

निर्यात हेतू चाय के लिए मल्टी-वॉल  
पेपर बोरे — विशिष्टि

( पहला पुनरीक्षण )

Multi-wall Paper Sacks for Tea for  
Export — Specification

( First Revision )

ICS 55.080

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## FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards after the draft finalized by the Paper Based Packaging Materials Sectional Committee had been approved by the Chemical Division Council.

Plywood tea chests have been the traditional mode for packing of tea in bulk. However, plywood is a commodity that has become increasingly scarce and costly and environmentalists are alarmed at the prospects of dwindling forest resources in the country. Besides, tea importing countries have a problem of disposal of empty chests.

This has resulted in the tea industry turning to other alternatives that are more freely available and economically viable. Of all the alternatives that have been considered and tried, the multi-wall paper sack with an inner most ply bonded to aluminium foil with the help of polythene has gained widest acceptance, as it provides protection from moisture and odour and allows palletization and containerization during transportation. Studies carried out in various parts of the world with newer and more effective materials could well lead to the development and use of other materials from which sacks capable of withstanding all distribution hazards can be produced. The present standard, however, is confined to specifications for multi-wall paper sacks for the export of tea and is essentially based on paper sacks which are at present being used by several tea producing countries in large numbers for export packing.

This standard was first published in 2005. Considering the recent technological advancements in the packaging industry, the Committee decided to revise this standard.

In this revision, the following major changes have been incorporated:

- a) The scope has been updated;
- b) The reference clause has been updated;
- c) The construction and style clause have been modified for number of plies and gsm of kraft paper for construction; and
- d) The lay flat dimensions for empty sacks have been modified.

This standard contains [5.2](#) and [7.1](#) which call for agreement between the purchaser and the supplier.

The composition of the Committee responsible for the formulation of this standard is given in [Annex A](#).

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.

*Indian Standard***MULTI-WALL PAPER SACKS FOR TEA FOR EXPORT —  
SPECIFICATION***( First Revision )***1 SCOPE**

This standard prescribes requirements for materials, dimensions and construction of multi-wall (multi-ply) paper sacks of tea depending on the practice of the importing countries. These are to be designated as full size to hold about 50 kg of tea, medium size to hold about 35 kg of tea and half size to hold about 28 kg of tea.

**2 REFERENCES**

The standards given below contain provisions which, through reference in this text, constitute provision 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 edition of these standards:

<i>IS No.</i>	<i>Title</i>
IS 1060 (Part 1) : 2022	Methods of sampling and test for paper and allied products: Part 1 Test methods for general purpose ( <i>second revision</i> )
IS 1260 (Part 2) : 2020/ISO 780 : 2015	Packaging — Distribution packaging — Graphical symbols for handling and storage of packages: Part 2 General goods ( <i>fourth revision</i> )
IS 9028 : 1978	Glossary of terms relating to paper sacks
IS 10528 : 1983	Method of sampling empty paper sacks for testing
IS 13012 : 1990	Sack kraft paper and extensible kraft paper — Specification

**3 TERMINOLOGY**

For the purpose of this standard the definitions given in IS 9028 shall apply.

**4 MATERIAL**

**4.1** The sacks shall be made of natural sack kraft paper or extensible sack kraft paper conforming to IS 13012.

**4.2 Adhesives**

Adhesives commonly used are of the starch or dextrans type but if a fungicide/bactericide is required as an additive, chlorophenols shall not be used.

**5 CONSTRUCTION AND STYLE**

**5.1** The sack shall of the pasted-valve type with flat hexagonal ends of stepped end construction formed from a stepped end tube. The valve shall be fitted with an external tuck-in sleeve and shall be made of the same material as the barrier of the innermost ply.

**5.2** The sack shall comprise of 4 plies of natural sack kraft paper each of 70 gsm to 80 gsm or extensible kraft paper each of 70 gsm to 80 gsm. The innermost ply shall be laminated with aluminium foil of 0.007 mm to 0.009 mm thickness by 20 gsm of polyethylene. However, by mutual agreement with the purchaser, number of plies and/or substance of the paper may be altered by using paper of higher strength and also alternative barriers like laminated metallized polyesters, etc, may be used so long as the desired properties of tea packaging is ensured.

**5.2.1** All materials used in the construction of the sack (paper, adhesive, polyethylene and aluminium foil) shall be free from taint and odour.

**5.2.2** No materials or substances containing chlorophenols or their derivatives shall be used.

**5.3 Lay Flat Dimensions**

The empty sack dimensions shall be as given below:

<i>Full Size</i>	
Sack length	(1 120 ± 10) mm
Sack width	(720 ± 5) mm
Width of bottom	(180 ± 5) mm
Valve sleeve width	(180 ± 5) mm
<i>Medium Size</i>	
Sack length	(780 ± 10) mm
Sack width	(610 ± 5) mm
Width of bottom	(190 ± 5) mm
Valve sleeve width	(190 ± 5) mm

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*Half Size*

Sack length	(660 ± 10) mm
Sack width	(610 ± 5) mm
Width of bottom	(190 ± 5) mm
Valve sleeve width	(190 ± 5) mm

**5.4 Drop Test**

Multi-wall paperbacks for tea for export with full content shall pass the drop test with following criteria:

- a) Drop height — 1.2 m; and
- b) Number of drops — 4.

First and second drop shall be on either surface (front or rear) of the sack. Third and fourth drop shall be on top end and bottom end, where valve is fitted or pasted.

**6 WORKMANSHIP**

**6.1** The plies shall be properly but not excessively creased. In the construction of a multi-wall paper sack tube, the outer ply fit shall be such that at the point of manufacture, each ply shall be smaller in circumference than the next outer ply within the elongation limits of the material in order to ensure even load distribution between plies. Care shall be taken to ensure for adequate longitudinal overlap, equal gusset formation and spot gluing quantity and line of gluing.

**6.2 Conditioning**

The paper sack sample from the lot for testing shall be conditioned as per IS 1060 (Part 1).

**7 PACKING AND MARKING**

**7.1 Packing**

Paper sacks shall be securely packed as agreed to between the purchaser and the supplier.

**7.2 Marking**

**7.2.1** Each package shall be marked with the following information:

- a) Relevant product details including sack size;
- b) Name of the manufacturer;
- c) Number of sacks in the package;
- d) Batch number/lot number; and
- e) Net mass of the contents.

**7.2.2** Each sack shall be marked with 'USE NO HAND HOOKS', preferably showing the corresponding pictorial illustration as per IS 1260 (Part 2).

**7.2.3 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 there under, and the products may be marked with the Standard Mark.

**8 SAMPLING**

Sampling shall be done as per procedure laid down in IS 10528.

## ANNEX A

*(Foreword)*

## COMMITTEE COMPOSITION

Paper Based Packaging Materials Sectional Committee, CHD 16

<i>Organization</i>	<i>Representative(s)</i>
Indian Institute of Packaging, New Delhi	PROF (DR) TANWEER ALAM ( <b>Chairperson</b> )
B&A Packaging India Limited, Kolkata	SHRI AMAL KUMAR MOHANTY SHRI TAPAN KUMAR CHAND ( <i>Alternate I</i> ) SHRI PANKAJ KUMAR ( <i>Alternate II</i> )
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Dr Reddy's Laboratory, Hyderabad	SHRI AVINASH KUMAR TALWAR SHRI VINAY KUMAR SINGH ( <i>Alternate</i> )
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Federation of Paper Converters of India, New Delhi	SHRI MUKESH GUPTA SHRI ABHAY KUMAR SINGH ( <i>Alternate</i> )
Indian Agro and Recycled Paper Mills Association, New Delhi	DR BIPIN PRAKASH THAPLIYAI DR ANIL NAITHANI ( <i>Alternate</i> )
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ITC Life Sciences and Technology Centre, Bengaluru	SHRI AJITH KUMAR DR KAMAL KUMAR TYAGI ( <i>Alternate</i> )
ITC Limited, Paperboards and Specialty Papers Division, Bhadrachalam	SHRI P. N. SRIDHARR SHRI MOHAMMED GOUSE ( <i>Alternate</i> )
J K Paper Limited, New Delhi	SHRI UMAKANT PATIL SHRI SAMEER MOHAPATRA ( <i>Alternate</i> )
Nestle India Limited, Gurugram	SHRI DEEPAK SINGH SHRI AJAY RAJVANSHI ( <i>Alternate</i> )

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