Technical Specifications for

4.5 to 90 kg PP woven bag specification with or without PE inner liner

Specification reference: **WINGS code (see below)**

Scope : Grains/Pulses/Cereals/Oil seeds/Fortified flours

This version is superseding the packaging section in all Grains/Pulses/Cereals/Oil seeds/Fortified flours specifications

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The type of bag requested depends on the commodity procured and will be mentioned on the procurement contract. The need for a PE inner liner will also be mentioned in the procurement contract.

List of packaging WINGS codes:

B11	ppr,25KG P	BAG,POLYPROP.,25 KG,INN POCKET
B12	ppr,25KG L	BAG, POLYPROP,25 KG, PL
B17	ppr, 50 KG	BAG, POLYPROPYLENE, 50 KG
B20	ppr,50KGPL	BAG,POLYPROP,50 KG,POL LIN
B22	ppr,50KG W	BAG,POLYPROPYLENE WOVEN, 50 KG
B46	ppr, 15 KG	BAG, POLYPROPYLENE, 15 KG
B53	ppr, 7.5 K	BAG, POLYPROPYLENE, 7.5 KG
B54	ppr, 6 KG	BAG, POLYPROPYLENE, 6 KG
B94	ppr,11x4.5	BAG, POLYPROPYLENE, 11x4.5 KG

Note: the list of packaging is not exhaustive

1. GENERAL REQUIREMENTS

- Bags must be new, clean, sound, fit for export and multiple handing, free from insect and fungal infestation,
- All the materials in contact with the food product (including inks and additives) must be food grade and compliant with the regulation of the country where the product is filled (certificate must be shared with WFP). Alternatively, the supplier must attach a letter of compliance :
    - To the last version of the EU law Regulation (EC) No 1935/2004 and other regulations related to food contact (ANNEX I)
    - AND/OR to the last version of the FDA law Regulation included in the 21 CFR regarding to food contact – more information also on e-CFR
    - OR certifying the above and completing the WFP form relative to food contact (ANNEX II)

- Material composition:
    - virgin materials for PP and LDPE (no recycled material or colorant allowed) - rPP should be used only after confirmation from WFP
    - $CaCO_3$ (PP woven bag): max 3%
    - UV stabilizer (PP woven bag): The fabric shall retain 50 percent of its original minimum tensile strength in each direction after 300 hours of exposure (Test specimens are alternately exposed to UV light alone (200h in total) and to condensation alone (100h in total) in a repetitive cycle) when tested in accordance with ISO 21898 in a QUV accelerated weathering tester.
- Anti-slip weaving,
- Colour: appearance white with master batch
- 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.
- Ink for printing: possible to use either water-based or solvent (e .g. alcohol)
- Upon request, supplier should provide Safety data sheet (SDS) and Material Data sheet (MDS) to WFP for packaging material including inks

2. OUTER BAG SPECIFICATION (PP woven bags)

- Minimum grammage of 88 gsm +/-3gsm,
- Weft density: 10 tapes/inch =40 tapes/10 centimetre (over feeding of 5% for milled commodities),
- Warp density: 10 tapes/inch =40 tapes/10 centimetre,
- Titer minimum:1000 Denier (gram/9000 meter)
- Tape width (mm): from 2.5 to 3
- Heat cut or hemmed top to prevent fibrillation,
- Tensile strength: min 4.5g/denier (strip test based on DIN EN ISO 13934-1)
- Recommended:
    - Bottom of the bag: Sewn with single fold with 1 stitched (with a minimum 4 dots per inch (=4 dots per 25.4 mm))
    - Top of the bag: Single stitch (with a minimum 4 dots per inch (=4 dots per 25.4 mm))
- Sewing yarn must be made from PP multifilament (top and bottom of the bag)
- For hemmed top bag; sewing line for the bag closure is always below the hem line.
- 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 R 87[1].

3. INNER LINER SPECIFICATION (PE inner liner) – Only if specify in the procurement contract

3.1- General requirements

[1] OIML R 78 Quantity of commodity in prepackages https://www.oiml.org/en/files/pdf_r/r087-e04.pdf, latest edition to be followed

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).

3.2- 10 kg bags with liner specification

- Minimum PE thickness : 80 µm,
- Easy sealable material
- Size: fit to outer PP bag

2.8- 25 kg bags with liner specification

- Minimum PE thickness : 100 µm,
- Easy sealable material
- Size: fit to outer PP bag

2.9- 50 kg bags with liner specification

- Minimum PE thickness : 100 µm (exception : 50 µm for sugar)
- Easy sealable material
- Size: fit to outer PP bag

4. COMPLIANCE TESTING :

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:
- 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.

The required minimum number of units to be checked with drop test is 3 units/lot (one lot is max 500 tons).

4. STUFFING IN CONTAINERS[2][3]

Use of desiccant is mandatory in each container to absorb moisture and condensation during shipment to preserve the product and packaging performance (exception made for sugar).
The following table provides a guideline on the quantity to be used;

Table : Guideline on the quantity to be used for calcium chloride-based desiccants:

Estimated days in container	20 ft container	40 ft container
15-59 days	9.00 kg	17.50 kg
60-89 days	11.25 kg	22.50 kg

[2] Only in this section §3, container is referring to an actual 20' or 40' transport container
[3] For more details, please refer to container loading procedure:
https://documents.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp254688.pdf

90-120 days	13.50 kg	25.00 kg

Better alternative material can be used upon agreement with WFP.

In addition, and applicable to all bagged commodities, kraft paper should be laid to all sides of the container.

An optimum "breathing space" should be kept between top of cargo stow and container roof for bagged cargo. Recommendation is to keep between 15 to 20cm. Bags should be well maintained to avoid any movement.

5. MARKING

Unless otherwise specified in the contract, the following information should be available on the packaging of the product covered by the provisions of this specification:

- Name of the commodity
- Net content
- Name and address of the supplier (including country of origin)
- Crop year (when applicable)
- Manufacturing date/BBD (when applicable)
- Nutrient table (for fortified food)
- Ingredient list (for fortified food)
- Lot number
- Not for sale

For fortified wheat flour marking: Each bag must have at least the date of production in format dd/mm/yyyy and/or other lot identifier that can be used for traceability up to one day of production printed. Suppliers have 2 options:

- Apply the tag with stamped date of production and/or batch number

- Apply the date of production and/or the batch number with the ink jet directly on the bag.

Additional marking is as per contractual agreement.

Templates for artwork available on: https://foodqualityandsafety.wfp.org/specifications

ANNEX I: Food contact polypropylene flexible packaging

Regulations, directives and working papers of the European Commission:

• Regulation (EC) No 1935/2004 on materials and articles intended to come into contact with food

• Regulation (EU) No 10/2011 on plastic materials and articles intended to come into contact with food

• Regulation (EC) No 2023/2006 on Good manufacturing practice for materials and articles intended to come into contact with food

• Recycling Regulation (EC) No 282/2008 on recycled plastic materials and articles intended to come into contact with foods

Resolutions of the Council of Europe:

• Resolution AP (89) 1 on the use of colourants in plastic materials coming into contact with food

• Resolution AP (92) 2 on control of aids to polymerisation for plastic materials and articles

• Framework Resolution AP (2004) 1 on coatings intended to come into contact with foodstuffs

ANNEX II: Declaration of Compliance (DoC) for materials and articles intended to come into contact with food

The present declaration of compliance is valid for 1 year, per product.

In the meantime, it is the supplier responsibility to update and send a new declaration of compliance following packaging and/or product formulation changes and/or if the legislation change.

It is the supplier responsibility to be in compliance with the regulation of its country of production.

Not all countries have a specific legislation for packaging materials. European Union and FDA regulations are the most developed ones. Other available regulations (e.g. Japan, China, Mercosur, Switzerland) may differ slightly from the two mentioned above. For countries that have no packaging regulation, compliance with either EU or FDA, or both, is requested.

Please issue the standard regulatory letter of compliance.

EU regulation;

https://ec.europa.eu/food/safety/chemical_safety/food_contact_materials/legislation_en

FDA regulation:

https://www.fda.gov/Food/IngredientsPackagingLabeling/PackagingFCS/default.htm

Otherwise, together with the product, the supplier must issue a **Declaration of Compliance** Letter for the packaging that is used in contact with food, including the following:

(1) **The identity and address of the business operator issuing this declaration of compliance**; including contact details for a person that can be reached in case of questions related to product safety.

(2) **The identity and address of the business operator that manufactures or imports the packaging material supplied** if different from so above.

(3) **Packaging material description:** Name of the packaging material and description, from the outer to the inner layer

(4) **Specifications on the use of the product**, such as:

1. type(s) of food with which is intended to be put in contact, and/or type(s) of food with which it is not allowed to be put in contact;

2. time, temperature of treatment and storage parameters (humidity, direct sun exposure…) of the packed food under which the food contact compliance of the product can be ensured.

(5) **Description of the packaging in contact with food supplied;**

Give all relevant details on the following points:

1. Describe the nature (chemical composition) and thickness/quantity of every layer or component used in the material; indicate which layer(s) or part(s) will normally come into contact with the food during its normal intended use.
2. Provide the safety data sheet for all raw materials (that are not of natural origin) used in the packaging in contact with food

(6) **Confirmation that the product meets relevant requirements laid down in the applicable food contact guidelines and legislation;**

1. Indicate the status of each of the individual raw material used with regard to relevant national or international guidelines, regulations or legislation applying in the country of manufacturer production on materials that put in direct or indirect contact with food.
2. Indicate the status of the finished product (final packaging : e.g. bags, bottle) as a whole with regard to relevant national or international guidelines, regulations or legislation applying in the country of manufacturer production on materials in direct or indirect contact with food.
3. Has the finished product been tested for overall migration or another test for its inertness in contact with food or food simulants? If yes, give details on the test procedure and conditions and on the results obtained such as calculations, migration modelling, migration testing or other relevant scientific methodologies. If migration tests have been done using the services of a third party, the name of this laboratory should be given.

For material ingredients that are not covered by any legislation the supplier should provide data that are demonstrating the suitability for use in material in contact with food. Data on toxicology, migration and exposure are necessary to make a safety evaluation.

(7) **Information on substances which are subject to a restriction in food**.

Indicate here the presence of substances in the packaging which are listed in relevant national or international food legislation as direct food additives and which could migrate from the product to the food in quantities that (i) could have a technical effect on the food, or (ii) could affect the compliance of the food with the applicable limits on the quantity of allowed food additives indicated in the respective law.

(8) **Absence of chemicals of concern**.

(name of the company) confirms that the following chemicals are not known or expected to be present in detectable quantities in the finished product (final packaging : e.g. bags, bottle) supplied taking into account the manufacturing process and the raw materials used:

1. alkyl phthalate plasticizers
2. allergens
3. asbestos
4. dioxins
5. flame retardants
6. fungicides
7. heavy metals
8. mineral oil solvents
9. pesticides
10. polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE)
11. polychlorinated biphenyls (PCB)
12. polycyclic aromatic hydrocarbons (PAH)
13. substances listed on supplier safety data sheets with properties of severe toxicity to humans (carcinogenic, mutagenic or toxic to reproduction) or the environment.

Note:

Supplier shall provide to WFP the Declaration of Compliance and , without further notice, a revised version of the said Declaration in case of :

- A change of the material composition
- Substantial changes in the production that could bring about changes in the migration
- When new scientific data are available as well as
- When the applicable legislation is significantly changed

(8) **The date of the declaration**, **stamp of the company and signature of the legal representative**