



Technical Specifications of PP bags – Bharat NPK (ANP)

Specifications for Circular Woven Polypropylene, laminated (PP) Bharat NPK Bags with LDPE/LLDPE Liner for Packing of 50 Kgs to fill ANP.

1. General

- 1.1. The supplier shall manufacture and supply circular woven laminated P P bags with LDPE/LLDPE liner for packing of Ammonium Nitro Phosphate (ANP) strictly conforming to IS-9755: 2021 and following specifications.
- 1.2. The bags to be supplied shall be of PP fabric woven in circular looms (having no twisting of WEFT) with 2.5 % UV stabilizer master batch with PP lamination. The bags shall be without any side seam. 'L' stitched bags made of circular woven PP fabric shall not be accepted.

2. Size & Capacity

- 2.1. The capacity of each bag shall be to hold 50 Kgs. of product.
- 2.2. The inside dimensions of bags shall be as under :

Product	GNFC Material Code	Length	Width	Minimum inside area
ANP	921502552D	815 +20 mm -10 mm	560 +20 mm - 10 mm	0.448 m ²
	921502553D	900 +20 mm -10 mm	560 +20 mm - 10 mm	0.495 m ²

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. Fabric :

- 3.1. The fabric shall be woven from PP 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 PP fabric shall be as per the specifications given below.
- 3.3. The bag shall be made from single piece of laminated PP woven fabric. The PP



granules shall be raffia Grade H030SG of M/s RIL / equivalent & PP of lamination of lamination grade H350FG of M/s RIL / equivalent. The appearance of bag shall be Sky Blue tone. Required quantity of correct quality of Master Batch should be used for Sky Blue tone appearance of the fabric and Bag. Vendor to submit sample before bulk supply for approval of appearance of bag.

4. Calcium Carbonate (CaCO₃) / Ash Content :

- 4.1. Testing shall be carried out by GNFC or GNFC appointed laboratory as per IS 9755:2021 Annexure-C.
- 4.2. Maximum limit of CaCO₃ allowed is 3.7% (Ash Content 2.2%). In case test result exceeds CaCO₃ limit of 3.7% (Ash Content 2.2%), the lot is to be accepted up to 5% Calcium Carbonate content (3% Ash content) with applying penalty at the rate double by which Calcium Carbonate content is higher than 3.7% (Ash Content 2.2%). If test result exceeds 5% of Calcium Carbonate content (Ash Content 3%), the lot is to be rejected.
- 4.3. In case of more than two incidents of CaCO₃ exceeding 5% (Ash Content 3%), the supplier will be put in holiday list.

5. UV Resistance :

The woven fabric made from UV stabilized tapes shall have minimum 50% retention of the original breaking strength, when tested after the same has been exposed to UV radiation and accelerated weathering as per test method mentioned at IS-9755:2021 Annexure-F.

6. Lamination :

- 6.1. The circular woven fabric shall be laminated on outer side with virgin PP film on a lamination plant. The laminated film should overlap and seal each other at side crease and should be kept minimum 5 mm extra and not more than 10 mm after trimming. The lamination shall be free from pinholes, porosity, patches, tears, poor lamination, blisters or any other visible defects.
- 6.2. The thickness of lamination shall be 100 gauge (25 micron) with tolerance of $\pm 5\%$. The lamination mass shall be 23 g/m². The lamination shall cover the entire outside area of the fabric used in the bag.

7. Stitching:

- 7.1. The bottom of the bag shall have minimum 25 mm folding when measured from



outside. The bottom of bags shall have one fold (4 layers).

- 7.2. The bag shall be stitched at the bottom with two rows of chain stitches with number of stitches shall be 12 ± 2 per dm. The materials used for stitching shall be Polyethylene or polypropylene multifilament yarn, spun yarn twisted thread or fibrillated tape yarn suitable for the purpose having breaking load not less than 90 N. The material for stitching shall be UV stabilized. The stitching shall be uniform without any loose thread or knot.
- 7.3. 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.
- 7.4. Stitching threads at the bottom of bags should be **Orange color**.

8. **Strength :**

- 8.1. The minimum breaking strength of the samples drawn from the lot of laminated bags shall be as follows:

Lengthwise	: Minimum 91.8 kgf.
Widthwise	: Minimum 91.8 kgf.
Widthwise at lamination joint	: Minimum 91.8 kgf
Bottom seam	: Minimum 40.8 kgf.

- 8.2. The elongation of the laminated fabric, while testing shall not be less than 15% and more than 25%.

9. **Mesh, Denier:**

- 9.1. 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 PP tape used for fabric shall be 1000 denier.

10. **Mouth of Bag :**

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

11. **Loose Liner :**

Loose Liner shall be made from LDPE – Reliance Grade 24FS040. Necessary amount of LLDPE can be added in small proportion to achieve desired quality.

Size of the liner shall be of length $965/1050 \pm 10$ mm x width 580 ± 10 mm (**excluding of liner used in folding and stitching**). Dimensions will be measured from inside of



inner most row of stitches to top of bag and liner must be minimum 150 mm longer than the bag size in length (i.e. **Liner shall be projected 150 mm outside bags**). **The liner length used in folding / stitching portion is not taken into account while working out above mentioned size of liner.**

Thickness of liner shall be 50 micron \pm 10%.

Weight of individual liner shall be 52 grams \pm 6% for 965 x 580 mm liner and 56.5 grams \pm 6% for 1050 x 580 mm liner.

Liner shall have 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 700 mm from the bottom.

Liner should be heat sealed at the bottom and stitched with PP fabric from 25 mm from the heat seal. It means after heat sealing the LDPE liner, the remaining liner should be stitched maximum 25mm from the heat sealed strips.

12. **Printing :**

- 12.1. The printing will be on Single side of bags as per the art work given by GNFC. **Corona treatment shall be carried out on fabric prior to printing.** Supplier shall use photopolymeric quality stereo to have clear printing, uniformity and better sharpness.
- 12.2. The supplier shall have to obtain sample approval for the colour / printing matter / shade / ink quality before bulk supply. 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.
- 12.3. Colour of printing matter should match the specification including multi-colour image. You shall use Rub Resistant Ink / Reducer of good quality which shall pass rub resistance test. Please specify the ink used, in the Quality Assurance Certificate.
- 12.4. For rub resistant test, we shall use yellow duster / buff cloth for rubbing before dispatch of bags, you shall carry out rub resistance test and peel test at your end to avoid rejection after receipt at GNFC.
- 12.5. The ink used shall give smudge free, indelible, clean marking, and resistant to UV rays.



The ink and the other ingredients to be used for such printing shall be waterproof, scratchproof, and harmless to fabric.

- 12.6. Bags with colour back impression will not be acceptable. Colour should not fade during handling and transportation of bags to various locations.
- 12.7. 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.
- 12.8. 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 October-23 & 2 lots in November-23 it should be printed as :

Party's code : 23/10/1

Party's code : 23/10/2

Party's code : 23/11/1

Party's code : 23/11/2

Minimum lot should be 25000 nos. Bag and shall be in multiple of 500 nos.

- 12.9. For identification of the supplier, code no. shall be printed on each bag at the left hand side in line of "Month & Year of Manufacture". 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. These details will be in the letter size of 12 mm height only.
- 12.10. The bag branding testing has been indicated as above. GNFC recommends that the supplier should test the quality of branding as per the procedure narrated below, prior to dispatch of the lot.
- 12.11. Test procedure and details for branding shall be as follows:

13. Testing Procedure :

- 13.1. Prepare 50% Alkali solution by dissolving 250 gram of sodium Hydroxide (Caustic Soda) in ½ Liter water (preferably distilled water). This is solution 'A'. Prepare a 50% Urea/SSP/Imported DAP/Imported MOP solution by dissolving 250 Gram of product in ½ liter water (preferably distilled water). This is solution 'B'. Cut three strips measuring 3 cm x 15 cm each from branded portion of the HDPE bag.



- 13.2. 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.
- 13.3. 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.

14. Packing :

- 14.1. The bags shall be flat packed in trusses containing 500 nos. in each truss.
- 14.2. The trusses shall be wrapped with a PP of 6.5 to 7 oz and stitched properly to withstand the hazards of transportation and storage.
- 14.3. Each truss shall be having following marking :
 - g. Name of the supplier
 - h. Type of bags and size
 - i. Weight of truss and no. of bags in truss
 - j. Sr. No. of truss
 - k. Lot No.
 - l. Purchase Order No.
- 14.4. 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.
- 14.5. 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.

15. Inspection And Testing :

- 15.1. Over and above, IS 9755:2021 specifications shall be followed.
- 15.2. Inspection shall be carried out by GNFC and / or by GNFC appointed agency 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.
- 15.3. The Acceptance and Penalty Norms for Bags are as mentioned here below. 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.

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

- e. Initial (first) inspection : Nil
- f. 1st re-inspection : Rs.2000/- per lot
- g. 2nd re-inspection : Rs.4000/- per lot
- h. 3rd re-inspection : Rs.6000/- per lot

15.5. 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.



16. Specification for laminated Circular Woven PP Bags with LDPE/LLDPE Liner:

Sr No	Parameter ↓	Product	BHARAT NPK (ANP)	
		GNFC Material Code →	921502552D	921502553D
1	Packing Capacity	50 Kg		
2	PP woven Bag	Length (Inside)	815 +20, -10 mm	900 +20, -10 mm
3		Width	560 +20, -10 mm	560 +20, -10 mm
4		Inside area (Minimum)	0.448 m ²	0.495 m ²
5	Weight of individual bags including loose liner		160 ± 6 % grams (Minimum 150.4 gram)	175 ± 6 % grams (Minimum 164.5 gram)
6	Average weight of sampled bags including loose liner, drawn as per IS-9755 for inspection		160 ± 3 % grams (Minimum 155.2 gram)	175 ± 3 % grams (Minimum 169.8 gram)
7	Tap width		2.5 mm	
8	Mesh size		10 x10	
9	Denier		1000	
10	Bags laminated with LDPE /LLDPE film of uniform thickness		100 gauge (25 Micron) minimum	
11	Loose liner of LDPE/LLDPE	Length	965 ± 10 mm	1050 ± 10 mm
12		Width	580 ± 10 mm	580 ± 10 mm
13		Weight of individual liner	52 ± 6% grams	56.5 ± 6% grams
14	Liner shall have 6 to 7 nos. of holes of 2 to 4 mm dia. on the periphery of liner and will be made at a distance of about 700 mm from the bottom. (Size of the liner shall be of length 965/1050 ± 10 mm x width 580 ± 10 mm excluding of liner used in folding and stitching).			
15	Colour of stitching thread of bottom of bag		Orange color	
16	Nos. of stitches per dm (chain stitches)		12 ± 2	
17	Minimum Distance between two rows of stitch		5 mm	
18	Minimum Distance of stitch from outer edge		8 mm	
19	Bottom Folding		Bag shall be single folded in 4 layers outside minimum 25 mm and stitching shall pass through all six layers of fabric.	
20	Breaking Strength (length, width and at lamination joint)		91.8 kgf Minimum	
21	Breaking Strength of Bottom seam		40.8 kgf Minimum	
22	% Elongation		15 to 25	
23	Colour of printing		As per GNFC print art work	
24	Drop test from height of 2 meters from all side		No bags should rupture when subjected to minimum 4 nos. of drops. The bags will be dropped on the stomach during drop tests.	
25	Performance of bags during		During actual use of bags in bagging plant, bags	



Sr No	Parameter ↓	Product	BHARAT NPK (ANP)	
		GNFC Material Code →	921502552D	921502553D
	actual use / bursting		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.	



17. Acceptance and Penalty Norms:

Sr No	Defect	Criteria for Acceptance	Norms for Penalty
1	<p><u>Physical Defects:</u> Skipped branding, improper logo, hook cuts, rope cuts, pin holes, back impression, weaving defects, printing mistakes, skipped or defective bottom stitching</p> <p><u>Lamination Defects :</u> Delamination, skipped lamination</p> <p><u>Type of bottom folding:</u> Single fold (Four layers)</p>	<p>(A) If such defects are observed within 10% of inspected bags, then lot shall be accepted.</p> <p>(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.</p> <p>(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.</p> <p>(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.</p>	<p>Re-inspection charges per lot shall be as under:</p> <p>1st Re-inspection: Rs. 2000/- 2nd Re-inspection: Rs. 4000/- 3rd Re-inspection: Rs. 6000/-</p> <p>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.</p>
2	<p><u>Colour Fading:</u> Improper printing, Printing ink, colour shade of ink, colour fading etc.</p>	<p>Colour shade / Printing matter shall be strictly as specified by GNFC. Colour fading for the ink used shall not be acceptable.</p> <p>Ink to reducer Ratio shall be maintained upto 0.5 will be the acceptance limit.</p>	<p>(c) If colour shade or colour fading in alkali / product solution or printing matter variation is minor (nearby to acceptable), then lot shall be accepted with penalty @ Rs 0.25 per bag.</p> <p>(d) In case of wide variation in colour / shade / printing matter, the lot shall be rejected and returned with cross marking.</p> <p>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.</p>



Sr No	Defect	Criteria for Acceptance	Norms for Penalty
3	<u>Colour Rub Resistance</u> Corona treatment shall be carried out before printing.	Branding colour shall not be removed in rub test as mentioned in specification.	In case of minor colour removal in rub test, lot can be accepted at the discretion of GNFC with / without penalty. In case of major colour removal, lot shall be rejected.
4	No of stitches per DM (12 ± 2) :	(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.	
5	Weight (gram)	(A1) On individual bag : - 6% (A2) Average weight of samples drawn as per IS 9755 2021 Sixth Revision for inspection: - 3% (B) If average weight as per (A2) is up to -3% and weight of individual sample bag is within - 6%, lot shall be accepted. (C) If average weight as per (A2) is found below -3% and if individual sample bag is within-6% limit, lot shall be accepted with penalty. (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 specified weight and shall be on total quantity of lot. (II) Re-inspection charges per lot shall be as under : 1 st Re-inspection : Rs. 2000/- 2 nd Re-inspection : Rs. 4000/- 3 rd Re-inspection :Rs. 6000/-



Sr No	Defect	Criteria for Acceptance	Norms for Penalty
6	Size of PP Bag	<p>(A) The tolerance in length and width will be allowed +20 mm, -10 mm. However, length and width both should not be short simultaneously and minimum area as mentioned in enquiry specifications should be available.</p> <p>(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.</p>	<p>Re-inspection charges per lot shall be as under :</p> <p>1st Re-inspection : Rs. 2000/- 2nd Re-inspection : Rs. 4000/- 3rd Re-inspection :Rs. 6000/-</p> <p>In case the lot still becomes unacceptable after 3 segregations, entire lot quantity will be cross marked and will be returned to party.</p>
7	<u>Breaking Strength :</u> (Width /Length / Lamination joint) : Minimum 91.8 Kgf 2 samples will be cut from each bag for each length, width and lamination joint to be strength tested as per IS-9755.	<p>(A) If strength of individual bag is greater than 82.6 kgf and average of all inspected bags is equal to or more than 91.8 kgf, then lot shall be accepted.</p> <p>(B) If strength of individual bag is greater than 82.6 kgf and average of all inspected bags is between 82.6 to 91.8 Kgf, lot shall be accepted with penalty.</p> <p>(C) If strength of any individual bag or average of all inspected bags is below 82.6 kgf, the entire lot shall be rejected in both individual as well as average case. Rejected lot shall be returned to the party with cross marking.</p>	<p>Penalty shall be : 15 Paise /Kgf of average/ Bag (On entire lot quantity)</p>
8	Bottom Seam Strength 40.8 Kgf Minimum 2 samples will be cut from each bag to be tested as per IS-9755.	<p>(A) If strength of individual bag is greater than 36.7 kgf and average of all inspected bags is equal to or more than 40.8 kgf, then lot shall be accepted.</p>	



Sr No	Defect	Criteria for Acceptance	Norms for Penalty
		<p>(B) If strength of individual bag is greater than 36.7 kgf and average of all inspected bags is between 36.7 to 40.8 Kgf, lot shall be accepted with penalty.</p> <p>(C) If strength of any individual bag or average of all inspected bags is below 36.7 kgf, the entire lot shall be rejected in both individual as well as average case. Rejected lot shall be returned to the party with cross marking.</p>	<p>Penalty shall be : 15 Paise /Kgf of average/ Bag (On entire lot quantity)</p>
9	% Elongation (Length and widthwise (15 to 25%).	<p>(A) If % elongation (Length and widthwise) of individual bag is more than 13% and average elongation is observed within the range of 15 to 25% then lot shall be accepted.</p> <p>(B) If % elongation of individual bag is more than 13% and average elongation is between 13 to 15% then lot shall be accepted with penalty.</p>	<p>Penalty shall be: 15 Paise / % elongation of average/ Bag (On entire lot quantity)</p>
10	Drop Test: Bag shall be dropped 4 times from a height of 2 meters. The bag shall be dropped on stomach only.	<p>(A) During the drop test, no sample bag shall rupture. (B) if during drop test, the bags are found to rupture, the lot shall be rejected and shall be returned with 'X' marking.</p>	
11	Bursting Rate Observed during use of bag	<p>(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.</p> <p>(II) Lot giving problem of excessive bursting (beyond 0.10%) will be returned to vendor after cross marking.</p>	



Technical Specifications of PP Urea bags to fill Neem Coated Urea

Specifications for Circular Woven, Laminated Poly Polyethylene (PP) Bags for Packing of 45 Kgs Bharat Urea (Neem Coated Urea) / Imported Urea.

1. **General**

- 1.1. The supplier shall manufacture and supply circular woven laminated PP bags for packing of Bharat Urea (Neem coated Urea / Imported Urea) strictly conforming to IS-9755: 2021 and following specifications.
- 1.2. The bags to be supplied shall be of PP fabric woven in circular looms (having no twisting of WEFT) with 2.5% UV stabilizer master batch with PP lamination. The bags shall be without any side seam. 'L' stitched bags made of circular woven PP fabric shall not be accepted.

2. **Size & Capacity**

- 2.1. The capacity of each bag shall be to hold 45 kg of product.

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

Type of Bag	Length	Width	Minimum inside area
PP Bag	880 +20 mm - 10 mm	600 + 20mm - 10 mm	0.519 m ²

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. **Fabric:**

- 3.1. The fabric shall be woven from PP 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 PP fabric shall be as per the specifications given below.
- 3.3. The bag shall be made from single piece of laminated PP woven fabric. The PP granules shall be raffia Grade H030SG of M/s. RIL / equivalent & PP of lamination from lamination grade H350FG of M/s. RIL / equivalent.
- 3.4. The bag shall be made from single piece of laminated PP woven fabric. The



appearance of bag shall be (i) Yellow for Bharat Urea (Neem coated urea) & Imported Urea 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 as per printing matter attached herewith. Vendor to submit sample before bulk supply for approval of appearance of bag.

4. Calcium Carbonate (CaCO₃)/Ash Content :

- 4.1. Testing shall be carried out by GNFC or GNFC appointed laboratory as per IS 9755:2021 Annexure-C.
- 4.2. Maximum limit of CaCO₃ allowed is 3.7% (Ash Content 2.2%). In case test result exceeds CaCO₃ limit of 3.7% (Ash Content 2.2%), the lot is to be accepted up to 5% Calcium Carbonate content (3% Ash content) with applying penalty at the rate double by which Calcium Carbonate content is higher than 3.7% (Ash Content 2.2%). If test result exceeds 5% of Calcium Carbonate content (Ash Content 3%), the lot is to be rejected.
- 4.3. In case of more than two incidents of CaCO₃ exceeding 5% (Ash Content 3%), the supplier will be put in holiday list.

5. UV Resistance:

The woven fabric made from UV stabilized tapes shall have minimum 50% retention of the original breaking strength, when tested after the same has been exposed to UV radiation and accelerated weathering as per test method mentioned at IS-9755:2021 Annexure-F.

6. Lamination :

- 6.1. The circular woven fabric shall be laminated on outer side with virgin LDPE / PP film of uniform thickness in lamination plant. The laminated film should overlap and seal each other at side crease and should be kept minimum 5 mm extra and not more than 10 mm after trimming. The lamination shall be free from pinholes, porosity, patches, tears, poor lamination, blisters or any other visible defects.
- 6.2. The thickness of lamination shall be 100 gauge (25 micron) with tolerance of $\pm 5\%$. The lamination mass shall be 23 g/m². The lamination shall cover the entire outside area of the fabric used in the bag.
- 6.3. The suppliers before dispatching 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.
- 6.4. During lamination of PP fabric, required quantity of Master batch shall be used to give



Yellow tone appearance to Bag.

7. Stitching :

- 7.1. Stitching threads at the bottom of bags shall be postal red color.
- 7.2. The bottom of the bag shall have minimum 25 mm folding when measured from outside. The bottom of bags shall have two fold (6 layers).
- 7.3. The bag shall be stitched at the bottom with two rows of chain stitches with number of stitches shall be 12 ± 2 per dm. 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. The materials used for stitching shall be Polyethylene or polypropylene multifilament yarn, spun yarn twisted thread or fibrillated tape yarn suitable for the purpose having breaking load not less than 90 N. The material for stitching shall be UV stabilized. The stitching shall be uniform without any loose thread or knot.

8. Strength :

- 8.1. The minimum breaking strength of the samples drawn from the lot of laminated bags shall be as follows :

Lengthwise	: Minimum 91.8 kgf.
Widthwise	: Minimum 91.8 kgf.
Widthwise at lamination joint	: Minimum 91.8 kgf
Bottom seam	: Minimum 40.8 kgf.

- 8.2. The elongation of the laminated fabric, while testing shall not be less than 15% and more than 25%.

9. Mesh, Denier :

- 9.1. 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.

10. Mouth Of Bag :

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

11. Printing :

- 11.1. The printing will be on Single side of bags as per the art work given by GNFC. **Corona treatment shall be carried out on fabric prior to printing.** Supplier shall use photo-polymeric quality stereo to have clear printing, uniformity and better sharpness.



- 11.2. The supplier shall have to obtain sample approval for printing matter before bulk supply. The printing matter layout should be exactly as per the printing matter (CDR file) / sample transparency (submitted to vendor) in terms of total matters including font type size, logo size, spacing of letters, spacing of words, spacing of lines, 130 mm clear top space and overall size / dimensions of the printing matter.
- 11.3. Colour of printing matter should match the specification including multi-colour image. You shall use Rub Resistant Ink / Reducer of good quality which shall pass rub resistance test. Please specify the ink used, in the Quality Assurance Certificate.
- 11.4. For rub resistant test, we shall use yellow duster / buff cloth for rubbing before dispatch of bags, you shall carry out rub resistance test and peel test at your end to avoid rejection after receipt at GNFC.
- 11.5. The ink used shall give smudge free, indelible, clean marking, and resistant to UV rays. The ink and the other ingredients to be used for such printing shall be waterproof, scratchproof, and harmless to fabric.
- 11.6. Bags with colour back impression will not be acceptable. Colour should not fade during handling and transportation of bags to various locations.
- 11.7. The colour shall not fade on 24 hr. Exposure to a 50% solution of Alkali and / or a 50% solution of Urea.
- 11.8. 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 October-23 & 2 lots in November-23 it should be printed as :
- Party's code : 23/10/1
Party's code : 23/10/2
Party's code : 23/11/1
Party's code : 23/11/2
- Minimum lot should be 25000 nos. Bag and shall be in multiple of 500 nos.
- 11.9. For identification of the supplier, code no. shall be printed on each bag at the left hand side in line of "Month & Year of Manufacture". 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.
- 11.10. The bag branding testing has been indicated as above. GNFC recommends that the supplier should test the quality of branding as per the procedure narrated below, prior to dispatch of the lot.
- 11.11. Test procedure and details for branding shall be as follows:



12. Testing Procedure :

- 12.1. Prepare 50% Alkali solution by dissolving 250 gram of sodium Hydroxide (Caustic Soda) in ½ Liter water (preferably distilled water). This is solution 'A'. Prepare a 50% Urea/SSP/Imported DAP/Imported MOP solution by dissolving 250 Gram of product in ½ liter water (preferably distilled water). This is solution 'B'. Cut three strips measuring 3 cm x 15 cm each from branded portion of the HDPE bag.
- 12.2. 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.
- 12.3. 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.

13. Packing :

- 13.1. The bags shall be flat packed in trusses containing 500 nos. in each truss.
- 13.2. The trusses shall be wrapped with a HDPE of 6½ to 7 oz and stitched properly to withstand the hazards of transportation and storage.
- 13.3. Each truss shall be having following marking :
 - m. Name of the supplier
 - n. Type of bags and size
 - o. Weight of truss and no. of bags in truss
 - p. Sr. No. of truss
 - q. Lot No.
 - r. Purchase Order No.
- 13.4. 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.
- 13.5. 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.

14. Inspection And Testing :

- 14.1. Over and above, IS 9755:2021, Sixth Revision specifications shall be followed
- 14.2. Inspection shall be carried out by GNFC and / or by GNFC appointed agency 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.

- 14.3. The Acceptance and Penalty Norms for Bags are as mentioned here below. 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.
- 14.4. Whenever re-inspection of Bags/Lot is necessary after the segregation, the re-inspection charges would be levied to party's account as under :
- | | |
|----------------------------------|---------------------|
| i. Initial (first) inspection | : Nil |
| j. 1 st re-inspection | : Rs.2000/- per lot |
| k. 2 nd re-inspection | : Rs.4000/- per lot |
| l. 3 rd re-inspection | : Rs.6000/- per lot |
- 14.5. 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.



15. Specification for laminated PP Bharat Urea (Neem Coated Urea) / Imported Urea / Bags :

Sr No	Parameter	Bharat Urea (Neem Coated Urea) / Imported Urea /
1	Packing Capacity	45 Kg
2	Length of Bag (Inside)	880 +20 , - 10mm
3	Width of Bag	600 +20, - 10 mm
4	Inside area of Bag (Minimum)	0.519 m ²
5	Weight of individual bags	122 ± 6 % grams (Minimum 114.7 gram)
6	Average weight of sampled bags drawn as per IS-9755 for inspection	122 ± 3 % grams (Minimum 118.4 gram)
7	Tap width	2.5 mm
8	Mesh size	10 x10
9	Denier	1000
10	Bags laminated with LDPE / PP film of uniform thickness	100 gauge (25 Micron) minimum
11	Colour of stitching thread of bottom of bag	Red
12	Nos. of stitches per dm (chain stitches)	12 ± 2
13	Minimum Distance between two rows of stitch	5 mm
14	Minimum Distance of stitch from outer edge	8 mm
15	Bottom Folding	Bag shall be double folded in 6 layers outside minimum 25 mm and stitching shall pass through all six layers of fabric.
16	Breaking Strength (length, width and at lamination joint)	91.8 kgf Minimum
17	Breaking Strength of Bottom seam	40.8 kgf Minimum
18	% Elongation	15 to 25
19	Ash Content	Max 2.2%
20	Colour of printing	As per GNFC print art work
21	Drop test from height of 2 meters from all side	No bags should rupture when subjected to minimum 4 nos. of drops. The bags will be dropped on the stomach during drop tests.
22	Performance of bags during actual use / bursting	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.



16. Acceptance and Penalty Norms for Bharat Urea (Neem Coated Urea) / Imported Urea Bag

Sr No	Defect	Criteria for Acceptance	Norms for Penalty
1	<p><u>Physical Defects:</u> Skipped branding, improper logo, hook cuts, rope cuts, pin holes, back impression, weaving defects, printing mistakes, skipped or defective bottom stitching</p> <p><u>Lamination Defects :</u> Delamination, skipped lamination</p> <p><u>Type of bottom folding:</u> Double fold (Six layers)</p>	<p>(A) If such defects are observed within 10% of inspected bags, then lot shall be accepted.</p> <p>(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.</p> <p>(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.</p> <p>(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.</p>	<p>Re-inspection charges per lot shall be as under :</p> <p>1st Re-inspection : Rs. 2000/- 2nd Re-inspection : Rs. 4000/- 3rd Re-inspection :Rs. 6000/-</p> <p>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.</p>
2	<p><u>Colour Fading:</u> Improper printing, Printing ink, colour shade of ink, colour fading etc.</p>	<p>Colour shade / Printing matter shall be strictly as specified by GNFC. Colour fading for the ink used shall not be acceptable.</p> <p>Ink to reducer Ratio shall be maintained upto 0.5 will be the acceptance limit.</p>	<p>(e) If colour shade or colour fading in alkali / product solution or printing matter variation is minor (nearby to acceptable), then lot shall be accepted with penalty @ Rs 0.25 per bag.</p> <p>(f) In case of wide variation in colour / shade / printing matter, the lot shall be rejected and returned with cross marking.</p> <p>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.</p>



Sr No	Defect	Criteria for Acceptance	Norms for Penalty
3	<u>Colour Rub Resistance</u> Corona treatment shall be carried out before printing.	Branding colour shall not be removed in rub test as mentioned in specification.	In case of minor colour removal in rub test, lot can be accepted at the discretion of GNFC with / without penalty. In case of major colour removal, lot shall be rejected.
4	No of stitches per DM (12 ± 2):	(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.	
5	Weight (gram)	(A1) On individual bag : - 6% (A2) Average weight of samples drawn as per IS 9755 2021 Fifth Revision for inspection: - 3% (B) If average weight as per (A2) is up to -3% and weight of individual sample bag is within - 6%, lot shall be accepted. (C) If average weight as per (A2) is found below -3% and if individual sample bag is within - 6% limit, lot shall be accepted with penalty. (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 122 gram and shall be on total quantity of lot. (II) Re-inspection charges per lot shall be as under : 1 st Re-inspection : Rs. 2000/- 2 nd Re-inspection : Rs. 4000/- 3 rd Re-inspection :Rs. 6000/-



Sr No	Defect	Criteria for Acceptance	Norms for Penalty
6	Size of Bag	<p>(A) The tolerance in length and width will be allowed +20, -10mm. However, length and width both should not be short simultaneously and minimum area as mentioned in enquiry specifications should be available.</p> <p>(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.</p>	<p>Re-inspection charges per lot shall be as under :</p> <p>1st Re-inspection : Rs. 2000/- 2nd Re-inspection : Rs. 4000/- 3rd Re-inspection :Rs. 6000/-</p> <p>In case the lot still becomes unacceptable after 3 segregations, entire lot quantity will be cross marked and will be returned to party.</p>
7	<u>Breaking Strength :</u> (Width /Length / Lamination joint) : Minimum 91.8 Kgf 2 samples will be cut from each bag for each length, width and lamination joint to be strength tested as per IS-9755.	<p>(A) If strength of individual bag is greater than 82.6 kgf and average of all inspected bags is equal to or more than 91.8 kgf, then lot shall be accepted.</p> <p>(B) If strength of individual bag is greater than 82.6 kgf and average of all inspected bags is between 82.6 to 91.8 Kgf, lot shall be accepted with penalty.</p> <p>(C) If strength of any individual bag or average of all inspected bags is below 82.6 kgf, the entire lot shall be rejected in both individual as well as average case. Rejected lot shall be returned to the party with cross marking.</p>	<p>Penalty shall be : 15 Paise /Kgf of average/ Bag (On entire lot quantity)</p>
8	Bottom Seam Strength 40.8 Kgf Minimum 2 samples will be cut from each bag to be tested as per IS-9755.	<p>(A) If strength of individual bag is greater than 36.7 kgf and average of all inspected bags is equal to or more than 40.8 kgf, then lot shall be accepted.</p>	



Sr No	Defect	Criteria for Acceptance	Norms for Penalty
		<p>(B) If strength of individual bag is greater than 36.7 kgf and average of all inspected bags is between 36.7 to 40.8 Kgf, lot shall be accepted with penalty.</p> <p>(C) If strength of any individual bag or average of all inspected bags is below 36.7 kgf, the entire lot shall be rejected in both individual as well as average case. Rejected lot shall be returned to the party with cross marking.</p>	<p>Penalty shall be : 15 Paise /Kgf of average/ Bag (On entire lot quantity)</p>
9	% Elongation (Length and widthwise (15 to 25%).	<p>(A) If % elongation (Length and widthwise) of individual bag is more than 13% and average elongation is observed within the range of 15 to 25% then lot shall be accepted.</p> <p>(B) If % elongation of individual bag is more than 13% and average elongation is between 13 to 15% then lot shall be accepted with penalty.</p>	<p>Penalty shall be: 15 Paise / % elongation of average/ Bag(On entire lot quantity)</p>
10	Drop Test: Bag shall be dropped 4 times from a height of 2 meters. The bag shall be dropped on stomach only.	<p>(A) During the drop test, no sample bag shall rupture. (B) if during drop test, the bags are found to rupture, the lot shall be rejected and shall be returned with 'X' marking.</p>	
11	Bursting Rate Observed during use of bag	<p>(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.</p>	



Sr No	Defect	Criteria for Acceptance	Norms for Penalty
		(II) Lot giving problem of excessive bursting (beyond 0.10%) will be returned to vendor after cross marking.	