Draft Tanzania Standard

Textiles – Non-woven bags – Specification
FOREWORD

This Draft Tanzania Standard is aiming to provide guidance to non-woven carrier bags manufacturers, users and other stakeholders to use carrier bag which are more environmentally-friendly and of acceptable quality.

Due to complexity of factors affecting the usability and performance of the carrier bags made from non-woven, this specification will help to outline the types of non-woven which can sustain the static and dynamic stress to which the carrier bag is subjected in use and to maintain permanently the shape of the bags without changing the textile properties.

In deciding whether a particular requirement of this Draft Tanzania 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 TZS 4: (see Clause 2.1). The number of significant figures retained in the rounded off value should be the same as that of the specified value in this Draft Tanzania Standard.

In the preparation of this Draft Tanzania Standard assistance was derived from:

1. SCOPE

This Draft Tanzania Standard specifies the requirements and test methods for carrier bags made from non-woven fabrics. It does not cover feel and luster of the fabric.

2. NORMATIVE REFERENCES

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

a) TZS 4, Rounding off numerical values.
b) ISO 22198, Textile Fabrics – Determination of width and length
c) TZS 2007-1, Textiles – Dyestuffs – Part 1: General principles of testing coloured textiles for dyestuff identification
d) TZS 2007-2, Textiles – Dyestuffs – Part 2: General method for the determination of extractable dyestuffs including allergenic and carcinogenic dyestuffs (method using pyridine-water)
e) TZS 22, Textiles – Tensile properties of fabrics – Part 1: Determination of maximum force and elongation at maximum force using the strip method
f) EAS 251, Method for determination of resistance of fabrics to penetration by water (hydrostatic head test)
g) ISO 9073-1, Textiles – Test methods for non-woven – Part 1: Determination of mass per unit area
h) ISO 9073-5, Textiles – Test methods for non-woven – Part 5: Determination of resistance to mechanical penetration (ball burst procedure)
i) ISO 9073-16, Textiles – Test methods for non-woven – Part 16: Determination of resistance to penetration by water (hydrostatic pressure)
k) TZS 529, Method for determination of colour fastness of textile materials to dry cleaning.
l) TZS 759, Textiles – Preparation, marking and measuring of fabric specimens and garments in test for determination of dimensional change.
m) TZS 137: Determination of dimensional change of woven and knitted fabrics and garments- machine method.
n) ISO 2313, Textile fabrics – Determination of the recovery from creasing of a horizontally folded specimen by measuring the angle of recovery.
o) ISO 13935-1, Textiles – Seam tensile properties of fabrics and made-up textile articles — Part 1: Determination of maximum force to seam rupture using the strip method

3. DEFINITIONS

For the purpose of this Draft Tanzania Standard, the following terms and definitions shall apply:

Nonwoven - manufactured sheet or batt of directional or random oriented fibres, bonded by friction and/or cohesion and/or adhesion, excluding paper.
4. REQUIREMENTS

4.1 General requirements

4.1.1 Non-woven fabric

Non-woven fabric specified in this Draft Tanzania Standard is made by extrusion of melted polypropylene polymer fibers through a spinneret to form thin fibers which are stretched and cooled by passing hot air over the fibers as they fall from the spinneret then bonded together either parallel or random laid to create flexible plastic breathable fabric.

4.1.1.1 The weight of the fabric is measured by gram per meter square (g/m²) and it should meet the weight requirement as given in Table 1

4.1.1.2 Non-woven fabric for making carrier bags shall be free from restricted dyestuffs according to TZS 2007-1 & 2

4.1.2 Non-woven bags

The bag shall be constructed automatically sealed around by heat bonding or manually stitched by sewing machine. Sealing around by sewing machine, there should be not less than 2 stitches per centimeter. The bag shall bare the label indicating the dimensional size and nominal capacity to which the carrier bags can contain. Other requirement of the bags shall meet the requirements as given in Table 1.

4.2 Handles

The types and design of the handles of the non-woven bags shall be subject to the agreement between the buyer and seller but the force of removing the handles shall comply with the requirement given in Table 1.

4.3 Free from defects

The non-woven bags shall be free from defects such as weight variations, seam open/slippage, dust, lumps, holes, cuts, loose, stains, and frayed end.
Table 1 — Requirements for non-woven bags

<table>
<thead>
<tr>
<th>S/N</th>
<th>Characteristics</th>
<th>Requirement</th>
<th>Method of test</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mass per unit area, g/m², <em>min.</em></td>
<td>70</td>
<td>ISO 9073-1</td>
</tr>
<tr>
<td>2</td>
<td>Bursting Strength , N, <em>min.</em></td>
<td>150</td>
<td>BS 4768</td>
</tr>
<tr>
<td>3</td>
<td>Fabric composition</td>
<td>100% polypropylene or its blends with other fibres</td>
<td>TZS 327</td>
</tr>
<tr>
<td>4</td>
<td>Dimensional Change, Percent, Max, After 3 Cycles of Washing %</td>
<td>2</td>
<td>TZS 137</td>
</tr>
<tr>
<td>5</td>
<td>Closure /Seam Strength (grab method), N. <em>min.</em></td>
<td>80</td>
<td>ISO 13935-1</td>
</tr>
<tr>
<td>6</td>
<td>Attached handle pull strength, N, <em>min.</em></td>
<td>100</td>
<td>Annex A</td>
</tr>
<tr>
<td>7</td>
<td>Tear resistance, N, <em>min.</em></td>
<td>80</td>
<td>ISO 9073-4</td>
</tr>
<tr>
<td>8</td>
<td>Colour fastness to:</td>
<td></td>
<td>TZS 138</td>
</tr>
<tr>
<td></td>
<td>1) Rubbing (crocking), <em>min.</em></td>
<td>4</td>
<td>TZS 167</td>
</tr>
<tr>
<td></td>
<td>Dry</td>
<td></td>
<td>TZS 211</td>
</tr>
<tr>
<td></td>
<td>Wet</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2) Washing</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3) Perspiration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Sizes(Length and width)</td>
<td>As declared on the label</td>
<td>ISO 122198</td>
</tr>
</tbody>
</table>

5. MARKING

5.1 Each non-woven bag shall be legibly and indelibly marked with the following information on the label:
   a) Manufacturer’s name, address and /or registered trade mark;
   b) Dimensions of the bag;
   c) Batch number;
   d) Disposal logo/instruction

6. PACKING

6.1 Unless otherwise agreed, the non-woven bags shall be packed in suitable materials that prevent it from damage or contamination during normal handling, storage and transportation. The quantities of the non-woven bags in the packages shall be subject to the agreement between the buyer and seller.

7. SAMPLING AND CRITERIA FOR CONFORMITY

7.1 Lot
In a consignment, all non-wovenbags of the same variety shall be grouped together to constitute a lot. Each lot shall be separately sampled for the purpose of ascertaining the conformity of the requirements of the specification.

7.2 Sampling

7.2.1 From each lot, sample bags shall be selected at random as prescribed in Table 2 below.

<table>
<thead>
<tr>
<th>Lot size-No. of the bags</th>
<th>Sample size-No of the bags</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 25</td>
<td>4</td>
</tr>
<tr>
<td>26 to 50</td>
<td>6</td>
</tr>
<tr>
<td>51 to 100</td>
<td>8</td>
</tr>
<tr>
<td>101 and above</td>
<td>10</td>
</tr>
</tbody>
</table>

7.2.2 The bags selected as per Table 2 above shall be tested for characteristic outline in Table 1.

7.3 Criteria for Conformity

The lot shall be considered as conforming to this standard if all the test results satisfy the requirements of 4.1 and Table 1.
Annex A
(Normative)

Determination of pull strength of the handle

A-1 Determine and mark the end point of all the handles' tail.

A-2 As per distance between the upper clamp or jaw, reduce the length of the bag by knot or stitch to get the clear look to the handle loop.

A-3 Hook the handle loop to the upper clamp or jaw.

A-4 From bottom of the non-woven bag, fold 8cm and grip the fold line to the lower clamp or jaw.

A-5 At constant transverse rate of 20cm per minute, measure the breaking point for 5 specimens to evaluate the pulling strength according to TZS 22.

Fig. Pulling tester machine