Technical Specifications of HDPE Bags

(A) GENERAL SPECIFICATIONS FOR LAMINATED HIGH DENSITY POLYETHYLENE (HDPE) CIRCULAR, WOVEN BAGS FOR PACKING 50 KGS PLANT UREA / IMPORTED UREA / NEEM COATED UREA / TECHNICAL GRADE UREA / SSP / IMPORTED DAP / IMPORTED MOP.

1.0 GENERAL

1.1 The supplier shall manufacture and supply HDPE bags for packing of Plant Urea / Neem coated Urea / Technical Grade Urea / Imported Urea / SSP / Imported DAP / Imported MOP / SSP strictly conforming to the following specifications.

1.2 The bags to be supplied shall be of HDPE fabric woven in circular looms (having no twisting of WEFT) with inside lamination by way of inverting the cylinder of fabric after it is laminated. The bags shall be without any side seam.

1.3 HDPE fabric will be woven with identification strips should as specified below.

1.4 ‘L’ stitched bags made of circular woven HDPE fabric shall not be accepted.

2.0 SIZE & CAPACITY

2.1 The capacity of each bag shall be to hold 50 kg of product.

2.2 The inside dimensions of bags of different product shall be as under:

<table>
<thead>
<tr>
<th>Product</th>
<th>Length in mm</th>
<th>Width in mm</th>
<th>Minimum inside area in Sq. Mtr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant Urea/Neem coated / Imported Urea</td>
<td>915 +/- 10</td>
<td>610 +/- 10</td>
<td>0.558</td>
</tr>
<tr>
<td>SSP</td>
<td>864 +/- 10</td>
<td>560 +/- 10</td>
<td>0.484</td>
</tr>
<tr>
<td>Imported DAP</td>
<td>915 +/- 10</td>
<td>560 +/- 10</td>
<td>0.512</td>
</tr>
<tr>
<td>Imported MOP</td>
<td>815 +/- 10</td>
<td>560 +/- 10</td>
<td>0.456</td>
</tr>
</tbody>
</table>

2.3 Length and width both should not be short simultaneously. The dimensions of bags shall be within above mentioned tolerance and within specified limit of minimum inside area.
3.0 FABRIC

3.1 The fabric shall be woven from HDPE tapes conforming to IS 6192 (Latest) and shall be free from all major weaving defects like pick points, missing tapes etc. and it shall be free from biasness also.

3.2 The construction of the HDPE fabric and identification strips shall be as per the specifications given below (SPECIFICATIONS FOR LAMINATED HIGH DENSITY POLYETHYLENE CIRCULAR WOVEN BAGS).

(Note : Technical Grade Urea bags will be similar to Plant / Normal Urea bags without side strips on both sides but with 2” red border on periphery of printing matter).

3.3 The bag shall be made from single piece of laminated HDPE woven fabric. The appearance of bag shall be (i) Yellow for Neem coated urea and (ii) Milky white with Blue tone for other types of bags. Required quantity of correct quality of Master Batch should be used for Yellow / Milky white with Blue tone appearance of the fabric and Bag.

3.4 For Technical Grade Urea, Red Border to be provided on periphery of HDPE bags.

3.5 Calcium Carbonate (CaCo3) Content Limit :

Maximum limit of CaCo3 allowed is 10% (Ash Content 6%). In case test result exceeds CaCo3 limit of 10% (Ash Content 6%), the lot is to be accepted up to 12% Calcium Carbonate content (7% Ash content) with applying penalty at the rate double by which Calcium Carbonate content is higher than 10% (Ash Content 6%). If test result exceeds 12% of Calcium Carbonate content (Ash Content 7%), the lot is to be rejected.

In case there are more than two incidents of CaCo3 exceeding 12% (Ash Content 7%), the supplier will be put in holiday list.

Testing will be done by GNFC In-house as per IS 13360.

4.0 LAMINATION

4.1 The bags shall be inside laminated with direct application of minimum 100 gauge of virgin quality low density polyethylene (LDPE) film in a lamination plant. The
lamination shall be free from Pinholes, Porosity, Tears, Patches, Air pockets, Blisters or any other visible defects.

4.2 The thickness of the lamination shall be minimum 100 gauge (25 micron) with a tolerance of + 10%. **No negative tolerance is acceptable.**

4.3 The lamination shall cover the entire inner area of the fabric used in the bag.

4.4 The fabric shall be laminated on both the layer of fabrics and then shall be inverted. While laminating minimum overlap of 10 mm shall be provided on the edge of lamination.

4.5 The suppliers before despatching the laminated bags should ensure the quality of lamination. Any lamination failure at GNFC during sample testing or during use of bags if noticed, the entire lot of bags shall be rejected and unused bags shall be cross marked. Payment shall be recovered from any pending bills.

4.6 During lamination of HDPE fabric, required quantity of Master batch shall be used to give Yellow / Milky white with Blue tone appearance to Bag.

**5.0 STITCHING**

5.1 The bottom of the bag shall have minimum 25 mm folding when measured from outside.

5.2 The bottom of Urea/Imported Urea/Neem coated Urea/Technical Grade Urea bags shall have one fold (4 layers) whereas for SSP/Imported DAP/Imported MOP Bags, bottom of bag shall have two fold (6 layers).

5.3 The bag shall be stitched at the bottom with two rows of chain stitches. The materials used for stitching shall be HDPE tape having atleast 20 percent higher denier than that used for making the sack. The stitching shall be uniform without any loose thread or knot. Stitching tape / thread at bottom of bags should be of red colour for all types of bags.

5.4 The distance between the rows shall be minimum 5 mm. The outer row shall be minimum 8 mm from the outer edge of the bottom of the bag.

5.5 The other details of stitching shall be as given below.

**6.0 STRENGTH:**
6.1 The minimum lengthwise and widthwise breaking strength of the samples drawn from the lot of laminated bags shall be as follows:

- Lengthwise: Minimum 68 kgf.
- Widthwise: Minimum 85 kgf.
- Widthwise at lamination joint: Minimum 85 kgf.

6.2 Breaking strength of the bottom seam shall be minimum 31 kgf.

6.3 The elongation of the laminated fabric, while testing both lengthwise and widthwise breaking strength shall not be less than 15% and more than 25%.

7.0 MESH, DENIER AND WEIGHT

7.1 Mesh and Denier: The bags shall be 10 x 10 mesh with minimum 2.5 mm tape width. The bags shall have close weaving. The denier of the tape used for fabric shall be 1000 denier for all types of bags.

7.2 Weight of the bag shall be as given.

8.0 MOUTH OF BAG

8.1 The mouth of the bag shall be selvedged hammed or heat cut so that the tapes do not fray.

9.0 BRANDING

9.1 The HDPE bag shall be branded by printing in fast colour as per printing matter furnished by GNFC from time to time. The colour shall not fade on 24 hr. Exposure to a 50% solution of Alkali and / or a 50% solution of Urea / SSP / Imported DAP / Imported MOP. The branding shall be as per the art work and colour scheme or sample HDPE bag provided by GNFC from time to time. Branding by flexoprinting is required. All the necessary changes in branding incorporated during the course of contract shall be included by vendor without any extra cost. 6” clear space should be available from top of bag before printing starts. In other words, printing in each type of bag will start leaving 6” space from mouth of bag.

9.2 The ink and the other ingredients to be used for such printing shall be waterproof, scratchproof, and harmless to fabric and shall be of sack branding quality manufactured by reputed firms. The ink used shall give smudge free, indelible and clean marking. Only Polyamide Resin based ink shall be used and only Butanol shall be used as reducing agent.
9.3 The ink of only reputed manufacturer should be used for printing on bag. Ink of reducer ratio will be 1: to 0.5 (i.e. for 1 kg ink reducer shall be used upto 0.5 kg limit). Colour shade ref. Hindustan Ink shed No.HL:4392 (New Ref.HL-94017 GNFC Red).

Bags with colour back impression will not be acceptable. Colour should not fade during handling and transportation of bags to various locations. Bag supplier at his option can use any good quality ink but shade approval / ink quality approval is required before bulk supply of bags.

9.4 Each bag for identification shall be marked with party’s code, year, month and lot number on the bottom right hand corner. Example: If you supply 2 lots in July-13 & 2 lots in Aug-13 it should be printed as:

- Party’s code : 13/07/1
- Party’s code : 13/07/2
- Party’s code : 13/08/1
- Party’s code : 13/08/2

Minimum lot should be 10000 nos. Bag/supply should be in multiple of 500 nos.

9.5 For identification of the supplier, code no. shall be printed on each bag at the right hand corner. Code no. shall be specified by GNFC at the time of placement of order. You will use capital letters for code no. given to you instead of using your company monogram.

9.6 Test procedure and details for branding shall be as follows:

The HDPE bag branding testing has been indicated at sr.no.9.1 above. GNFC recommends that the supplier should test the quality of branding as per the procedure narrated below, prior to despatch of the lot.

**TESTING PROCEDURE**

a. Prepare 50% Alkali solution by dissolving 250 Gram of sodium Hydroxide (Caustic Soda) in 1 / 2 Liter water (preferably distilled water). This is solution ‘A’.

b. Prepare a 50% Urea/SSP/Imported DAP/Imported MOP solution by dissolving 250 Gram of product in 1 / 2 liter water (preferably distilled water). This is solution ‘B’.
c. Cut three strips measuring 3 cm x 15 cm each from branded portion of the HDPE bag.

i. Take two glass measuring cylinder with capacity 250 ml. Take solution “A” in one and solution “B” in another cylinder and dip one strip in each. Let these strips be dipped for 24 hours. Keep the third strip in air for reference.

ii. After 24 hours, the strips are to be removed from the solutions, thoroughly washed with water and dried in air, the colour of the strips should not fade as compared to the original strip kept in air.

9.7 Colour for branding of bags and identification strips for bags shall be as given below.

**10.0 PACKING**

10.1 The bags shall be flat packed in trusses containing 500 nos. in each truss.

10.2 The trusses shall be wrapped with a HDPE of 6.1/2 to 7 oz and stitched properly to withstand the hazards of transportation and storage.

10.3 Each truss shall be having following marking:

- Name of the supplier
- Type of bags and size
- Weight of truss and no. of bags in truss
- Sr. No. of truss
- Lot No.
- Purchase Order No.

If during receipt at GNFC site, the supplier is found to make a lapse on the above respect, such lot shall be rejected and returned to party without any notice.

10.4 Each lot despatched should contain minimum quantity of 10,000 nos. of HDPE bags. 500 BAGS SHALL BE PACKED IN A BALE. The Bales selected on random basis will be counted for number of bags in a bale.

If any shortages found in bales, entire lot will be counted at the cost of party. If repeated and heavy shortages found from lots supplied, GNFC will terminate contract during its validity and disqualify vendor from approved vendor list. The amount will be recovered for the shortages found in the lot from due
payments/Security deposit. The counting procedure will be as per norms fixed by GNFC from time to time.

**11.0 INSPECTION AND TESTING**

11.1 Over and above all relevant IS specifications including following shall be followed

(a) IS 6192  
(b) IS 9755

11.2 Inspection shall be carried out by GNFC and / or by agency nominated by GNFC at GNFC works and / or at Manufacturer’s works as per the convenience of GNFC. However, inspection carried out by GNFC at GNFC site shall be final and binding.

11.3 The Acceptance and Penalty Norms for Bags is placed at Annex-6. The suppliers are required to study the same. Any deviations to the same are not acceptable. Please categorically confirm in your offer that the same are studied and are accepted without any deviation.

11.4 Whenever re-inspection of Bags/Lot is necessary after the segregation, the re-inspection charges would be levied to party’s account as under:

<table>
<thead>
<tr>
<th>Initial (first) inspection</th>
<th>Rs.1000/- per lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>First re-inspection</td>
<td>Rs.1000/- per lot</td>
</tr>
<tr>
<td>Second re-inspection</td>
<td>Rs.2500/- per lot</td>
</tr>
<tr>
<td>Third re-inspection</td>
<td>Rs.5000/- per lot</td>
</tr>
</tbody>
</table>

In case the lot still becomes unacceptable, the bags will have to be taken back by the supplier at its cost after cross marking by GNFC on entire quantity of the lot.

**(B) SPECIFICATIONS FOR LAMINATED HIGH DENSITY POLYETHYLENE CIRCULAR WOVEN BAGS.**

<table>
<thead>
<tr>
<th>SR NO</th>
<th>PARAMETER</th>
<th>PLANT UREA / NEEM COATED UREA / TECHNICAL GRADE UREA / IMPORTED UREA</th>
<th>SSP</th>
<th>IMPORTED MOP</th>
<th>IMPORTED DAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Packing(kg)</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>2</td>
<td>Size and minimum area</td>
<td>915 mm +/- 10mm</td>
<td>864 mm +/- 10mm</td>
<td>815 mm +/- 10mm</td>
<td>915 mm +/- 10mm</td>
</tr>
<tr>
<td>No.</td>
<td>Description</td>
<td>Length (mm)</td>
<td>Width (mm)</td>
<td>Inside Area (m²)</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>-------------</td>
<td>-------------</td>
<td>------------</td>
<td>------------------</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>of bags</td>
<td>(length) x 610 +/− 10 mm width minimum inside area</td>
<td>0.558 m²</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>(length) x 560 +/− 10 mm width minimum inside area</td>
<td>0.484 m²</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>(length) x 560 +/− 10 mm width minimum inside area</td>
<td>0.456 m²</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(length) x 560 +/− 10 mm width minimum inside area</td>
<td>0.512 m²</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| 3   | Weight      |             |             |                  |
|     | (a) Weight of the individual bags (in gm) | 130 gm +/− 6% | 112 gm +/− 6% | 108 gm +/− 6% |
|     | (b) Average weight of samples drawn as per IS 9755 for inspection | 130 gm +/− 3% | 112 gm +/− 3% | 108 gm +/− 3% |

<p>| 4   | Tap width (in mm) | 2.5 | 2.5 | 2.5 | 2.5 |
| 5   | Mesh size       | 10 x10 | 10 x10 | 10 x10 | 10 x10 |
| 6   | Denier         | 1,000 | 1,000 | 1,000 | 1,000 |
| 7   | Lamination: bags laminated with LDPE film of uniform thickness. | 100 g min | 100 g min | 100 g min | 100 g min |
| 8   | Colour of stitching thread of bottom of bag | red colour | red colour | red colour | Red colour |
| 9   | Nos. of stitches per dm (chain stitches) | 12 +/- 2 | 12 +/- 2 | 12 +/- 2 | 12 +/- 2 |
| 10  | Minimum Distance between two rows. | 5 MM | 5MM | 5MM | 5MM |
| 11  | Minimum Distance from outer edge. | 8 MM | 8 MM | 8 MM | 8 MM |</p>
<table>
<thead>
<tr>
<th>12</th>
<th>Bottom Folding</th>
<th>Bag shall be folded in 4 layers outside minimum 25 MM and stitching shall pass through</th>
<th>Bag shall be folded in 6 layers outside minimum 25 MM and stitching shall pass through</th>
<th>Bag shall be folded in 6 layers outside minimum 25 MM and stitching shall pass through</th>
<th>Bag shall be folded in 6 layers outside minimum 25 MM and stitching shall pass through</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>Minimum Breaking strength (in KGF)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>Widthwise</td>
<td>85</td>
<td>85</td>
<td>85</td>
<td>85</td>
</tr>
<tr>
<td>B</td>
<td>Widthwise at lamination joint</td>
<td>85</td>
<td>85</td>
<td>85</td>
<td>85</td>
</tr>
<tr>
<td>C</td>
<td>Lengthwise</td>
<td>68</td>
<td>68</td>
<td>68</td>
<td>68</td>
</tr>
<tr>
<td>14</td>
<td>Minimum Bottom seam Strength (in KGF)</td>
<td>31</td>
<td>31</td>
<td>31</td>
<td>31</td>
</tr>
<tr>
<td>15</td>
<td>% Elongation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>Widthwise</td>
<td>15 to 25</td>
<td>15 to 25</td>
<td>15 to 25</td>
<td>15 to 25</td>
</tr>
<tr>
<td>B</td>
<td>Lengthwise</td>
<td>15 to 25</td>
<td>15 to 25</td>
<td>15 to 25</td>
<td>15 to 25</td>
</tr>
<tr>
<td>16</td>
<td>Colour of printing</td>
<td>Post office red and black</td>
<td>Post office red and Blue</td>
<td>Post office red and Black</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Printing</td>
<td>The printing will be on <strong>Single side</strong> of bags as per the art work given by GNFC. The supplier shall have to obtain sample approval for the colour used and printing matter before bulk supply. The location of printing, the “manufacture month, year, lot no. and manufacture’s code” will be on right hand side. Printing of supplier’s logo (except vendor code allotted) is not permitted. These details will be in the letter size of 12 mm height only. The printing matter layout should be exactly as per the sample transparency (supplied to vendor) in terms of total matters including font type size, logo size spacing of letters, spacing of words, spacing of lines and overall size / dimensions of the printing matter.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Drop test from height of 2 meters from all side (4 drops per bag)</td>
<td>(1) No bags should rupture when subjected to minimum 4 nos. of Drops.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(2) The bags during drop tests will be dropped on the stomach.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Appearance of bag and use of master batch</td>
<td>Appearance of all the types of bags should be yellow for Neem coated urea and milky white with blue tone for other types of bags. Hence necessary quantity of master batch shall be used during manufacturing of HDPE tape and also during lamination of fabric. Vendor to submit sample before bulk supply for approval of appearance of bag (i.e. Approval of bag for yellow/milky whiteness with blue tone appearance).</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 19| Identification strips | HDPE bag fabric will be woven with identification strips, lengthwise consisting of 5 tapes in red colour outside followed by 5 tapes of green colour inside. These strips shall be on all the types of bags. Red colour of identification strips should match with red colour of ink used for printing. Identification strips shall be placed 15 mm from the edge of the bag and should evenly match on both
<table>
<thead>
<tr>
<th>20</th>
<th>GNFC Logo</th>
<th>The logo in all the type of bags should be in postal red colour</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>Printing matter uniformity</td>
<td>In all the bags, vendors should maintain the uniformity in writing Hindi, Gujarati and English versions of printing matter. Printing matter approval is required before bulk supplies. 6” clear space should be available from top of bag before printing starts. In other words, printing in each type of bag will start leaving 6” space from mouth of bag.</td>
</tr>
<tr>
<td>22</td>
<td>Performance of bags during actual use / bursting</td>
<td>During actual use of bags in bagging plant, bags should give satisfactory performance. GNFC reserves right to reject entire lot if excessive bursting (Beyond 0.10%) is found during use of bags. For such rejected lot, recovery shall be made from any due payment of party.</td>
</tr>
</tbody>
</table>

(C) GENERAL SPECIFICATION FOR LAMINATED ANP HDPE BAGS WITH LDPE / LLDPE LINER AND LAMINATED CAN HDPE BAGS WITH LDPE / LLDPE LINER

1.0 GENERAL:
The supplier shall manufacture and supply Laminated HDPE bags with LDPE / LLDPE liner for packing of ANP and CAN strictly conforming to the specifications as per details mentioned below:

1.1 HDPE bag (laminated) shall be made from HDPE woven fabric in circular looms (having no twisting of weft). The bag shall be without any side seam.

1.2 HDPE fabric will be woven with identification strips as per the details given here under.

1.3 ‘L’ stitched bags made of circular woven HDPE fabric shall not be accepted.

2.0 SIZE & CAPACITY
The size and capacity will be as per the details given here under.

2.1 Length and width both should not be short simultaneously. The dimensions of bags shall be within tolerance as per the details given here under and within specified limit of minimum inside area.
3.0 **FABRIC**

3.1 The fabric shall be woven from HDPE tapes conforming to IS 6192 (Latest) and shall be free from all major weaving defects like pick points, missing tapes etc. and it shall be free from biasness also.

3.2 The construction of the HDPE fabric and identification strips shall be as per the details given in Part-B here under

3.3 The laminated HDPE bag shall be made from single piece of bright white HDPE woven fabric. The appearance of bag shall be Milky white with Blue tone. Required quantity of correct quality of Master Batch should be used for Milky white with Blue tone appearance of the fabric and Bag.

3.4 **Calcium Carbonate (CaCo3) Content Limit:**

Maximum limit of CaCo3 allowed is 10% (Ash Content 6%). In case test result exceeds CaCo3 limit of 10% (Ash Content 6%), the lot is to be accepted up to 12% Calcium Carbonate content (7% Ash content) with applying penalty at the rate double by which Calcium Carbonate content is higher than 10% (Ash Content 6%). If test result exceeds 12% of Calcium Carbonate content (Ash Content 7%), the lot is to be rejected.

In case there are more than two incidents of CaCo3 exceeding 12% (Ash Content 7%), the supplier will be put in holiday list.

Testing will be done by GNFC In-house as per IS 13360.

4.0 **LAMINATION**

4.1 The bags shall be inside laminated with direct application of minimum 100 gauge of virgin quality low density polyethylene (LDPE) film in a lamination plant. The lamination shall be free from Pinholes, Porosity, Tears, Patches, Air pockets, Blisters or any other visible defects.

4.2 The thickness of the lamination shall be minimum 100 gauge (25 micron) with a tolerance of + 10%. No negative tolerance is acceptable.

4.3 The lamination shall cover the entire inner area of the fabric used in the bag.
4.4 The fabric shall be laminated on both the layer of fabrics and then shall be inverted. While laminating minimum overlap of 10 mm shall be provided on the edge of lamination.

4.5 The vendor before despatching the laminated bags should ensure the quality of lamination. Any lamination failure at GNFC during sample testing or during use of bags if noticed, the entire lot of bags shall be rejected and unused bags shall be cross marked. Payment shall be recovered from any pending bills.

4.6 During lamination of HDPE fabric, required quantity of Master batch shall be used to give Milky white with Blue tone appearance to Bag.

5.0 LDPE Liner : LDPE / LLDPE liner thickness, size, other details shall be as per as per the details given here under. The loose liner material should be of the given composition fully transparent quality. Any material which is semi transparent / non transparent which causes problems in heat sealing and same will be rejected. The liner material should not be sticky and should not cause problems in opening mouth easily.

6.0 STITCHING

6.1 The bottom of the bag shall have minimum 25 mm folding when measured from outside. The bottom fold shall always be on the opposite side of printing made on the bag.

6.2 The bottom of ANP and CAN bags shall have one fold (4 layers).

6.3 The bag shall be stitched at the bottom with two rows of chain stitches. The materials used for stitching shall be Red colour HDPE tape having atleast 20 percent higher denier then that used for making the sack. The stitching shall be uniform without any loose thread or knot. The LDPE liner shall be heat sealed and stitched with HDPE fabric as per the details given here under. Stitching tape / thread at bottom of bags should be of red colour for CAN and ANP bags.

6.4 The distance between the rows shall be minimum 5 mm. The outer row shall be minimum 8 mm from outer edge of the bottom of the bag.

6.5 The other details of stitching shall be as per the details given here under.

7.0 STRENGTH :

7.1 The minimum lengthwise and widthwise breaking strength of the samples drawn from the lot of laminated bags shall be as follows:
• Lengthwise : Minimum - 68 kgf.
• Widthwise : Minimum - 85 kgf.
• Widthwise at lamination joint : 85 kgf.

7.2 Breaking strength of the bottom seam shall be minimum 31 kgf.

7.3 The elongation of the fabric, while testing both lengthwise and widthwise breaking strength shall not be less than 15% and more than 25%

8.0 MESH, DENIER AND WEIGHT

8.1 Mesh and Denier : The HDPE bags shall be with 10 x 10 mesh with minimum 2.5 mm tape width. The bags shall have close weaving. The denier of the tape used for HDPE fabric shall be 1000 denier.

8.2 Weight of the bag shall be as per the details given here under.

9.0 MOUTH OF BAG

9.1 The mouth of the HDPE bag shall be selvedged hammed or heat cut so that the HDPE tapes do not fray.

10.0 BRANDING

10.1 The HDPE bag shall be branded by printing in fast colour (Both ANP and CAN Single side printing). The colour shall not fade on 24 hr. exposure to a 50% solution of Alkali and / or a 50% solution of ANP/CAN. The branding shall be as per the art work and colour scheme or sample HDPE bag provided by GNFC from time to time. Branding by flexoprinting is required. All the necessary changes in branding incorporated during the course of contract shall be carried out without any extra cost to GNFC. 6” clear space should be available from top of bag before printing starts. In other words, printing in each type of bag will start leaving 6” space from mouth of bag.

10.2 The ink and the other ingredients to be used for such printing shall be waterproof, scratchproof, and harmless to fabric and shall be of sack branding quality manufactured by reputed firms. The ink used shall give smudge free, indelible and clean marking. Only Polyamide Resin based ink shall be used and only Butanol shall be used as reducing agent.
10.3 The ink of only reputed manufacturer should be used for printing on bag. Ink to reducer ratio will be 1: to 0.5 (i.e. for 1 kg ink reducer shall be used upto 0.5 kg limit). Colour shade ref. Hindustan Ink shed No.HL:4392 (New Ref. HL-94017 GNFC Red).

Bags with colour back impression will not be acceptable.

Bag supplier at his option can use any good quality ink but shade approval/ ink quality approval is required before bulk supply of bags.

10.4 Each bag for identification shall be marked with party’s code, year, month and lot number on the bottom right hand corner.

Example: If vendor supply 2 lots in JULY-2013 & 2 lots in AUGUST-2013, it should be printed as under :

- Party’s code 13/07/1
- Party’s code 13/07/2
- Party’s code 13/08/1
- Party’s code 13/08/2

Minimum lot should be 10000 nos. Bag / supply should be in multiple of 500 nos.

10.5 For identification of the supplier, code no. shall be printed on each bag at the right hand corner. Code no. shall be specified by GNFC at the time of placement of order. Please print code no. in capital letters only and do not use your Company monogram.

10.6 Test procedure and details for branding shall be as follows:

The HDPE bag branding testing has been indicated at Sr. No. 10.1 above. GNFC recommends that the supplier should test the quality of branding prior to despatch of the lot as per the procedure narrated below :

**TESTING PROCEDURE**

a. Prepare 50% Alkali solution by dissolving 250 Gram of sodium Hydroxide (Caustic Soda) in 1 / 2 Liter water (preferably distilled water). This is solution ‘A’.
b. Prepare a 50% ANP /CAN solution by dissolving 250 Gram of ANP or CAN as the case may be in 1 / 2 liter water (preferably distilled water). This is solution ‘B’.

c. Cut three strips measuring 3 cm x 15 cm each from branded portion of the HDPE bag.

i. Take two glass measuring cylinder with capacity 250 ml. Take solution ‘A’ in one and solution “B” in another cylinder and dip one strip in each. Let these strips be dipped for 24 hours. Keep the third strip in air for reference.

ii. After 24 hours the strips are to be removed from the solutions, thoroughly washed with water and dried in air, the colour of the strips should not fade as compared to the original strip kept in air.

10.7 Colour for branding of bags and identification strips for bag shall be as per the details given here under.

11.0 PACKING :

11.1 The bags shall be flat packed in trusses containing 500 nos. in each truss.

11.2 The trusses shall be wrapped with a HDPE cloth of 6.1 /2 to 7 oz and stitched properly to withstand the hazards of transportation and storage.

11.3 Each truss shall be having following marking :

   o Name of the supplier
   o Type of bag and size
   o Weight of truss and no. of bags in truss
   o Sr. No. of truss
   o Lot No.
   o Purchase Order No.

   If during receipt at GNFC site, the supplier is found to make a lapse on the above respect, such lot shall be rejected and returned to party at its cost without any notice.

11.4 Each lot despatched should contain minimum quantity of 15,000 nos. of HDPE bags. 500 BAGS SHALL BE PACKED IN A BALE. The Bales selected on random basis will be counted for number of bags in a bale.
If any shortages found in bale, entire lot will be counted at the cost of party. If repeated and heavy shortages found from lots supplied, GNFC will terminate contract during its validity and disqualify vendor from approved vendor list. The amount will be recovered for the shortages found in the lot from due payments. The counting procedure will be as per norms fixed by GNFC from time to time.

12.0 **INSPECTION AND TESTING**

12.1 Over and above all relevant IS specifications including following shall be followed:
   (a) IS 6192  
   (b) IS 9755

12.2 Inspection shall be carried out by GNFC and / or by agency nominated by GNFC at GNFC works and / or at Manufacturer’s works as per the convenience of GNFC. However, inspection carried out by GNFC at GNFC site shall be final and binding.

12.3 The Acceptance and Penalty Norms for Bags is given in Annex-6. Vendor is required to study the same. Any deviations to the same are not acceptable. Vendor confirms that same are studied by them and are accepted without any deviation.

12.4 Whenever re-inspection of Bags / Lot is necessary after the segregation, the re-inspection charges would be levied to party’s account as under:

   - Initial (first) inspection: Nil
   - First re-inspection: Rs.1000/- per lot
   - Second re-inspection: Rs.2500/- per lot
   - Third re-inspection: Rs.5000/- per lot

In case the lot still becomes unacceptable, the bags will have to be taken back by the supplier after cross marking by GNFC on entire quantity of the lot.

**(D) SPECIFICATION FOR LAMINATED ANP HDPE BAGS WITH LDPE / LLDPE LINER AND LAMINATED CAN HDPE BAGS WITH LDPE / LLDPE LINER**

**(I) HDPE BAG (LAMINATED)**

<table>
<thead>
<tr>
<th>SR NO</th>
<th>PARAMETER</th>
<th>ANP</th>
<th>CAN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>1</td>
<td>PACKING (KG)</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>2</td>
<td>Size when measured from inside of inner most raw of stitch</td>
<td>815 mm +/- 10mm (length) X 560 mm +/- 10 mm (width) Minimum inside area 0.456 Sq. Mtr.</td>
<td>890 mm +/- 10 mm (length) X 560 mm +/- 10 mm (width) Minimum inside area 0.4984 Sq. Mtr.</td>
</tr>
<tr>
<td>3</td>
<td>Weight</td>
<td>110 GM +/- 6%</td>
<td>110 GM +/- 3%</td>
</tr>
<tr>
<td></td>
<td>Weight of the individual bags (in gm)</td>
<td>110 GM +/- 6%</td>
<td>110 GM +/- 3%</td>
</tr>
<tr>
<td></td>
<td>Average weight of samples drawn as per IS 9755 for inspection</td>
<td>121 GM +/- 6%</td>
<td>121 GM +/- 3%</td>
</tr>
<tr>
<td>4</td>
<td>Tap width (in mm)</td>
<td>2.5</td>
<td>2.5</td>
</tr>
<tr>
<td>5</td>
<td>Mesh size</td>
<td>10 x 10</td>
<td>10 x 10</td>
</tr>
<tr>
<td>6</td>
<td>Denier</td>
<td>1,000</td>
<td>1,000</td>
</tr>
<tr>
<td>7</td>
<td>Lamination</td>
<td>Laminated with 100 G LDPE</td>
<td>Laminated with 100 G LDPE</td>
</tr>
<tr>
<td>8</td>
<td>Colour of stitching thread at bottom of bag</td>
<td>Red Colour</td>
<td>Red Colour</td>
</tr>
<tr>
<td>9</td>
<td>Nos. of stitches per DM (chain stitches)</td>
<td>12 +/- 2</td>
<td>12 +/- 2</td>
</tr>
<tr>
<td>10</td>
<td>Minimum distance between two rows</td>
<td>5 mm</td>
<td>5 mm</td>
</tr>
<tr>
<td>11</td>
<td>Minimum distance from outer edge</td>
<td>8 mm</td>
<td>8 mm</td>
</tr>
<tr>
<td>12</td>
<td>Bottom folding</td>
<td>Bag shall be folded in 4 layers outside minimum 25 mm and stitching shall pass through all four layers of fabrics</td>
<td>Bag shall be folded in 4 layers outside minimum 25 mm and stitching shall pass through all four layers of fabrics.</td>
</tr>
<tr>
<td>13</td>
<td>Minimum breaking strength (in kgf)</td>
<td>(A) Widthwise 85</td>
<td>(A) Widthwise 85</td>
</tr>
<tr>
<td></td>
<td>(B) Widthwise at lamination joint 68</td>
<td>(B) Widthwise at lamination joint 68</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(C) Lengthwise 68</td>
<td>(C) Lengthwise 68</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Minimum bottom seam strength (in kgf)</td>
<td>31</td>
<td>31</td>
</tr>
<tr>
<td>15</td>
<td>% Elongation</td>
<td>(A) Widthwise 15 to 25</td>
<td>(A) Widthwise 15 to 25</td>
</tr>
<tr>
<td></td>
<td>(B) Lengthwise 15 to 25</td>
<td>(B) Lengthwise 15 to 25</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Colour of printing</td>
<td>Post office Red and Black</td>
<td>Post office Red and Green</td>
</tr>
</tbody>
</table>
The supplier shall have to obtain sample approval for the colour used and printing matter before bulk supply.

17. For ANP & CAN bags, printing will be on **Single side** of bags as per the printing matter provided by GNFC.

18. Drop test will be taken from height of 2 meters from all side (4 drops for bag)
   
a. No bag should rupture when subjected to minimum four number drops.

b. The bags during drop tests will be dropped on the stomach.

19. **APPEARANCE OF BAG AND USE OF MASTER BATCH**

   Appearance of all the types of bags should be Milky white with blue tone hence necessary quantity of master batch shall be used during manufacturing of HDPE tape and also during lamination of fabric.

   Vendor to submit sample before bulk supply for approval of appearance of bag. (i.e. Approval of bag for Milky whiteness with blue tone appearance).

20. **IDENTIFICATION STRIPS:**

   HDPE bag fabric will be woven with identification strips, lengthwise on both sides (front as well as back) consisting of 5 tapes in red colour outside followed by 5 tapes of green colour inside. These strips shall be on both (ANP/CAN) types of bags.

   Red colour of identification strips should match with red colour of ink used for printing. Identification strips shall be placed 15 mm from the edge of the bag and should evenly match on both sides. Vendor should take prior approval of samples before bulk supply. Stitching threads at the bottom of bags should be red colour in all types of bags and colour of the threads should be identical to the colour of ink (postal red) used for printing.

21. **GNFC Logo:** The logo in all the type of bags should be in postal red colour.

22. **PRINTING MATTER & ITS UNIFORMITY:**

   The printing matter should be as per above clause no.17. The location of printing, the manufacturing month, year, lot no., and manufacturer’s code will be on the right hand side. Printing of supplier’s logo (except vendor code allocated) is not permitted. These details will be in the letter size of 12mm height only. The printing
matter lay out should be exactly as per the transparency (supplied to vendor) in terms of total matters including font type, size, logo size, spacing of letters, spacing of words, spacing of lines and overall size / dimensions of printing matters.

In all the bags, vendors should maintain the uniformity in writing Hindi, Gujarati and English versions of printing matter.

Printing matter approval is required before bulk supplies. 6” clear space should be available from top of bag before printing starts. In other words, printing in each type of bag will start leaving 6” space from mouth of bag.

Performance of bags during actual use / bursting:

While actual use of bags during bagging operations, if performance of bags is not found satisfactory, lot will be rejected and returned to party. For such rejected bags, recovery shall be made from due payment to party. If bursting is found beyond 0.10% , lot will not be used and same will be rejected. Recovery for such lot found with excessive bursting will be made from due payment of party.

(II) SPECIFICATION FOR ANP HDPE BAG WITH LDPE/LLDPE LINER

Liner for ANP : Liner shall be made from following grade of IPCL grade LDPE / LLDPE

A. LDPE -Grade 24FS040 : 70 %
B. LLDPE-Grade LL 20FS010 : 30 %

SIZE : 967 +/- 10 mm x 585 +/- 10 mm (excluding of liner used in folding and stitching).

Important Note:

(i) Above dimensions will be measured from inside of inner most row of stitches to top of bag and liner must be minimum 152 mm longer than the bag size in length (i.e. Liner shall be projected minimum 6” outside HDPE bags).

(ii) The liner length used in folding / stitching portion is not taken into account by us while working out above mentioned size of liner.

   a. Thickness of liner : 50 micron +/- 10%
   b. Minimum weight of individual liner : 54 gram +/- 10%
c. Holes on liner: 6 to 7 nos. of holes of 2 to 4 mm dia. on the periphery of liner will be made at a distance of about 28” from the bottom.
d. Liner should be heat sealed at the bottom and should be stitched with HDPE fabric from 1” from the heat seal. It means after heat sealing the LDPE liner, the remaining liner should be stitched maximum 1” from the heat sealed strips.

C. TOTAL WEIGHT OF INDIVIDUAL BAG OF ANP WILL BE AS UNDER:
- HDPE bag: 110 Gram +/- 6%
- LINER: 54 Gram +/- 10%
- Total Weight: (HDPE bag + LDPE / LLDPE Liner): 164 Gram +/- 8%

(III) SPECIFICATION FOR CAN HDPE BAG WITH LDPE/LLDPE LINER

LDPE / LLDPE Liner for CAN:

Liner for CAN: Liner shall be made from following grade of IPCL grade LDPE / LLDPE

A. LDPE - Grade 24FS040: 70%
B. LLDPE - Grade LL 20FS010: 30%

SIZE: 1040 +/- 10 mm x 585 +/- 10 mm (excluding of liner used in folding and stitching.)

Important Note:

i. Above dimensions will be measured from inside of inner most row of stitches to top of bag and liner must be minimum 152 mm longer than the bag size in length (i.e. Liner shall be projected minimum 6” outside HDPE bags).

ii. The liner length used in folding / stitching portion is not taken into account by us while working out above mentioned size of liner.

a. Thickness of liner: 50 micron +/- 10%
b. Minimum weight of individual liner: 58 gram +/- 10%
c. Holes on liner: 6 to 7 nos. of holes of 2 to 4 mm dia. on the periphery of liner will be made at a distance of about 31” from the bottom.
d. Liner should be heat sealed at the bottom and should be stitched with HDPE fabric from 1” from the heat seal. It means after heat sealing
the liner, the remaining liner should be stitched maximum 1” from the heat sealed strips.

C. TOTAL WEIGHT OF INDIVIDUAL BAG OF CAN WILL BE AS UNDER:

- HDPE bag : 121 Gram +/- 6%
- LINER : 58 Gram +/- 10%

Total Weight : (HDPE bag + LDPE / LLDPE Liner ) : 179 Gram +/-8%

(E) ACCEPTANCE AND PENALTY NORMS FOR PLANT UREA / NEEM COATED UREA / IMPORTED UREA / SSP / DAP/ MOP BAGS

<table>
<thead>
<tr>
<th>SR NO</th>
<th>NAME OF DEFECT</th>
<th>CRITERIA FOR ACCEPTANCE</th>
<th>NORMS FOR PENALTY</th>
</tr>
</thead>
</table>
| 1A    | PHYSICAL DEFECTS: Skipped branding improper logo, hook cuts, rope cuts, pin holes, back impression, weaving defects, printing mistakes, skipped or defective bottom stitching. | (A) If such defects are observed within 10% of inspected bags, then lot shall be accepted. (B) If defects are observed in more than 10% of inspected bags, party shall be asked for segregation of the defective bags at GNFC site. (C) The No. of defects during inspection after segregation shall not exceed 10% of inspected bags, otherwise party shall be asked for resegregation of the defective bags at GNFC site. (D) In case during bagging, if segregated lot gives problem of stretching/bursting, then the entire lot shall be rejected and returned to the party with Cross (’X’) marking on each bag. | Re-inspection charges shall be as under :

**Per lot**
- First Re-inspection : Rs. 1000/-
- Second Re-inspection : Rs. 2500/-
- Third Re-inspection : Rs. 5000/-

In case the lot still becomes unacceptable after 3 segregations, entire lot quantity will be cross marked and will be returned back to party at vendor’s cost. |
| 1B    | Lamination Defects : (Delamination, skipped lamination). TYPE OF BOTTOM FOLDING: (I) Urea bag Single fold. (Four layers) (II) SSP/Imp. DAP/ Imp. MOP Double folds (six layers) | | |
| 2     | COLOUR FADING: Printing ink, colour shade of ink , colour | (1) Colour shade of printing matter shall be strictly as specified. | (1) In case of variation in colour shade : |
(2) Colour fading for the ink used shall not be acceptable.

(3) Ink to reducer Ratio shall be maintained as under:

Ink to reducer ratio: 1: upto 0.5 will be the acceptance limit.

(4) Bag sample will be tested in ALKALI, UREA/DAP/MOP solution to check for colour fading.

(a) If colour shade variation is minor (nearby to acceptable) then lot shall be accepted with penalty @ Re.0.25 per bag.

(b) In case of vide variation in colour, the lot shall be rejected and returned with cross marking.

(c) In case of colour fading in Alkali and in product solution, penalty @ Re.0.25 per bag will be levied at the discretion of GNFC.

(2) Acceptance of above defects with penalty will be for one time only in entire contract period and thereafter lots will not be accepted for defects of colour fading /shade difference and will be returned to party with cross marking.

| 3 | No of stitches per DM (12 +/- 2) : (GNFC Spec.) | (A) The defective bags shall be accepted one time in contract period provided seam strength is within acceptable limit after warning to party. Such defects should not be repeated in further lots supplied.  
(B) In case during bagging, if lot gives problem of stretching / bursting, then the entire lot shall be rejected and returned to the party with ‘X’ marking on each bag and payment recovery of such rejection shall be made from due bills. |  

<table>
<thead>
<tr>
<th></th>
<th>MESH SIZE - DENIER AND TAPE WIDTH</th>
<th></th>
</tr>
</thead>
</table>
| 4 | *(A) The bags upto mesh size of 9.5 x 9.5 lot shall be accepted against specified limit of 10 x 10 mesh.*  

*(B) If the mesh size is below 9.5 x 9.5 against specification of 10 x 10 mesh, lot shall be rejected and shall be returned to the party with “X” marking on each bag.* |   |

<table>
<thead>
<tr>
<th></th>
<th>WEIGHT OF BAG (IN GRAM)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td><em>(Plant Urea/Neem coated Urea/Technical Grade Urea/Imp. Traded Urea / Imp. DAP /SSP Bags / Imp.MOP bags)</em></td>
<td></td>
</tr>
</tbody>
</table>
|   | *(A1) On individual bag: +/- 6%*  

*(A2) Average weight of samples drawn as per IS 9755 for inspection: +/- 3%*  

*(B) If average weight as per (A2) is upto -3% and weight of individual sample bag is within +/- 6% limit lot shall be accepted.*  

*(C) If average weight as per (A2) is found below -3% but upto limit of -5% and if individual sample bag is within +/- 6% limit, lot shall be accepted with penalty. The penalty as mentioned in ‘C’ above shall be levied on entire lot quantity.*  

*(D) If average weight as per (A2) is found less than -5%, or any individual bags found less than -6%, then lot shall be given for segregation at GNFC site for removal of defective bags. Such segregation would be allowed maximum 3 times per lot. Even after three segregations, if lot is not passing, it will be rejected and returned to party with “X” marking.* | *(I) penalty shall be 10 paise /Gram/Bag from ‘O’ value and shall be on total quantity of lot.*  

*(II) Re-inspection charges shall be as under:*  

*Per lot*  

*First Re-Inspection: Rs.1000/-*  

*Second Re-Inspection: Rs.2500/-*  

*Third Re-Inspection: Rs.5000/-*  

*In case the lot still becomes unacceptable after 3 segregations, entire lot quantity will be cross marked and*
| 6 | SIZE OF HDPE BAG | (A) The tolerance in length and width will be allowed +/- 10 mm. However, length and width both should not be short simultaneously and minimum area as mentioned in enquiry specifications should be available in defective bag.  
(B) If size of bag/ minimum area of bag is not within specified norms in more than 10% of sampled bags, then lot will be given for segregation of removal of defective bags. Such segregation will be allowed maximum 3 times per lot. Even after three segregations, if lot is not passing, it will be rejected and returned to party with cross marking.  
will be returned back to party. |
|---|---|---|
| 7 | BREAKING STRENGTH (I) WIDTHWISE : 85 KGF MINIMUM 2 samples will be cut from each bag to be tested destructively as per IS-9755. | (A) Testing / acceptance shall be as per IS 9755 latest.  
If lot is getting rejected as per this provision, it will be returned to vendor with cross marking.  
(B) If widthwise strength of individual bag is between 76.5 kgf. to 85 kgf. (or more) and average of all inspected bags (for strength) is 85 kgf or more, then lot shall be accepted.  
(C) If average strength (widthwise) is between 82 to 85 kgf and no individual bag is less than 76.5 kgf, lot shall be accepted with penalty.  
(D) If average widthwise breaking strength is below 82 kgf, the entire lot shall be rejected. Rejected lot shall be returned to the party with cross marking.  

Re-inspection charges shall be as under :  
Per lot  
First Re-Inspection : Rs. 1000/-  
Second Re-Inspection : Rs. 2500/-  
Third Re-Inspection : Rs. 5000/-  

In case the lot still becomes unacceptable after 3 segregations, entire lot quantity will be cross marked and will be returned to party.  
Penalty shall be :  
15 PAISE /KGF / BAG (On entire lot quantity) |
| (II) WIDTHWISE (at Lamination joint) : 85 KGF Minimum. 2 samples will be cut from each bag to be tested destructively as per IS-9755. | (E) If widthwise breaking strength of individual bag is below 76.5 kgf, the entire lot shall be rejected. Rejected lot shall be returned to the party with cross marking.  
(A) Testing / acceptance shall be as per IS 9755 latest.  
If lot is getting rejected as per this provision, it will be returned to vendor with cross marking.  
(B) If widthwise strength of individual bag is between 76.5 kgf. To 85 kgf. (or more) and average of all inspected bags (for strength) is 85 kgf or more, then lot shall be accepted.  
(C) If average strength (widthwise) is between 82 to 85 kgf and no individual bag is less than 76.5 kgf, lot shall be accepted with penalty.  
(D) If average widthwise breaking strength is below 82 kgf, the entire lot shall be rejected. Rejected lot shall be returned to the party with cross marking.  
(E) If widthwise breaking strength of individual bag is below 76.5 kgf, the entire lot shall be rejected. Rejected lot shall be returned to the party with cross marking.  
Penalty shall be : 15 paise /KGF/Bag (entire lot quantity) |
| (III) LENGTHWISE 68 KGF MINIMUM 2 samples will be cut from each bag to be tested destructively | (A) Testing / acceptance shall be as per IS 9755 latest.  
If lot is getting rejected as per this provision, it will be returned |
| **8** | **% ELONGATION** | **(A)** If % elongation (Lengthwise and widthwise) observed within the range of 15 to 25% then lot shall be accepted.  
(B) If percentage elongation is found below 15% but upto 13% then lot shall be accepted with penalty. Penalty shall be applied on entire lot. | **Penalty would be as under:**  
(A) For elongation below 15% but more than 14% : 20 paise per bag.  
(B) For elongation 13% to 14% : 30 paise per bag. |
| **9** | **DROP TEST:**  
Bag shall be dropped | **(A)** During the drop test, no sample bag shall rapture. | _ |
4 times from a height of 2 meters. The bag shall be dropped on stomach only.

(B) if during drop test, the bags are found to rapture, the lot shall be rejected and shall be returned with ‘X’ marking.

10 BURSTING RATE OBSERVED DURING THE USE OF BAG

(I) The lot during actual bagging operation if found with bursting rate exceeding limit of 0.10%, GNFC will not use such lots and same will be rejected and returned to vendor. In case lot exceeding the bursting rate beyond 0.10% and if used, GNFC will levy penalty at 3 times the actual cost of bags bursted.

(II) Lot giving problem of excessive bursting (beyond 0.10%) will be returned to vendor after cross marking.

(F) ACCEPTANCE AND PENALTY NORMS FOR CAN / ANP BAGS

<table>
<thead>
<tr>
<th>SR NO</th>
<th>NAME OF DEFECT</th>
<th>CRITERIA FOR ACCEPTANCE</th>
<th>NORMS FOR PENALTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A</td>
<td>PHYSICAL DEFECTS:</td>
<td>(A) If such defects are observed within 10% of inspected bags, then lot shall be accepted.</td>
<td>Re-inspection charges shall be as under</td>
</tr>
<tr>
<td></td>
<td>Skipping branding, improper logo, hook cuts, rope cuts, pin holes, back impression, weaving defects, printing mistakes, skipped or defective bottom stitching.</td>
<td>(B) If defects are observed in more than 10% of inspected bags, party shall be asked for segregation of the defective bags at GNFC site.</td>
<td>Per lot First Re-insp. : Rs.1000/-</td>
</tr>
<tr>
<td></td>
<td>Lamination Defects:</td>
<td>(C) The No. of defects during inspection after segregation shall not exceed 10% of inspected bags, otherwise party shall be asked for re-segregation of the defective bags at GNFC site.</td>
<td>Second Re-insp. : Rs.2500/-</td>
</tr>
<tr>
<td></td>
<td>(Delamination, skipped lamination).</td>
<td></td>
<td>Third Re-Ins. : Rs.5000/-</td>
</tr>
<tr>
<td>1B</td>
<td>TYPE OF BOTTOM FOLDING:</td>
<td></td>
<td>In case the lot still becomes unacceptable after 3 segregations, entire lot quantity will be cross marked and will be returned back to party.</td>
</tr>
<tr>
<td>1</td>
<td>(CAN /ANP BAGS) Single folds. (Four layers)</td>
<td>(D) In case, during bagging if segregated lot gives problem of stretching / bursting, then the entire lot shall be rejected and returned to the party with ‘X’ marking on each bag.</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>
| 2 | COLOUR FADING/ PRINTING  
Printing ink, colour shade of ink colour fading, etc. | (1) Colour shade of printing matters shall be strictly as specified.  
(2) Colour fading for the ink used shall not be acceptable.  
(3) Ink to reducer Ratio shall be maintained as under:  
Ink to reducer ratio : 1: upto 0.5 will be the acceptance limit.  
(4) Bag sample will be tested in ALKALI, ANP/ CAN solution to check for colour fading. | (1) In case of variation in colour shade :  
(a) If colour shade variation is minor (nearby to acceptance), then lot shall be accepted with penalty @ the rate of Rs.0.25 per bag.  
(b) In case of wide variation in colour the lot shall be rejected and returned with cross marking.  
(c) In case of colour fading in Alkali and in product solution, penalty @ Rs.0.25 per bag will be levied at the discretion of GNFC.  
(2) Acceptance of above defects with penalty will be for one time only in entire contract period and thereafter lots will not be accepted for defects of colour fading / shade difference and will be returned to party with cross marking. |
| 3 | No of stitches per DM (12 +/- 2): (GNFC Spec.) | (A) The defective bags shall be accepted one time in contract period provided seam strength is within acceptable limit after warning to party. Such defects should not be repeated in further lots |   |
supplied.

(B) In case during bagging, if lot gives problem of stretching / bursting then the entire lot shall be rejected and returned to the party with ‘X’ marking on each bag and payment recovery of such rejection shall be made from due bills.

4 **MESH SIZE - DENIER AND TAPE WIDTH**

(A) The bags up to mesh size of 9.5 x 9.5 lot shall be accepted against specified limit of 10 x 10 mesh.

(B) If the mesh size is below 9.5 x 9.5 against specification of 10 x 10 mesh lot shall be rejected and shall be returned to the party with “X” marking on each bag.

5 **SIZE OF HDPE BAG**

(A) The tolerance in length and width will be allowed +/- 10 mm. However, length and width both should not short simultaneous and minimum area as mentioned in enquiry specifications should be available in defective bag.

(B) If size of bag/minimum area of bag is not within specified norms in more than 10% of sampled bags, then lot will be given for segregation of removal of defective bags. Such segregation will be allowed maximum 3 times per lot. Even after three segregations, if lot is not

<table>
<thead>
<tr>
<th>Re-inspection charges shall be as under:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per lot</td>
</tr>
<tr>
<td>First Re-Insp. : Rs.1000/-</td>
</tr>
<tr>
<td>Second Re-Insp. : Rs.2500/-</td>
</tr>
<tr>
<td>Third Re-Insp. : Rs. 5000/-</td>
</tr>
</tbody>
</table>

In case the lot still becomes unacceptable after 3 segregations, entire lot quantity will be cross marked and will be returned back to party.
<table>
<thead>
<tr>
<th></th>
<th><strong>BREAKING STRENGTH</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>(I) WIDTHWISE : 85 KGF</td>
<td>Minimum 2 samples will be cut from each bag to be tested destructively as per IS-9755.</td>
</tr>
<tr>
<td></td>
<td>(A) Testing / acceptance shall be as per IS 9755 latest. If lot is getting rejected as per this provision, it will be returned to vendor with cross marking.</td>
</tr>
<tr>
<td></td>
<td>(B) If widthwise strength of individual bag is between 76.5 kgf. to 85 kgf. (or more) and average of all inspected bags (for strength) is 85 kgf or more, then lot shall be accepted.</td>
</tr>
<tr>
<td></td>
<td>(C) If average strength (widthwise) is between 82 to 85 kgf and no individual bag is less than 76.5 kgf, lot shall be accepted with penalty.</td>
</tr>
<tr>
<td></td>
<td>Penalty shall be : 15 PAISE /KGF / BAG (On entire lot quantity)</td>
</tr>
<tr>
<td>(D)</td>
<td>If average widthwise breaking strength is below 82 kgf, the entire lot shall be rejected. Rejected lot shall be returned to the party with cross marking.</td>
</tr>
<tr>
<td>(E)</td>
<td>If widthwise breaking strength of individual bag is below 76.5 kgf, the entire lot shall be rejected. Rejected lot shall be returned to the party with X marking.</td>
</tr>
<tr>
<td>(II) WIDTHWISE (at Lamination)</td>
<td>(A) Testing / acceptance shall be as per IS 9755</td>
</tr>
</tbody>
</table>
joint) : 85 kgf
Minimum. 2 samples
will be cut from
each bag to be
tested destructively
as per IS-9755.

(III) LENGTHWISE
68 KGF Minimum
2 samples
will be cut from
each bag to be
tested destructively
as per IS-9755.

latest. If lot is getting
rejected as per this
provision, it will be returned
to vendor with cross
marking.

(B) If widthwise strength of
individual bag is between
76.5 kgf. to 85 kgf. (or
more) and average of all
inspected bags (for
strength) is 85 kgf or more,
then lot shall be accepted.

C) If average strength
(widthwise) is between 82
to 85 kgf and no individual
bag is less than 76.5 kgf, lot
shall be accepted with
penalty.

(D) If average widthwise
breaking strength is below
82 kgf, the entire lot shall
be rejected. Rejected lot
shall be returned to the
party with cross marking.

(E) If widthwise breaking
strength of individual bag is
below 76.5 kgf, the entire
lot shall be rejected.
Rejected lot shall be
returned to the party with
cross marking.

(A) Testing / acceptance
shall be as per IS 9755
latest.

If lot is getting rejected as
per this provision, it will be
returned to vendor with
cross marking.

(B) If lengthwise strength of
individual bag is between
61.2 kgf to 68 kgf (or and
average of all inspected

Penalty shall be :
15 PAISE / KGf/ BAG
(ON ENTIRE LOT QTY.)
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<table>
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</thead>
<tbody>
<tr>
<td><strong>(IV) BOTTOM SEAM STRENGTH 31 KGF</strong></td>
<td>bags (for strength) is 68 kgf or more, then lot shall be accepted.</td>
</tr>
<tr>
<td></td>
<td>(C) If average strength (lengthwise) is between 65 to 68 kgf and no individual bag is having strength less than 61.20 kgf, the lot shall be accepted with penalty.</td>
</tr>
<tr>
<td></td>
<td>(D) If average lengthwise breaking strength is below 65 kgf, the entire lot shall be rejected. Rejected lot shall be returned to the party with cross marking.</td>
</tr>
<tr>
<td></td>
<td>(E) If lengthwise breaking strength of individual bag is below 61.2 kgf, the entire lot shall be rejected and will be returned to party with cross marking.</td>
</tr>
<tr>
<td></td>
<td>Penalty would be as under:</td>
</tr>
<tr>
<td></td>
<td>(A) For elongation below 15% but more than 14% : 20 paise per bag.</td>
</tr>
<tr>
<td></td>
<td>(B) For elongation 13% to 14% : 30 paise per bag.</td>
</tr>
<tr>
<td></td>
<td>Penalty shall be : 20 PAISE /KGF/BAG (On entire lot quantity)</td>
</tr>
</tbody>
</table>

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<table>
<thead>
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<th></th>
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</thead>
<tbody>
<tr>
<td>7</td>
<td><strong>% ELONGATION</strong></td>
</tr>
<tr>
<td></td>
<td>Length wise and widthwise (15 to 25%).</td>
</tr>
<tr>
<td></td>
<td>(A) If % elongation (Lengthwise and widthwise) observed within the range of 15 to 25% then lot shall be accepted.</td>
</tr>
<tr>
<td></td>
<td>(B) If percentage elongation is found below 15% but upto 13% then lot shall be accepted with penalty. Penalty shall be applied on entire lot.</td>
</tr>
<tr>
<td></td>
<td>Penalty would be as under:</td>
</tr>
<tr>
<td></td>
<td>(A) For elongation below 15% but more than 14% : 20 paise per bag.</td>
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<tbody>
<tr>
<td>8</td>
<td><strong>DROP TEST:</strong></td>
</tr>
<tr>
<td></td>
<td>Bag shall be dropped 4 times from a height of 2</td>
</tr>
<tr>
<td></td>
<td>(A) During the drop test no sample bag shall rapture.</td>
</tr>
<tr>
<td></td>
<td>(B) If during drop test, the</td>
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<tr>
<td>9</td>
<td>BURSTING RATE OBSERVED DURING THE USE OF BAG</td>
</tr>
<tr>
<td>---</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>(I)</td>
<td>The lot during actual bagging operation if found with bursting rate exceeding limit of 0.10%, GNFC will not use such lots and same will be rejected and returned to vendor.</td>
</tr>
<tr>
<td></td>
<td>In case lot exceeding the bursting rate beyond 0.10% and if used, GNFC will levy penalty at 3 times the actual cost of bags bursted.</td>
</tr>
<tr>
<td></td>
<td>(II) Lot giving problem of excessive bursting (beyond 0.10%) will be returned to vendor after cross marking.</td>
</tr>
</tbody>
</table>