

ANNEX II: TECHNICAL SPECIFICATIONS FOR PACKAGING – PP WOVEN BAG WITH OR WITHOUT PE INNER LINER

Generic requirement:

The product covered by the provision of this specification must be packed in appropriate packaging which safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product. The packaging material shall be made of substances which are safe and suitable for their intended use. There should not be any impact of toxic substance or undesirable odour or flavour to the product.

- It is the responsibility of the manufacturer to select a packaging material that will protect the food product from spoilage and deterioration.
- The primary packaging material shall have low permeability to moisture, and oxygen and prevent vitamin and fat degradation during the required shelf life.
- The packaging material shall be robust enough to withstand different types of handlings and transport while protecting the product throughout its shelf life.

2. Primary Packaging – PE inner liner

Food grade requirement

All materials in direct contact with food products (packaging materials and inks) must be food grade and compliant with:

- The EU law Regulation (EC) No 1935/2004, (EU) No 10/2011 and (EU) No 2023/1442, regarding food contact.
- AND/OR the last version of the FDA law Regulation included in the 21 CFR regarding food contact.

WFP must be consulted if certificate of compliance for food contact material is provided against a local regulation.

Food product net weight

4.5 to 90 kg, as per contractual agreement.

- Weight and quantity tolerance must meet The International Organization of Legal Metrology International Recommendation OIML R 87.

Material composition

*Virgin materials for LDPE (no recycled material or colorant allowed)

*For commodities requiring bags with inner liner, laminated bags (inside layer lamination) could be considered as an alternative (inner side lamination), providing that they are giving the same technical properties and that the closing (top and bottom) of the bag is tightly sealed – approval by WFP must be given upfront.

- Suppliers shall indicate shelf life of material and storage condition on certificate of analysis.

Material qualities

Material Quality	Value	Unit	Standard	Comment
Thickness	80	mic	ASTM F2251 - 13(2018) or equivalent	10 kg bags with liner specification
Thickness	100	mic	ASTM F2251 - 13(2018) or equivalent	25 kg bags with liner specification
Thickness	100	mic	ASTM F2251 - 13(2018) or equivalent	50 kg bags with liner specification (exception: 50 microns for sugar)



Specifications (material data sheets and certificate of analysis indicating WVTR and OTR compliance to WFP) and guarantees (e.g., safety data sheet) for all compounds entering in the composition of the primary packaging (material, lacquers, inks, cap...) and other treatments used shall be made available to WFP upon request.

Shape of packaging

Parameters	Details
Size	Adjusted to the product's volume. It is the responsibility of the supplier to define the size of the bag suitable for the net content.
Sealing	- Easy sealable material The bottom of the inner liner must not be hollowed when the bottom of outer bag is sewn (=inner liner must be sealed and then can be sewn with the outer bag below the seal).

Typical physical properties

Parameter	Min	Max	Target	Unit	Standard	Additional Comments
WVTR				g/m ² .day	(38°C/90% RH) (ASTM F1249-06 or equivalent) shall be indicated on the certificate of analysis	Suppliers' responsibility to define the target value suitable for the food product and shelf life.
OTR				cc/m ² .day	(23°C/0% RH) (ASTM D-3985 or equivalent) shall be indicated on the certificate of analysis	Suppliers' responsibility to define the target value suitable for the food product and shelf life.



Certificates of compliance to be provided for physical properties parameters.

Secondary Packaging - Bag

Food grade material

Food grade material - Yes

All materials in direct contact with food products (packaging materials and inks) must be food grade and compliant with:

- The EU law Regulation (EC) No 1935/2004, (EU) No 10/2011 and (EU) No 2023/1442, regarding food contact.
- AND/OR the last version of the FDA law Regulation included in the 21 CFR regarding food contact.

WFP must be consulted if certificate of compliance for food contact material is provided against a local regulation.

Material composition

- Virgin materials for PP (no recycled material or colorant allowed) - rPP should be used only after confirmation from WFP.
- CaCO₃ (PP woven bag): max 3%.
- Anti-slip weaving.
- Colour: appearance white with master batch.
- Ink for printing: use water or solvent based ink or another suitable method that will ensure legibility during use.
- Upon request, supplier should provide Safety data sheet (SDS) and Material Data sheet (MDS) to WFP for packaging material including inks.
- The dimensions of the bags are responsibility of the supplier. Each supplier may have different packing and production process and that can cause significant differences in bulk density of food product at the packing. Product must fit in the bag during the packing and bags should be big enough to facilitate good stacking (if bag is too small it cannot be flattened when laid horizontally).
- Weight and quantity tolerance must meet The International Organization of Legal Metrology International Recommendation OIML R87.
- Suppliers shall indicate shelf life of material and storage condition on certificate of analysis.

Dimensions

Capacity of the bag: <https://docs.wfp.org/api/documents/WFP-0000138723/download/>

Construction

Parameter	Value	Unit	Additional Comments
Tape width	2	mm	- Maximum of 2.5 mm tape width acceptable. - The tapes shall be woven sufficiently tight so that the packaged foodstuff does not leak out of the sack. The construction of the weave shall be sufficiently rough to ensure that filled sacks do not slip from a stack of sacks.
Stitch Rate	4	dots/25.4m m	Top of the bag: - Single stitch (with a minimum 4 dots per inch (=4 dots per 25.4 mm)). - The stitching must be uniform with no loose threads or knots. Bottom of the bag:



			<ul style="list-style-type: none"> - Double stitch row (with a minimum 4 dots per inch (=4 dots per 25.4 mm)). - The two rows of stitches must be separated from each other by at least 4 mm. - The outer stitch must be 7 mm from the outer edge of the bag. - The stitching should be done on a single or double fold to have minimum of 4 layers of fabric, and seam width of 25 mm.
Sewing yarn			Must be made from PP multifilament (top and bottom of the bag).
Bag Mouth Top			<ul style="list-style-type: none"> - Heat cut or hemmed top to prevent fibrillation - For hemmed top bag; sewing line for the bag closure is always below the hem line.

Typical physical properties

Parameter	Target	Unit	Standard	Additional Comments
Drop test bag		Not applicable	<p>The bags of finished product must pass the drop test (after each drop, there shall be no rupture or loss of contents) following the principles of the drop test standard (EN 277, ISO 7965-2 or equivalent) with following sequence:</p> <ul style="list-style-type: none"> - Butt dropping: Bag is dropped from a height of 1.20m on the bottom and the top of the bag. - Flat dropping: Bag is dropped from a height of 1.60m twice on one flat face and twice on the opposite flat face. <p>The required minimum number of units to be checked with drop test is 3 units/lot (one lot is max 500 tons).</p>	



UV resistance			Sacks made of UV-stabilized fabric shall retain at least 50% of their original breaking strength when tested as described in ISO 13934 1, Textiles - Tensile properties of fabrics - Part 1: Determination of maximum force and elongation at maximum force using the strip method after exposure to UV radiation and weathering for 144 h in accordance with the procedure given in ISO 4892 3:2013, Plastics - Methods of exposure to laboratory light sources - Part 3: Fluorescent UV lamps, Table 4, method A, cycle No. 1.	
Weft density	50	tapes/10 cm		Minimum of 40 tapes/cm acceptable.
Warp density	50	tapes/10 cm		Minimum of 40 tapes/cm acceptable.
Grammage	88	g/m ²		Minimum of 85 g/m ² acceptable
Tensile strength	4.5	g/denier	strip test based on DIN EN ISO 13934-1	
Elongation at break of fabric (Length and Width wise)	20	%	ISO 13934-1	tolerance of +/- 5
Ash content (for UV stabilized fabric), maximum	3	%	ISO 3451-1:2008, Method A, at 600 °C ± 25 °C	
Titer	1,000	Denier (gram/9000 m)		

Certificates of compliance to be provided for physical properties parameters.

Marking information - Bag:

Product Name	Marking Information
Fortified Wheat Flour, Fortified Gofio and Bulgur Wheat	<p>Product shall be labelled in an appropriate language as per contract agreement.</p> <p>- Product name: As per relevant food specification</p> <p>- Net weight: As per contractual agreement.</p>



	<ul style="list-style-type: none"> - Ingredient list: "Ingredient list, Minerals and Vitamins to be indicated including allergens in bold. May contain..." - Nutrient table: Comply with Food Specification section, Nutritional Requirements. - Storage instructions: Store under dry and hygienic conditions and away from direct sunlight. - Donor and WFP logo: As per contractual requirement - Other requirements: "Not for sale or Exchange" - Best before end: MM/YYYY - Batch/lot number** - Manufactured by: Name and address - Supplied by*: Name and address - Manufactured in: XX - Beneficiary feedback hotline: if required in the contractual agreement. - Two (2%) percent marked bags (included in the price) must be sent with the lot or as per contract requirement. <p>*if different from the manufacturer. **supplier need to clearly describe the batch/lot size for the traceability of the product.</p>
Grains, Cereals, Pulses, Oilseed and Beans	<p>Product shall be labelled in an appropriate language as per contract agreement.</p> <ul style="list-style-type: none"> - Product name: As per relevant food specification - Net weight: As per contractual agreement. - Allergen statement: may contain wheat, soybeans, barley, oats and rye. ** - Storage instructions: Store under dry and hygienic conditions and away from direct sunlight. - Donor and WFP logo: As per contractual requirement - Other requirements: "Not for sale or Exchange" - Crop Year: XXXX - Supplied by: XX - Lot*: XX - Country of Origin: XX - Beneficiary feedback hotline: if required in the contractual agreement. - Two (2%) percent marked bags (included in the price) must be sent with the lot or as per contract requirement. <p>*supplier need to clearly describe the batch/lot size for the traceability of the product. ** must be updated by the supplier and the name of the commodity packed inside the bag must be removed from the list.</p> <p>Note: FOR BULGUR ONLY: For allergen declaration, refer to declaration guidance in the relevant food specification. Any ingredient or processing aid or any other substances listed in Annex II of EU Reg. 1169/2011</p>



	<p>(latest version) causing allergies or intolerances and still present in the finished product, shall be labelled in bold letters. For cross contamination labelling, the following terms should be used: "May contain...". When the allergen labelling is updated, such update shall be communicated to WFP beforehand as a revision of packaging artwork will be necessary. For further reference supplier shall refer to Packaging and Marking section of Food specification.</p>
<p>White Sugar and Iodized Salt</p>	<p>Product shall be labelled in an appropriate language as per contract agreement.</p> <ul style="list-style-type: none"> - Product name: As per relevant food specification - Net weight: As per contractual agreement. - Ingredient list: "Ingredient list, Vitamins and additives (e.g., antioxidants) to be indicated including allergens in bold. May contain..." - Storage instructions: Store under dry and hygienic conditions and away from direct sunlight. - Donor and WFP logo: As per contractual requirement - Other requirements: "Not for sale or Exchange" - Production date: MM/YYYY - Best before end: MM/YYYY - Batch/lot number** - Manufactured by: Name and address - Supplied by*: Name and address - Manufactured in: XX - Beneficiary feedback hotline: if required in the contractual agreement. - Two (2%) percent marked bags (included in the price) must be sent with the lot or as per contract requirement. <p>*if different from the manufacturer. **supplier need to clearly describe the batch/lot size for the traceability of the product.</p>
<p>Super Cereal 3kg and 25kg</p>	<p>Product shall be labelled in an appropriate language as per contract agreement.</p> <ul style="list-style-type: none"> - Product name: As per relevant food specification - Net weight: XX kg as per contractual agreement. - Ingredient list: Ingredient list, Minerals and Vitamins to be indicated including allergens in bold. "May contain..." - Nutrient table: Comply with Food Specification section, Nutritional Requirements. - Target group: "Special formula for children older than 3 years of age and adults." - Best before end: MM/YYYY - Batch/lot number** - Manufactured by: Name and address - Supplied by*: Name and address



	<ul style="list-style-type: none">- Manufactured in: XX- Storage instructions: Store under dry and hygienic conditions and away from direct sunlight.- Preparation instructions: [picto of Dosage: 1 cup cereal and 3 to 4 cups of water], "Mix cereal with cold water, heat and keep boiling for at least 5 minutes."- Donor and WFP logo: as per contractual requirement.- Other requirements: "Not for sale or Exchange"- Beneficiary feedback hotline: if required in the contractual agreement.- Two (2%) percent marked bags (included in the price) must be sent with the lot or as per contract requirement. <p>*if different from the manufacturer. **supplier need to clearly describe the batch/lot size for the traceability of the product.</p>
--	--

Templates for artwork available on: <https://foodsafetyqualitypublic.manuals.wfp.org/docs/specifications-index>

The lot code marking should be clearly visible, with a minimum height of 3mm per line and resist the whole product shelf life without fading.

DIMENSIONS

2.3- 5 kg bags

- Capacity: fit to contain 5kg of product - typical size 30 x 50 cm +/- 5cm.
- Typical weight 24grs/piece.

2.4- 10 kg bags

- Capacity: fit to contain 10kg of product - typical size 40 x 50 cm +/- 5cm.
- Typical weight 32grs/piece.

2.6- 20kg, 25 kg bags

- Capacity: fit to contain 25kg of product
- Typical size (grains and pulses) 50 x 75 cm +/- 5cm, Typical weight 65grs/piece
- Typical size (flour) 50 x 85 cm, Typical weight 76grs/piece

2.8- 50 kg, 60kg, 70kg bags

- Capacity: fit to contain 50kg of product
- Typical size (grains and pulses) 60 x 100 cm +/- 5cm, Typical weight 105 gr/piece
- Typical size (flour) 60 x 110 cm, Typical weight 117 gr/piece

Note: Bags can be laminated with 15-micron polypropylene and micro-perforated after consultation with packaging experts. Lamination for flour bags, require additional 20cm increase in length.