This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure coherence 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 licence/certificate.

1. **Product**: IS 14887:2014

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Title</strong></td>
<td>Textiles — High Density Polyethylene (HDPE) / Polypropylene (PP) Woven Sacks for Packaging of 50 kg Food Grains</td>
</tr>
<tr>
<td></td>
<td><strong>No. of amendments</strong></td>
<td>1</td>
</tr>
</tbody>
</table>

2. **Sampling Guidelines**

a) **Raw material**: The high density polyethylene (HDPE) or polypropylene (PP) used for manufacture of tape shall confirm to the requirements specified in IS 10146 or IS 10910 respectively. The fabric used in the manufacture of HDPE/PP woven sacks shall be woven as a tube on circular looms from HDPE/PP tapes having width of 2.5 mm (tolerance of ± 10 percent) conforming to IS 6192 and IS 11197 respectively, and linear density of 111 tex (1000 denier).

b) **Grouping Guidelines**: Please refer Annex - A

c) **Sample Size**: 5 bags

3. **List of Test Equipment**: Please refer Annex - B

4. **Scheme of Inspection and Testing**: Please refer Annex - C

5. **Possible tests in a day**: Dimensions, Ends and Picks, Mass, average breaking strength of fabric, breaking strength of bottom seam, elongation at beak, ash content

6. **Scope of the Licence**:

   Licence is granted to use Standard Mark as per IS 14887:2014 with the following scope:

| **Name of the product** | High Density Polyethylene (HDPE) / Polypropylene (PP) Woven Sacks for packaging of 50 kg Food Grains |
| **Material** | High Density Polyethylene (HDPE) or Polypropylene (PP) |
ANNEXURE A

PRODUCT MANUAL FOR
Textiles — High Density Polyethylene (HDPE) / Polypropylene (PP) Woven Sacks for
Packaging of 50 kg Food Grains
According to IS 14887:2014

GROUPING GUIDELINES

There shall be two group for woven sacks based on material requirements of HDPE or PP as under:

Group 1: HDPE woven sacks
Group 2: PP woven sacks

For considering GOL one sample from each group may be drawn for independent testing.

However, it shall be ensured that the manufacturer has got complete manufacturing as well as testing facilities for the sizes required to be covered in the scope of the licence.

During the operation of licences, samples of all varieties covered in the licence shall be drawn for testing in rotation.
## TEST EQUIPMENT

Major test equipment required to test as per requirements of Indian Standard.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Tests used in with Clause Reference</th>
<th>Test Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Tapes – Width and Thickness (Cl. 3.2 and IS 6192/IS 11197)</td>
<td>Steel Rule / Vernier 0.1mm LC, Spring Loaded dial micrometer of 0.001mm LC &amp; 140kN/m² pressure</td>
</tr>
<tr>
<td>2.</td>
<td>Tapes – Linear Density (Cl. 3.2 and IS 6192/IS 11197)</td>
<td>Weighing Balance 0.1mg accuracy, Drying Oven, Wrap Reel</td>
</tr>
<tr>
<td>3.</td>
<td>Tapes – Tenacity (Cl. 3.2 and IS 6192/IS 11197)</td>
<td>Tensile testing machine with constant rate of extension, suitable clamps and facility to measure elongation</td>
</tr>
<tr>
<td>4.</td>
<td>Tapes – Elongation at point of rupture (Cl. 3.2 and IS 6192/IS 11197)</td>
<td>Tensile testing machine with constant rate of extension, suitable clamps and facility to measure elongation</td>
</tr>
<tr>
<td>5.</td>
<td>Tapes – Heat Shrinkage (HDPE) (Cl. 3.2 and IS 6192)</td>
<td>Heat shrinkage test apparatus with water bath, specimen holder and lead in wire</td>
</tr>
<tr>
<td>6.</td>
<td>Tapes – Colour Fastness for pigmented tapes (Cl. 3.2 and IS 6192/IS 11197)</td>
<td>Xenon Arc lamp test apparatus, Geometric grey scale</td>
</tr>
<tr>
<td>7.</td>
<td>Tapes – Dimensional stability (PP) (Cl. 3.2 and IS 11197)</td>
<td>Air circulating Oven</td>
</tr>
<tr>
<td>8.</td>
<td>Unlaminated Fabric Mass (Cl. 3.2)</td>
<td>Weighing Balance 5mg accuracy, Steel Scale, Flat smooth table</td>
</tr>
<tr>
<td>9.</td>
<td>Bottom seam (Cl. 3.3.1)</td>
<td>Steel Scale</td>
</tr>
<tr>
<td>10.</td>
<td>Mass of bale (Cl. 4.1), Capacity (Cl 3.4)</td>
<td>Weighing Scale</td>
</tr>
<tr>
<td>11.</td>
<td>Dimensions [Cl. 4.2 and Table 1 ii)]</td>
<td>Scale, Flat table</td>
</tr>
<tr>
<td>12.</td>
<td>Ends per dm [Cl. 5.2 and Table 1 iii)]</td>
<td>Pick glass</td>
</tr>
<tr>
<td>13.</td>
<td>Picks per dm [Cl. 5.2 and Table 1 iv)]</td>
<td>Pick glass</td>
</tr>
<tr>
<td>14.</td>
<td>Mass of sack [Cl. 4.2 and Table 1 v]</td>
<td>Weighing Balance, Steel scale, Flat smooth table</td>
</tr>
<tr>
<td>15.</td>
<td>Average breaking strength of fabric [Cl. 4.2 and Table 1 vi)]</td>
<td>Tensile testing machine CRE with facility to record/indicate force and separation</td>
</tr>
<tr>
<td></td>
<td>Test Description</td>
<td>Required Equipment</td>
</tr>
<tr>
<td>---</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>16.</td>
<td>Breaking strength of bottom seam [Cl. 4.2 and Table 1 vii)]</td>
<td>Tensile testing machine with suitable clamps, stop watch, scale</td>
</tr>
<tr>
<td>17.</td>
<td>Elongation at break of fabric [Cl. 4.2 and Table 1 viii)]</td>
<td>Tensile testing machine CRE with facility to record/indicate force and separation</td>
</tr>
<tr>
<td>18.</td>
<td>Average breaking strength and elongation at break of UV stabilized HDPE/PP fabric after been exposed to UV radiation and weathering [Cl. 4.2 and Table 1 ix)]</td>
<td>Tensile testing machine CRE with facility to record/indicate force and separation Test Chamber with Fluorescent UV- lamps Type B (313 nm or equivalent) with irradiance level 0.63W/m² with facility for heating and condensation</td>
</tr>
<tr>
<td>19.</td>
<td>Ash content [Cl. 4.2 and Table 1 x)]</td>
<td>Weighing Balance 1mg accuracy, Silica crucible, Bunsen Burner, Silica Triangle and Tripod, Muffle furnace, Desicator, Gloves, Crucible holder</td>
</tr>
<tr>
<td>20.</td>
<td>Conditioning of sample</td>
<td>Conditioning Chamber to maintain 27±2°C, 65±2% humidity</td>
</tr>
</tbody>
</table>

This is an indicative list for the purpose of guidance only and may not be taken as exhaustive.
ANNEXURE C

PRODUCT MANUAL FOR
Textiles — High Density Polyethylene (HDPE) / Polypropylene (PP) Woven Sacks for
Packaging of 50 kg Food Grains
According to IS 14887:2014

SCHEME OF INSPECTION AND TESTING

1. LABORATORY - A laboratory shall be maintained which shall be suitably equipped (as per the
requirement given in column 2 of Table 1) and staffed, where different tests given in the
specification shall be carried out in accordance with the methods given in the specification.

1.1 The manufacturer shall prepare a calibration plan for the test equipments.

2. TEST RECORDS – The manufacturer shall maintain test records for the tests carried out to
establish conformity.

3. PRINTING, PACKAGING AND MARKING – The standard mark(s) as given in the schedule of
the licence shall be stenciled on each sack and each bale of HDPE/PP Woven Sacks, provided
always that the sacks and the bales to which this mark is thus applied conforms to every
requirement of the specification.

3.1 Printing, Packaging and Marking on the sacks and bales shall be done as per the provisions of
the Indian Standard. In addition, BIS Licence Number CM/L- …, and details of BIS website shall be
marked on each sack and bale as follows: “For details of BIS certification please visit
www.bis.gov.in”

3.2 “FOR SACK ONLY” shall be marked on top of the standard mark printed on each sack.

4. CONTROL UNIT – All the HDPE/PP woven sacks of the same construction and the same
material produced under similar conditions in a day shall constitute a control unit.

4.1 SAMPLING FOR FLOOR INSPECTION: Five sample bundles shall be selected every four
hours of production, one bag shall be taken from each selected sample bundle, subject to 30 bags
in a control unit and shall be tested as under

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Characteristics</th>
<th>Sample Size</th>
<th>Frequency</th>
<th>Total No. of Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dimensions</td>
<td>5 bags</td>
<td>Every 4 hours</td>
<td>30 bags</td>
</tr>
<tr>
<td>2</td>
<td>Ends &amp; Picks per dm</td>
<td>-do-</td>
<td>-do-</td>
<td>-do-</td>
</tr>
<tr>
<td>3</td>
<td>Breaking strength of Fabric, Bottom seam strength, and elongation</td>
<td>1 bag</td>
<td>One sample when control unit starts and then at equal intervals of 2 hours</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Sack</td>
<td>5 bags</td>
<td>Every 4 hours</td>
<td>30 bags</td>
</tr>
<tr>
<td>5</td>
<td>Mass of the sack</td>
<td>-do-</td>
<td>-do-</td>
<td>-do-</td>
</tr>
</tbody>
</table>

Note- Each bundle, which is an intermediate packaging, normally contains 50 sacks. However, the number of sacks in each bundle may vary as per the customer’s requirement
5. LEVELS OF CONTROL - The tests as indicated in column 1 of Table 1 and the levels of control in column 3 of Table 1, shall be carried out on the whole production of the factory which is covered by this plan and appropriate records maintained in accordance with paragraph 2 above.

5.1 All the production which conforms to the Indian Standards and covered by the licence should be marked with Standard Mark.

6. REJECTIONS—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. Any rejected material which is potentially re-salable be sheared or cut re-melting. A separate record shall be maintained giving information on quantity and control unit number, as applicable, relating to all such rejections/defective/sub-standard material of the production not conforming to the requirements of the Specification and the method of its disposal. Such material shall in no case be stored together with that conforming to the Specification. The Standard Mark (if already applied) on rejected material should be defaced.
# ANNEXURE C

PRODUCT MANUAL FOR
Textiles — High Density Polyethylene (HDPE) / Polypropylene (PP) Woven Sacks for
Packaging of 50 kg Food Grains
According to IS 14887:2014

SCHEME OF INSPECTION AND TESTING

## TABLE 1

### LEVELS OF CONTROL (Clause 5 of SIT)

<table>
<thead>
<tr>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Test Details</strong></td>
<td><strong>Test equipment requirement</strong></td>
<td><strong>Recommended Levels of Control</strong></td>
</tr>
<tr>
<td>Cl.</td>
<td>Requirement</td>
<td>Test Methods Clause Reference</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>3.1</td>
<td>Raw Material</td>
<td>3.1</td>
</tr>
<tr>
<td>3.2</td>
<td>Fabric</td>
<td>3.2</td>
</tr>
<tr>
<td>3.3, 3.3.1 &amp; 3.3.2</td>
<td>Sack</td>
<td>3.3.1. 3.3.2</td>
</tr>
<tr>
<td>4.1</td>
<td>Mass of Bale</td>
<td>4.1</td>
</tr>
<tr>
<td>4.2 &amp; Table 1</td>
<td>i) Dimension</td>
<td></td>
</tr>
<tr>
<td>a) Inside length</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Inside width</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii) Ends per dm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>iii) Picks per dm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>iv) Mass of Sack</td>
<td></td>
<td></td>
</tr>
<tr>
<td>v) Average Breaking strength of fabric (Lengthwise and Widthwise)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vi) Minimum Breaking</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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BUREAU OF INDIAN STANDARDS
Manak Bhawan, 9, Bahadur Shah Zafar Marg,
New Delhi – 110002
<table>
<thead>
<tr>
<th>strength of bottom seam</th>
<th>IS 1969 (Part 1)</th>
<th>R</th>
<th>-do-</th>
<th>-do-</th>
<th>-do-</th>
</tr>
</thead>
<tbody>
<tr>
<td>vii) Elongation at break of fabric (Lengthwise and Widthwise)</td>
<td>IS 1969 (Part 1)</td>
<td>R</td>
<td>-do-</td>
<td>-do-</td>
<td>-do-</td>
</tr>
<tr>
<td>ix) Ash Content</td>
<td>Annex D, IS 14887:2014</td>
<td>R</td>
<td>2 bags</td>
<td>Each Control Unit</td>
<td></td>
</tr>
</tbody>
</table>

Note 1: Whether test equipment is required or sub-contracting is permitted in column 2 shall be decided by the Bureau and shall be mandatory. Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empanelled by the Bureau.

Note 2: Levels of control given in column 3 are only recommendatory in nature. The manufacturer may define the control unit/batch/lot and submit his own levels of control in column 3 with proper justification.

Note 3: One sample from each consignment shall be tested for ascertaining conformity to IS 10146 or IS 10910, unless the same is accompanied by test certificate from supplier.

Note 4: Samples to be drawn and tested at regular intervals.