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भारतीय मानक मसौदा

शहद के भंडारण के लिए स्टेनलेस स्टील बर्तन — विशिष्टि

Draft ***Indian Standard***

STAINLESS STEEL STORAGE CONTAINERS FOR HONEY — SPECIFICATION

ICS 77.140.20, 55.120

FAD 03 - Apiary Industry Sectional Committee Last date of comments: **2 May 2023**

FOREWORD

(*Formal clause will be added later*)

The stainless steel honey storage tanks are widely used to store honey. These storage tanks are to be required to hold the honey for 24 h without any appreciable rise in the product temperature. The storage tank consists of a stainless steel container with snap on air-tight lid.

This standard is intended mainly to cover the technical provisions relating to stainless steel honey storage tank, and it does not include all the necessary provisions of a contract.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 ‘Rules for rounding off numerical values (*second revision*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1 SCOPE

This standard prescribes the requirements for stainless steel honey storage tanks of capacities 30 and 100 kgs.

2 REFERENCES

The standards given below contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of these standards indicated below:

IS No.	***Title***
2811 : 1987	Recommendations for manual tungsten inert - Gas arc welding of austenitic stainless steel (*first revision*)
3178 : 1996	Abrasive emery grain − Specification (*first revision*)
6911 : 2017	Stainless steel plate, sheet and strip − Specification *(second revision)*

3 TERMINOLOGY

3.0 For the purpose of this standard, the following definition shall apply.

3.1 Gross Capacity

Full filling capacity of the tank and is 10 to 15 percent more than the rated capacity.

3.2 Rated Capacity

The volume of the honey storage tank, when filled up to 50 mm below the brim.

4. MATERIAL OF CONSTRUCTION

4.1 The word ‘stainless steel’ appearing at various places in this standard shall mean stainless steel conforming to designation $X_{04}Cr_{19}Ni_{9}$ of IS 6911. Only Stainless Steel Tungsten Inert Gas (TIG) Arc Welding using AWS ER 308L1316L filler metal conforming to IS 2811 shall be done for all joints in stainless steel sheet.

4.2 The cylindrical shell and other parts shall be made of 304 stainless steel of 1.2 mm and 1.5 mm for 30 and 100 kg capacities, respectively 2 mm and 3 mm for 500 and 1000 kg capacity respectively and 4 mm for 5000 kg capacity, respectively conforming to designation $X_{04}Cr_{19}Ni_{9}$ of IS 6911.

4.3 Non-metallic material, namely, sealing and gasketing, provided such materials are non-toxic, non-absorbent and corrosion resistant and shall not impart any objectionable odour or flavour when such material come into contact with the honey in the tank.

5 SHAPE AND DIMENSIONS

The honey storage tank should generally conform to the design given in Fig. 1 and Fig.2. Dimensions given for 30 and 100 kg capacity containers are only approximate. Variations shall be permitted by arrangement between the supplier and the purchaser, so long as the capacity and the performance requirements are satisfied.

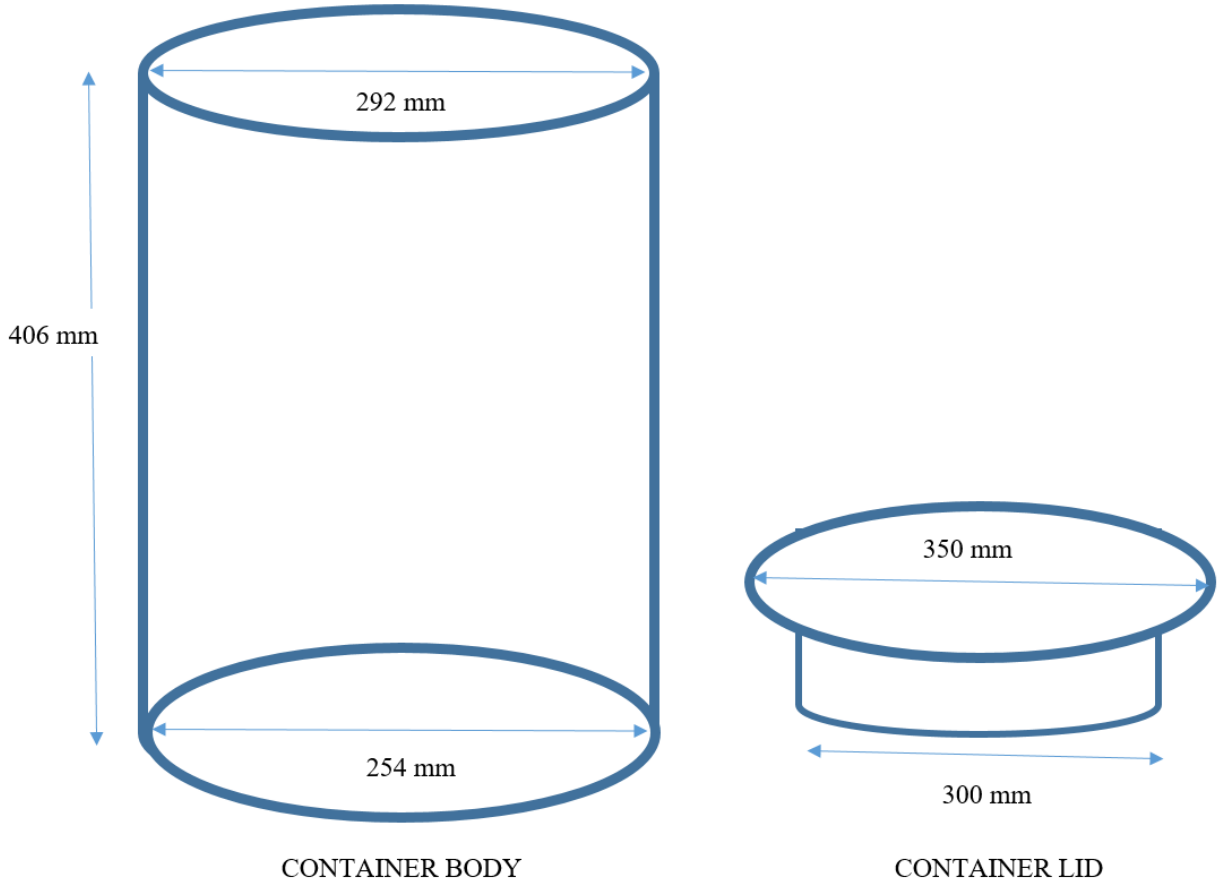

FIG 1. STAINLESS STEEL HONEY CONTAINER OF 30KG CAPACITY

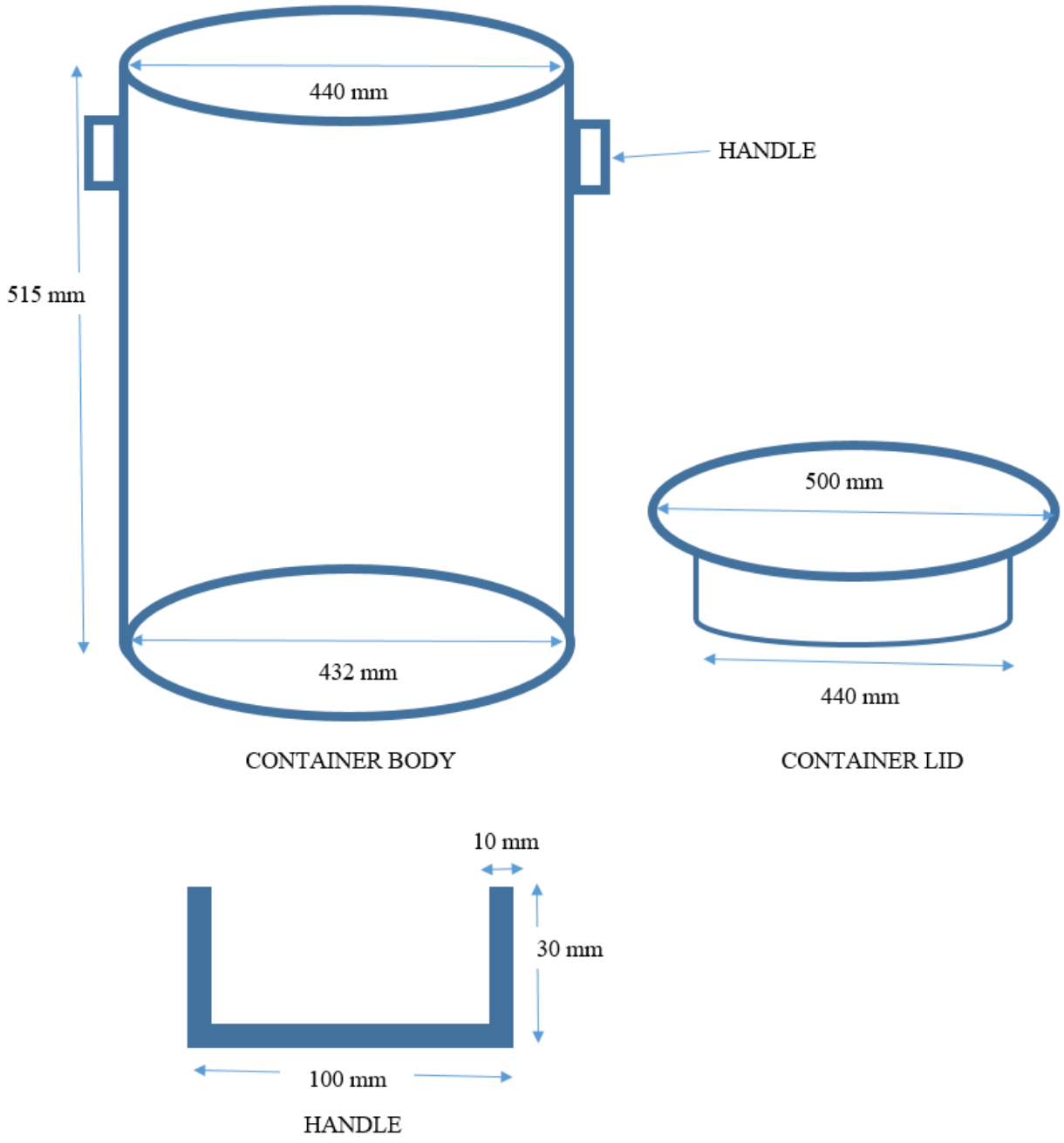

FIG 2. STAINLESS STEEL HONEY CONTAINER OF 100 KG CAPACITY

6 FABRICATION

The tank shall be of welded construction as in 4.1.

6.1 Cylindrical Body

The cylindrical shell and conical ends shall be formed to shape and welded. The welded joints shall be finished ground smooth from inside and shall be watertight and airtight. All inside stainless steel surfaces of the shell shall have either 2B mill finish *(see* IS 6911) or be polished to 150 grits *(see* IS 3178). The horizontal tanks shall have conical, shell at both ends. The inner shell shall have a slope of 1 : 50 towards the outlet at the bottom of the tank to facilitate drainage of honey to the outlet. The inner surface of the tank should be painted with two coats of epoxy primer.

7 WELDING JOINTS

All welded joints shall be sound, free from porosity and brittleness. The joints of vessel shall be well ground and finished smooth to 150 grit. Only TIG Welding shall be done for all joints in stainless steel sheet.

8 LIFTING HANDLES

The container should have two handles for ease of lifting the container. These handles should be swivel-type rather than fixed type to facilitate easier stacking of containers during transportation.

9 LID

The lid of the container should be snap-on type and shall be air-tight and water tight.

10 TESTS

10.1 The container shall be tested for water tightness in the manufacturer's works after grinding and polishing the surfaces but prior to application of insulation. The tank shall not leak when filled with water up to the brim.

10.2 Dye penetration test shall be conducted for all welding joints of the container to ensure no defect.

11 MARKING

11.1 The tank shall be provided with a stainless steel name plate of size 150 mm x 100 mm fixed on a stainless steel bracket. Following particulars shall be marked legibly and permanently on the name plate:

a) Manufacturer's trade-mark, name and address;
b) Manufacturer's identification;
c) Capacity of the tank; and
d) Month and year of manufacturing.

11.2 BIS Certification Marking

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act*, 2016 and the Rules and Regulations framed thereunder, and the products may be marked with the Standard Mark.