Easy Open End) seamed Can /
One end single necked-in Can /
Both side single necked-in Can /
Top side double necked-in and bottom side single necked -in Can /
Any other design (as declared by the manufacturer)</td></tr>
<tr><td>Based on type of food packed</td><td colspan="2">Thermally Processed Food products /
Non - Thermally Processed Food products</td></tr>
<tr><td colspan="2">Material Grade</td><td colspan="2">(To be declared by the manufacturer as per Cl. 5.1)</td></tr>
<tr><td colspan="2" rowspan="4">Lacquering</td><td rowspan="2">Internal lacquered cans with</td><td>External Plain Cans</td></tr>
<tr><td>External Lacquered Cans</td></tr>
<tr><td rowspan="2">Internal plain cans with</td><td>External Plain Cans</td></tr>
<tr><td>External Lacquered Cans</td></tr>
<tr><td colspan="2">Nominal Dia</td><td colspan="2">As per Table 5</td></tr>
<tr><td colspan="2">Nominal Capacities</td><td colspan="2">As per Table 6</td></tr>
</table>

2. Considering the above, the guidelines given below shall be followed for GoL/CSoL:
   a) Sample of *Three Piece Round Open Top Metal Cans* for each type of food packed of the following designs (preferably having seam and beading):
      - Top side RL
      - Top side NEO

      of any Nominal dia and Nominal capacity (preferably the largest) shall be tested to cover all other design of *Three Piece Round Open Top Metal Cans*.

      Note: If any one of these designs (Top side RLT / Top side NEO) is offered under the scope of the licence, then all designs except the design not offered shall be covered under the scope of licence.

   b) Sample of each type of material grade used for the manufacturer of Three Piece Round Open Top Metal Cans shall be tested separately.

   c) Sample of following combination of Lacquering shall be tested to cover all combination of lacquering:
      - Internal lacquered cans with External Plain Cans (or) External Lacquered Cans.
      - Internal plain cans with External Plain Cans (or) External Lacquered Cans.

3. The Firm shall declare the varieties of Three Piece Round Open Top Metal Cans for Foods and Beverages they intend to cover in the Licence. The Scope of Licence may be restricted based on the Manufacturing and testing capabilities of the Manufacturer.

4. During the operation of the Licence, BO shall ensure that all the varieties covered in the Licence are tested in rotation, to the extent possible.

Note: In addition to the parameters defined above, the manufacturer shall submit the drawing of each type of Three Piece Round Open Top Metal Cans for Foods and Beverages for which the firm intends to take the licence.

ANNEX- B
List of Test Equipments
(Indicative List, For Guidance Only)

Major test equipment required to test as per the Indian Standard

Sl. No.	Cl. Ref.	Tests used in with Clause Reference	Test Equipment
1.	6.1	Diameter	Plug Gauge/Vernier Caliper
2.	6.2	Capacity	Weighing Balance
3.	8.1	Air Pressure Test	Air Pressure Testing Equipment
4.	8.2	Vacuum Test	Vacuum Testing Equipment
5.	7.2.3.2	Lining Compound Weight	Weighing Balance, Oven
	7.2.3.3	Moisture Retention	
6.	7.3.3	Quality of the welded side seam, Ball Test	Test Equipment as per Annex F
7.	7.3.3	Quality of the welded side seam, Cone Test	Test Equipment as per Annex G
8.	7.7.2	Seam Specification	Can Seam Micrometer/ Digital seam overlap monitor
9.	8.3	Migration Test	Simulant A to Simulant E Test equipment as per Method I to V as declared by the manufacturer as per IS 9845

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 sub-contracting/ 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: *entire quantity of Three Piece Round Open Top Metal Cans for Foods and Beverages of same type (based on design and based on type of food packed) having same nominal dia and same nominal capacities manufactured in a day under similar process condition from the same consignment of raw materials* shall constitute a control unit.

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.

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

2. ENSURING COMPLIANCE THROUGH TESTING

The 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 recognized/ 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

The Standard Mark as given in the Schedule of the licence shall be incorporated legibly and indelibly on the packaging of the Three Piece Round Open Top Metal Cans for Foods and Beverages provided always that the Three Piece Round Open Top Metal Cans for Foods and Beverages so marked conforms to each requirement of the specification.

3.1 Marking and Labelling of each Three Piece Round Open Top Metal Cans for Foods and Beverages shall be done as per Cl. 10 of IS 18427: 2024.

3.2 **Additional Marking requirements**: The Three Piece Round Open Top Metal Cans for Foods and Beverages shall also be marked with the following additional requirement on its packaging:

a) "For BIS certification details please visit www.bis.gov.in"
b) Batch No. / Control Unit No., Date / Month of manufacturing

3.3 Packing of Three Piece Round Open Top Metal Cans for Foods and Beverages shall be done as per Cl. 9 of IS 18427: 2024

3.4 **TEST CERTIFICATE** - For each consignment of Three Piece Round Open Top Metal Cans for Foods and Beverages conforming to IS 18427: 2024, a test certificate shall also be issued by the firm as given in **ANNEXURE-I** enclosed.

3.5 Each Aluminium Cans may also be marked through any digital mode such as 'QR code' or 'Bar code' displaying the details of licences. For eg. ISI Mark (see image below for example) along with the Name and address of the manufacturer, Licence no.

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

(Recommended Levels of Control by BIS- for Guidance Only)

(1)				(2)		
Test Details				**Levels of Control**		
Cl.	**Requirement**	**Test Methods**		**No. of Sample**	**Frequency**	**Remarks**
		Clause	**Reference**			
5	Raw Material					
5.1	Tin Plate	5.1	IS 18427	01	Each Consignment	No further testing is required if accompanied with the Test Certificate or ISI marked.
5.2	Lacquers & Decorative coatings	5.2	IS 18427	01	Each Consignment	
5.3	Inks	5.3	IS 18427	01	Each Consignment	
5.4.2	Lining Compound/ Can End Sealants	5.4.2	IS 18427	01	Each Consignment	
5.5	Side Stripe Systems	5.5	IS 18427	01	Each Consignment	
5.6.2	Aluminium Alloys (EoE)	5.6.2	IS 18427	01	Each Consignment	
5.7	Aluminium Tagger Thickness	5.7	IS 18427	01	Each Consignment	
5.8	Aluminium Foils (POE)	5.8	IS 18427	01	Each Consignment	
5.9	Surface lubrications and Rust Preventions Oils	5.9	IS 18427	01	Each Consignment	
6	Dimensional Requirements					
6.1	Diameter	6.1	IS 18427	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	Capacities	6.2	IS 18427			
7	Manufacture					
7.1	Lacquering, Coating and Printing	7.1	IS 18427	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.		
7.2	NEO End, RLT Manufacturing	7.2	IS 18427			
7.3	Side Seam/Welding	7.3	IS 18427			
7.4	Necking	7.4	IS 18427			

(1)				(2)		
Test Details				**Levels of Control**		
Cl.	**Requirement**	**Test Methods**		**No. of Sample**	**Frequency**	**Remarks**
		Clause	**Reference**			
7.5	Flanging	7.5	IS 18427	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.		
7.6	Beading	7.6	IS 18427			
7.7	Double Seaming	7.7	IS 18427			
8	Testing					
8.1	Air Pressure Test	8.1	IS 18427	01	Each Control Unit	
8.2	Vacuum Test	8.2	IS 18427	01	Each Control Unit	For non-thermally processed cans
8.3.1	Overall Migration Limit (OML)	8.3.1	IS 18427	01	Each Control Unit	
8.3.2	Specific Migration Limit (SML)	8.3.2	IS 18427	01	Each Control Unit	

CM/L XXXXXXXXXX

ANNEXURE – I

(Para 3.4 of the Scheme of Inspection and Testing)
(Name of the Firm)
(Registered office Address and works address)

TEST CERTIFICATE FOR THREE PIECE ROUND OPEN TOP METAL CANS FOR FOODS AND BEVERAGES

TEST CERTIFICATE No.: DATE OF ISSUE:
To
M/s.:

We certify that the Three Piece Round Open Top Metal Cans for Foods and Beverages described below fully conforms to IS 18427: 2024. The product is tested in accordance with the Scheme of Testing and Inspection contained in the BIS Certification Marks Licence No.CM/L _____.

(PLEASE REFER TO IS 18427: 2024 FOR DETAILS OF SPECIFICATION REQUIREMENTS)

TEST RESULTS

Type (Based on Design)	Type (Based on type of food packed)	Material Grade	Lacquering		Nominal Dia	Nominal Capacity	Control Unit No. / Batch No.	Qty.	Mechanical Properties		Migration Test(s)		Remarks
			Internal	External					Air Pressure test	Vacuum Test	Overall Migration Limit	Specific Migration Limit	

REMARKS

For Name of the Firm
Sign and Stamp

(It is suggested that size A4 paper be used for this test certificate)