

inner liner. 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.

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/m2.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/m2.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 | <ul style="list-style-type: none">- 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 | <p>Top of the bag:</p> <ul style="list-style-type: none">- 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. <p>Bottom of the bag:</p> |

| | | | |
|---------------|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | <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, Bulgur Wheat, Fortified Rice, Maize Meal and Similar products | Product shall be labelled in an appropriate language as per contract agreement. - Product name: As per relevant food specification - Net weight: As per contractual agreement. |

| | |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | <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.

3. Tertiary Packaging

Palletizing

As per contractual agreement.

Stuffing without pallets

As per contractual agreement.

Desiccant

For shipping containers, unless fully shrink-wrapped pallets are used, and unless otherwise specified in the contract, it is highly recommended to place desiccant in container at appropriate location to absorb moisture (exception made for sugar).

Supplier needs to use high quality desiccant and calculate the quantity of desiccant based on:

- Efficiency of desiccant
- Length of time in transit in container
- Container capacity

Supplier needs to provide in the offer the type of desiccant and quantity to be used for the consignment.

| 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 |
| 90-120 days | 13.50 kg | 25.00 kg |

Note: Minimum quantity of desiccants for wagons is 26.25 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.

Additional information on tertiary packaging

Cargo shall be of uniform quality, clean (no deposits of dust, dead insects, droppings on primary/secondary packaging) and stacked/stored in a way to facilitate easy identification and traceability. Products that are visibly non-conforming are not acceptable and shall be removed (leaky packages, damaged, moldy, off smell/color/taste, smudged/unclear marking, water damaged etc.).

4. ANNEX

Annexes to this specification can be found on the links below.

Containerloadingprocedure-

https://documents.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp254688.pdf

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

FDALawRegulation-<https://www.fda.gov/food/ingredientpackaginglabeling/packagingfcs/default.htm>

OIMLR87Quantityofcommodityinpre-packages-https://www.oiml.org/en/files/pdf_r/r087-e16.pdf



**Technical Specifications for
PACKAGING - HDPE AND PET CONTAINERS**

Version: 6
Replacing: v4, 2022
Date of issue: Oct 5, 2024
FOSTER Reference: PS00018

Key update
 - Addition of carton style to be used as secondary packaging.
 - Material composition of label included.

1. GENERAL REQUIREMENTS

Unit of Entry Codes:

| Packaging Unit of Entry Codes |
|--------------------------------------|
| CC2: 12 x 1L - PET bottles |
| CC5: 15 x 1L - PET bottles |
| CC6: 20 x 1L - PET bottles |
| CC3: 12 x 1.5L - PET bottles |
| CCC: 2 x 2L - PET bottles |
| CQ0: 3 x 2L - PET bottles |
| CC7: 6 x 2L - PET bottles |
| CC8: 8 x 2L - PET bottles |
| CC4: 12 x 2L - PET bottles |
| CJB: 6 x 3L - HDPE Jerrycan |
| CN7: 6 x 3L - PET bottles |
| CP0: 2 x 4L - PET bottles |
| CP6: 4 x 4L - PET bottles |
| CC1: 4 x 5L - HDPE Jerrycan |
| CL9: 2 x 5L - HDPE Jerrycan |
| |
| |
| |
| |
| |

Purpose of the Specification:

The specification provides the packaging requirements to pack 1 to 5 liters Refined Fortified Vegetable Oil in PET and HDPE containers that are transported in carton boxes.

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 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 - PET and HDPE oil container

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

1 to 5L as per contract.

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

Material Composition

- Virgin material should be used to be in contact with the food.
- All packaging materials must be free of Phthalates (such as Butyl Benzyl Phthalate, Dibutyl Phthalate, Diethyl Hexyl Phthalate, Diisodecyl phthalate, di-n-octyl phthalate), PVC, PVdC, and be manufactured with materials which do not contain BPA as an intended component of the plastic formulation.
- The plastic resin used should be suitable for usage up to 45°C (considering that oil isn't filled to a temperature superior to 40°C).

PET (Poly Ethylene Terephthalate)

- Additives allowed:
- Colorants as specified are allowed to an opacity level that allows a user to view the product fill level.
- Preferable color is white or transparent. Any other color must be agreed with WFP.
- Recycled material could be used following the below conditions:
- The use of recycled content must adhere to Regulation (EU) No 2022/1616.
- In direct food contact if a close loop regrind system is in place and that the material is coming from the same container production to maintain the food grade compliance.
- In the external layers as long as the food grade compliance is respected.
- Post-Consumer Recycle (PCR) can be used up to 30% only if from suppliers who have certified clearances for use in

food contact applications and is of equal or greater physical properties of the primary PET source.

- No other material additives are allowed.
- Regrind generated from this container using a closed loop system for manufacturing and handling is allowed up to 5% (Additional regrind is allowable with notification to WFP). This self-generated regrind must be kept clean and free from foreign materials. Regrind from other sources is not allowed unless the material has been processed under the PCR allowances.

***HDPE (High Density Polyethylene) ***

- Opacity at a level that allows a user to view the product fill level
- Preferable color is white translucent. Any other color must be agreed with WFP
- No other additives are allowed except the one to color the container
- Recycled material could be used following the below conditions:
 - The use of recycled content must adhere to Regulation (EU) No 2022/1616.
 - In the external layers, not in direct contact with the food and as long as the food grade compliance is respected.
 - Outside regrind sources are not allowed.
 - In-house (from the same manufacturing plant) regrind materials are allowed up to 30%, with regrind generated from the containers own trim operation while using a closed loop system for manufacturing and handling.
- This self-generated regrind must be kept clean and free from foreign materials.

Label

- Composed of OPP laminated self-adhesive paper with release liner or OPP material.

Packaging suppliers shall indicate shelf life and storage condition on certificate of analysis of materials.

Material Qualities

| Material Quality | Value | Unit | Standard | Comment |
|------------------|-------|----------------|----------|---------------|
| Relative density | 1 | Not applicable | | HDPE Jerrycan |
| Relative density | 0.75 | Not applicable | | PET Bottle |
| | | | | |
| | | | | |
| | | | | |

Shape of packaging

| Parameter | Details |
|-----------|-------------------------------------------------------------------------------------------------|
| Shape | Square or rectangular to avoid space loss. |
| Headspace | The container headspace must be a minimum of 2.5% of the volume of oil contained in the bottle. |
| | |
| | |
| | |

Typical physical properties

| Parameter | Min | Max | Target | Unit | Standard | Additional Comments |
|--------------------|-----|-----|--------|------|--------------|------------------------------------|
| Wall thickness max | 0.2 | 4 | | mm | not provided | PET bottle (middle of side panels) |

| | | | | | | |
|------------------------------------------|-----|--|----|----|------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Wall thickness min | 0.1 | | | mm | not provided | PET bottle (on the corners) |
| Wall thickness max | | | 1 | mm | not provided | HDPE Jerrycan (middle of side panel). |
| Wall thickness min | 0.6 | | | mm | not provided | HDPE Jerrycan (on the corners). |
| Drop test on filled and closed container | | | | | ASTM D2463, SPI AU-135 or equivalent on the flat bottom from a 1.9m height - Certificate of compliance to be provided. | Pass without loss of content |
| Minimum top load | | | 59 | N | ASTM D2659 or equivalent- Certificate of compliance to be provided. | <p>eq. 6 kg (1L container)</p> <p>*Value given for a top load measurement performed on containers after at least 10 days on manufacturing - best conditions</p> <p>Test parameters (addition to the standard process):</p> <ul style="list-style-type: none"> - Peak measurement through 7mm of travel (alternative: Peak measurement over 10% of force drop off) - Speed: 50mm/min - Load points: handle and top neck for jerrycan and top neck for PET bottles - Vented test: provide a vent to allow equalization of air pressure during test |
| Minimum top load | | | 88 | N | ASTM D2659 or equivalent- Certificate of compliance to be provided | <p>eq. 9 kg (1.5L container)</p> <ul style="list-style-type: none"> - Please refer to test conditions mentioned in minimum top load for 1L bottle. |

| | | | | | | |
|------------------|------------------|--|-----|---|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| Minimum top load | | | 118 | N | ASTM D2659 or equivalent- Certificate of compliance to be provided | eq. 12 kg (2L container) - Please refer to test conditions mentioned in minimum top load for 1L bottle. |
| Minimum top load | | | 147 | N | ASTM D2659 or equivalent- Certificate of compliance to be provided | eq. 15 kg (2.5L container) - Please refer to test conditions mentioned in minimum top load for 1L bottle. |
| Minimum top load | | | 206 | N | ASTM D2659 or equivalent- Certificate of compliance to be provided | eq. 21 kg (3L container) - Please refer to test conditions mentioned in minimum top load for 1L bottle. |
| Minimum top load | | | 265 | N | ASTM D2659 or equivalent- Certificate of compliance to be provided | eq. 27 kg (4L container) - Please refer to test conditions mentioned in minimum top load for 1L bottle. |
| Minimum top load | Minimum top load | | 295 | N | ASTM D2659 or equivalent- Certificate of compliance to be provided | eq. 30 kg (5L container) - Please refer to test conditions mentioned in minimum top load for 1L bottle. |
| | | | | | | |
| | | | | | | |

Certificates of compliance to be provided for physical properties parameters.

Features

| Feature | Yes/No | Additional feature comments |
|----------------------------------------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Easy Opening | Yes | |
| Handle for > 5L containers | Yes | |
| At least a grabbing feature (2.5 to 4L containers) | Yes | |
| Reclosable | Yes | - The product must be properly sealed with no leakages. - The closure must resist with no cracking and when applied to the same top load as the container. - The product must be re-closable whilst remaining leakage proof. |
| Tamper evident | Yes | - The closure system (inner wad seal and cap) must be spill/leak proof |

| | | |
|--|--|----------------------------------------------------------------------------------------|
| | | and have a visible tamper evident system showing that the product has not been opened. |
| | | |
| | | |

Marking Information:

| Product Name | Marking Information |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Refined "xxx" Oil | <p>Fortified Refined Oil shall be labelled in an appropriate language as per contract agreement.</p> <ul style="list-style-type: none"> - Name of the product: Product name in relevant food specification - Fortified food - Net content: as per contractual requirement - Ingredient list: Ingredient list, Vitamins and additives (e.g., antioxidants) to be indicated including allergens in bold. "May contain..." - Nutrient table: Comply with Food Specification section, Nutritional Requirements - Production date: DD/MM/YYYY - Best Before End: MM/YYYY - Batch/lot number** - Manufactured by: Name and address - Supplied by*: Name and address - Manufactured in: XX - Storage instructions: "Store under dry and hygienic conditions and away from direct sunlight." - Other instructions: "Not for sale or Exchange", "Do not litter logo" - Donor and WFP logo: as per contractual requirement - Beneficiary feedback hotline: if required in the contractual agreement <p>xxx: to be replaced by the actual type of oil, e.g. Sunflower</p> <p>*if different from the manufacturer</p> <p>** 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>

3. SECONDARY PACKAGING - CARTONS

Product Description

Cartons suitable for humanitarian supply shall contain: 12x1L, 15x1L, 20x1L, 12x1.5L, 2x2L, 3x2L, 6x2L, 8x2L, 12x2L, 6x3L, 2x4L, 4x4L, 2x5L, 4x5L as per contract.

Material Composition

Unbleached double wall corrugated board.

Dimensions

- Fully filled for maximum strength and dimensions adjusted to the load.

Construction

- Carton style: Regular slotted container (RSC) or American box is required
- Minimum recommended grammage: 700 grams per square meter.
- The fluting must be vertical, supporting the load. B+C fluting is recommended.
- The carton should be plain brown with virgin fibres and paper from sustainably managed forest if possible. Please consult WFP to approve the use of recycled fibres.
- No stapling will be accepted.
- Storage condition must be included in certificate of analysis of material.

Shape of Packaging

| Parameter | Details |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Headspace | The dimensions must be adjusted to fit maximum products in the containers with a highly recommended 5mm headspace between the top of the bottle and the box, but a minimum side space. |
| | |
| | |

Typical physical properties

| Parameter | Value | Unit | Standard | Additional Comments |
|-----------------------------------------|--------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ECT (edge crush test) | 7.5 | kN/m | ISO 3037 or equivalent | eq. 45 lbs/in Note: Looking at the harsh handling, humid conditions, storage time and total stacking (PET bottles: 10 cartons height, HDPE jerrycans: 8 cartons height). |
| Drop test (primary packaging in carton) | | Not applicable | ISTA 3A standard test (Only the first drop test sequence as per ISTA 3A should be performed by the supplier. Tests parameters are found in the ISTA 3A procedure (Annex II - first drop test sequence (9 consecutives drop test) - https://docs.wfp.org/api/documents/WFP-0000150365/download/ After each drop, there shall be no rupture or loss of contents - Certificate of compliance to be provided. | |

| | | | | |
|------------------------------------------|-------|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| Top load resistance for finished product | 3,100 | N | ISO 12048 or equivalent - The final product (filled containers + cartons) working together need to support a minimum of static compression load of (ISO 12048 or eq. - certificate of compliance to be provided): Note: If the finished product combination isn't included in the table above, please consult WFP | eq. 316 kg - 1L x 12 |
| Top load resistance for finished product | 3,850 | N | Please refer to test conditions mentioned in top load resistance for finished product for 316 kg. | eq. 400 kg - 1L x 15 |
| Top load resistance for finished product | 4,900 | N | Please refer to test conditions mentioned in top load resistance for finished product for 316 kg. | eq. 500 kg - 1L x 20 |
| Top load resistance for finished product | 4,500 | N | Please refer to test conditions mentioned in top load resistance for finished product for 316 kg. | eq. 460 kg - 1.5L x 12 |
| Top load resistance for finished product | 1,800 | N | Please refer to test conditions mentioned in top load resistance for finished product for 316 kg. | eq. 185 kg - 2L x 3 |
| Top load resistance for finished product | 3,100 | N | Please refer to test conditions mentioned in top load resistance for finished product for 316 kg. | eq. 316 kg - 2L x 6 |
| Top load resistance for finished product | 4,860 | N | Please refer to test conditions mentioned in top load resistance for finished product for 316 kg. | eq. 600 kg - 2L x 12 |
| Top load resistance for finished product | 4,200 | N | Please refer to test conditions mentioned in top load resistance for finished product for 316 kg. | eq. 430 kg - 3L x 6 |
| Top load resistance for finished product | 2,060 | N | Please refer to test conditions mentioned in | eq. 210 kg - 4L x 2 |

| | | | | |
|------------------------------------------|-------|---|---------------------------------------------------------------------------------------------------|------------------------|
| | | | top load resistance for finished product for 316 kg. | |
| Top load resistance for finished product | 4,100 | N | Please refer to test conditions mentioned in top load resistance for finished product for 316 kg. | eq. 420 kg - 4L x 4 |
| Top load resistance for finished product | 2,500 | N | Please refer to test conditions mentioned in top load resistance for finished product for 316 kg. | eq. 255 kg - 5L x 2 |
| | | | | |

Certificates of compliance to be provided for physical properties parameters.

Marking Information:

| Product Name | Marking Information |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fortified Refined "xxx" Oil | <p>Fortified Refined Oil shall be labelled in an appropriate language as per contract agreement</p> <ul style="list-style-type: none"> - Name of the product: Product name in relevant food specification - Fortified food - Net content XXL (XX x XL) - Production date: DD/MM/YYYY - Best Before End: MM/YYYY - Batch/lot number** - Manufactured by: Name and address - Supplied by*: Name and address - Manufactured in: XX - Storage instructions: "This side up". Symbol to use → ISO 7000 N°0623 / "Keep away from Rain" Symbol to use → ISO 7000 N°0626 / "This packaging has been design to be stacked X boxes high". Symbol to use → ISO 7000 No.2403 / "Keep away from sunlight". Symbol to use → ISO 7000 N°0624. - 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 cartons (included in the price) must be sent with the lot or as per contract requirement. <p>xxx: to be replaced by the actual type of oil, e.g. Sunflower. *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>

Instructions

Refer to: "<https://docs.wfp.org/api/documents/WFP-0000150361/download/>" for list of documents to be provided for every delivery

4. TERTIARY PACKAGING

Palletizing

If pallets are used inside containers: it is highly recommended to have 3 first bottom layers placed as column stacking, the rest can be interlocked (cross-stacking) for load stability. Pallet shall be wrapped in a suitable manner (locked to the pallet, enough containment force) and the cartons should be banded when necessary. The cartons shall be secured to pallets to prevent any damage to the contents or packaging during shipment. Pallet used should be strong enough to support the charge during transportation. The pallets are recommended to be heat treated as per ISPM 15 standards (methyl bromide fumigation is not allowed).

Stuffing without pallets

If no pallets are used inside container: dunnage (of strong sheets such as carton, plywood...) should be placed inside each container at every three layers of cartons to provide the required stacking strength. In addition, protecting material like air bag, carton, polystyrene, can be used. Also, kraft paper shall be adhered to all internal sides, door, and floor of container. Kraft paper also need to be placed on the top of packaging.

- Ensure proper stowage so that there is minimum free movement of commodities during transit (max 20cm between top of cargo stow and container roof).

Desiccant

For shipping containers, unless fully shrink-wrapped pallets are used, and unless otherwise specified in the contract, it is highly recommended to place desiccant in container at appropriate location to absorb moisture.

Supplier needs to use high quality desiccant and calculate the quantity of desiccant based on:

- Efficiency of desiccant
- Length of time in transit in container
- Container capacity

Supplier needs to provide in the offer the type of desiccant and quantity to be used for the consignment.

| 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 |
| 90-120 days | 13.50 kg | 25.00 kg |

Better alternative material can be used upon agreement with WFP.

Additional Information on Tertiary Packaging

Cargo shall be of uniform quality, clean (no deposits of dust, dead insects, droppings on primary/secondary packaging) and stacked/stored in a way to facilitate easy identification and traceability. Products that are visibly non-conforming are not acceptable and shall be removed (leaky packages, damaged, moldy, off smell/color/taste, smudged/unclear marking, water damaged etc.).

5. ANNEX

Annexes to this specification can be found on the links below.

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

FDA Law Regulation-<https://www.fda.gov/food/ingredientspackaginglabeling/packagingfcs/default.htm>

Declaration of Compliance (DoC)-<https://docs.wfp.org/api/documents/WFP-0000150358/download/>

Documentation required from suppliers for every deliveries-<https://docs.wfp.org/api/documents/WFP-0000150361/download/>

Purpose of the Specification:

The specification provides the packaging requirements to pack canned foods that are transported in carton boxes

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. They should not impart any 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. For the duration of the intended product life plus a minimum of 10% safety margin and challenges/tested at worst case conditions (including handling, transit, storage or other considering worst-case temperatures, pressures, humidity's etc.).

- A metal can and lid must ensure hermeticity and protect the product from spoilage from the time, the can is closed, up to the time, it is opened by the consumer.

- 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 - Metal cans

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

160g, 200g, 290g, 300g, 400g, 420g or as per contract.

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

Material Composition

- For tin cans and lids, a particular attention must be made on bisphenol A and PFAS used in the lacquer coatings and lid compounds.

- Specifications and guarantees for the material, compounds, lacquers, seam sealant and other treatments used shall be available. These specifications will be used to ensure the finished product is hermetically sealed during the seaming operation and do not adversely transfer to the food being canned.

- Records of quality check, SOPs and other quality documents should be made available to WFP if requested.

- The metal containers and lids (tins) must be coated internally and externally with lacquers appropriate for the product and conditions of use. The composition and grammage of the internal tin coating should be defined based on the type of food contained in the tin cans. The coatings should be appropriately applied, in the correct and uniform thicknesses to eliminate risk of transfer to product and to optimize their functionality.

- The weight and the design of the tin can must be optimized to withstand the WFP supply chain (transit trials are

advisable to be validated under worst case conditions) and fit the content.

- WFP recommend the use of 2 pieces can. WFP do not accept semi-rigid cans.

- Delivered cans shall be free of defects and especially serious defects as defined by: "Metal can defects: identification and classification" (refer to Annex). Maximum acceptable level of serious defect is 1 in 100.000 cans.

- A defined and risk assessed inspection rate is required – this must include as a minimum an incoming packaging check for general condition, samples taken to confirm bottom and vertical seam are good and online visual inspection to ensure no dented or damaged cans get used.

-Records of these checks and the associated risk assessment should be made available for review and audit upon request. (Refer to Technical expectation on Campden guide sample spreadsheet to calculate acceptance of can quality which may be adapted.)

Material Qualities

| Material Quality | Value | Unit | Standard | Comment |
|------------------|-------|----------------|----------|---------|
| NA | | Not applicable | NA | |
| | | | | |
| | | | | |
| | | | | |

Shape of packaging

| Parameter | Details |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Seam dimensions | <p>- The manufacturer must obtain the acceptable ranges and limits for the double seam dimensions and other characteristics of the filled can specific to the can type, size and supplier (end-hook, body-hook, cover-hook, thickness, seam height, countersink depth, seam tightness).</p> <p>- Tin cans shall be free from container integrity defects which may compromise the hermetic seal.</p> |
| Headspace | <p>- The headspace must be optimized considering the impact that it can have on the mechanical proprieties of the can, the vacuum process, seam tightness.</p> <p>- Vacuum in the container can be done to avoid bulging that can lead to opened seam. Typically, this should be defined and qualified as appropriate by risk assessment and appropriate for the process and product.</p> |
| Label | <p>- The adhesive used to glue the label should be selected to withstand long supply chain, high temperature and humidity.</p> |
| | |
| | |

Typical physical properties

| Parameter | Min | Max | Target | Unit | Standard | Additional Comments |
|-----------|-----|-----|--------|------|----------|---------------------|
| Tightness | 70 | 95 | | Not | | - For 3-piece metal |

| | |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | <p>Carbohydrates = Available Carbohydrates = sugars + starches. The theoretical calculation can be made based on food composition database such as: https://fdc.nal.usda.gov/."</p> <ul style="list-style-type: none"> - Instruction for use: "consume all contents once opened." - Production date (and shift if there is more than ne shift): DD/MM/YYYY - Best before end: MM/YYYY - Batch/Lot Number** - Manufactured by: Name and address - Supplied by*: Name and address - Manufactured in: XX - Storage instructions: "Must be stored above 0 degrees Celsius in dry and hygienic conditions." - Other requirements: "Not for sale or Exchange." - Donor and WFP Logo: As per contractual agreement - Beneficiary feedback hotline: if required in the contractual agreement <p>*if different from the manufacturer ** recommended be traceable to retort and seamer used for manufacturing. Marking should facilitate traceability up to minimum one day of production.</p> <ul style="list-style-type: none"> - Supplier must ensure proper adhesion on the ink used for coding (shall not be easily rubbed off). - Highly recommended: Inks used for coding (batch number, PD, BBE) shall be thermochromic inks. |
| | |
| | |

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

3. SECONDARY PACKAGING - CARTONS

Product Description

Cartons suitable for humanitarian supply shall contain required number of Canned Food as per contract.

Material Composition

Unbleached double wall corrugate board.

Dimensions

Fully filled for maximum strength and dimension adjusted to the load.

Construction

- Minimum recommended grammage: 700 grams per square meter.
- It is under supplier responsibility to select material that will resist to multiple handling and up to 2 meters stacking.
- The fluting must be vertical, supporting the load. B+C fluting is recommended.
- The carton should be plain brown with virgin fibres and paper from sustainably managed forest if possible. Please consult WFP to approve the use of recycled fibres.

- No stapling will be accepted.
- Firmly closed (top and bottom).

Alternatively, and only after consultation with WFP: a secondary packaging composed of a tray that is stretch wrapped can be used after thorough assessment.

Shape of Packaging

| Parameter | Details |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Arrangement | The primary packaging must be placed in an appropriate way in the carton box during the packing process to avoid packaging and product damage. Carton separators may be used between the layers of cans to preserve integrity of cans. |
| | |
| | |

Typical physical properties

| Parameter | Value | Unit | Standard | Additional Comments |
|-----------------------------------------|-------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| ECT (edge crush test) | 11 | kN/m | ISO 3037 or equivalent | Exception can be given for ECT < 11kN/m (eq. 60 lbs/in) upon consultation with WFP. |
| Drop test (primary packaging in carton) | | Not applicable | Drop test shall be performed as per principles of ISO 2248/ASTM D5276 (or equivalent), with following sequence on the same carton: - Edge dropping: carton is dropped from a height of 460mm on 1 edge (the angle between a prescribed surface of the package and the horizontal surface $\pm 5^\circ$) - Corner dropping: carton is dropped from a height of 460mm on 1 corner (the angle between a prescribed surface of the package and the horizontal surface $\pm 5^\circ$) - Face dropping: carton is dropped from a height of 460mm on 1 face (2° maximum angle between the impacting face and the horizontal surface) | |

| | |
|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | <p>0 degrees in dry and hygienic conditions.”</p> <ul style="list-style-type: none"> - Other requirements: "Not for sale or Exchange" - Donor and WFP logo: As per contractual agreement - Beneficiary feedback hotline: if required in the contractual agreement - Two (2%) percent marked cartons (included in the price) must be sent with the lot or as per contract requirement. <p>*if different from the manufacturer</p> <p>** recommended be traceable to retort and seamer used for manufacturing. Marking should facilitate traceability up to minimum one day of production.</p> <ul style="list-style-type: none"> - Pallets and boxes must be marked with information on allowed level of stacking. |
| | |
| | |
| | |

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

Instructions

n/a

4. TERTIARY PACKAGING

Palletizing

If pallets are used inside containers: it is highly recommended to have 3 first bottom layers placed as column stacking, the rest can be interlocked (cross-stacking) for load stability. Pallet shall be wrapped in a suitable manner (locked to the pallet, enough containment force) and the cartons should be banded when necessary. The cartons shall be secured to pallets to prevent any damage to the contents or packaging during shipment. Pallet used should be strong enough to support the charge during transportation. The pallets are recommended to be heat treated as per ISPM 15 standards (methyl bromide fumigation is not allowed).

- It is recommended for containers to be lined with Kraft paper.
- Pallet corners can be used to prevent ropes to be applied directly on cartons or to secure the load.
- Packaging must be able to withstand long transport that can be made either by sea, rail or road.
- Maximum pallet height is 2m and only 1 pallet can be stacked on the top of each other. Pallet on the top must not damage the tin cans (carton sheet must be used to protect).

Stuffing without pallets

If no pallets are used inside container: dunnage (of strong sheets such as carton, plywood...) should be placed inside each container at every three layers of cartons to provide the required stacking strength. In addition, protecting material like air bag, carton, polystyrene, can be used. Also, kraft paper shall be adhered to all internal sides, door, and floor of container. Kraft paper also need to be placed on the top of packaging.

Desiccant

For shipping containers, unless fully shrink-wrapped pallets are used, and unless otherwise specified in the contract, it is highly recommended to place desiccant in container at appropriate location to absorb moisture.

Supplier needs to use high quality desiccant and calculate the quantity of desiccant based on:

- Efficiency of desiccant
- Length of time in transit in container
- Container capacity

Supplier needs to provide in the offer the type of desiccant and quantity to be used for the consignment.

| 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 |
| 90-120 days | 13.50 kg | 25.00 kg |

Better alternative material can be used upon agreement with WFP.

Additional Information on Tertiary Packaging

Cargo shall be of uniform quality, clean (no deposits of dust, dead insects, droppings on primary/secondary packaging) and stacked/stored in a way to facilitate easy identification and traceability. Products that are visibly non-conforming are not acceptable and shall be removed (leaky packages, damaged, moldy, off smell/color/taste, smudged/unclear marking, water damaged etc.).

5. ANNEX

Annexes to this specification can be found on the links below.

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

FDA Law Regulation-<https://www.fda.gov/food/ingredientspackaginglabeling/packagingfcs/default.htm>

OIMLR87Quantityofcommodityinpre-packages-https://www.oiml.org/en/files/pdf_r/r087-e16.pdf

Metalcandefectsidentificationandclassification-<https://inspection.canada.ca/preventive-controls/metal-can-defects/eng/1510763304486/1510763304952>

The specification provides the packaging requirements to pack Fortified Biscuits in metallized sachets that are transported in carton boxes.

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. They should not impart any 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 and storage in ambient temperature.
- 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 – Metallized flexible material

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

50g, 75g, 100g or as per contract.

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

Material Composition

The metallization must be away from the sealing layer.

PET/METPET/PE is recommended.

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

Material Qualities

| Material Quality | Value | Unit | Standard | Comment |
|-------------------------|--------------|-------------|----------------------------------------|-----------------------------------------------------|
| Thickness | 70 | mic | ASTM F2251 - 13(2018) or equivalent | Typical thickness (tolerance of – 5% is acceptable) |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| | | | | |
|--|--|--|--|--|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

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

| Parameter | Details |
|------------|-------------------------------------------------------------------------------|
| Space loss | Optimized in terms of shape and dimensions to avoid space loss in the cartons |
| | |
| | |
| | |

Typical physical properties

| Parameter | Min | Max | Target | Unit | Standard | Additional Comments |
|----------------------------------------------|-----|-----|--------|----------------|-----------------------------------------------------------------------------------------------------------|---------------------|
| WVTR | | 1.5 | | g/m2.day | (38°C/90% RH) (ASTM F1249-06 or equivalent) shall be indicated on the certificate of analysis. | |
| OTR | | 1.5 | | cc/m2.day | (23°C/0% RH) (ASTM D-3985 or equivalent) shall be indicated on the certificate of analysis. | |
| Seal strength (transversal and longitudinal) | 10 | | | N/15mm | ASTM F88 or equivalent | |
| Opacity | 2 | | | % | ASTM 1003 or equivalent | |
| Vacuum and Bubble Leak Test | | | | Not applicable | Desired test pressure is between -20 and -25 kPa as WFP products can be stored in warehouses above 2000m. | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Certificates of compliance to be provided for physical properties parameters.

Features

| Feature | Yes/No | Additional feature comments |
|---------|--------|-----------------------------|
|---------|--------|-----------------------------|

| | | |
|------------------|-----|--|
| Easy Opening | Yes | |
| Reverse printing | Yes | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Marking Information:

| Product Name | Marking Information |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fortified Biscuits Fortified Food | <p>Fortified Biscuits shall be labelled in an appropriate language as per contract agreement.</p> <ul style="list-style-type: none"> - Name of the product: Product name in relevant food specification. - “Fortified food” - Net weight: 50g, 75g, 100g or as per contract. - Ingredient list: Ingredient list, Vitamins and additives (e.g., antioxidants) to be indicated including allergens in bold. “May contain...” - Nutrient table: Comply with relevant food specification section: Nutritional Requirements. - Production date: DD/MM/YYYY. - Best Before End: MM/YYYY. - Batch/lot number** - Manufactured by: Name and address. - Supplied by*: Name and address. - Manufactured in: XX - Storage instructions: “Store under dry and hygienic conditions and away from direct sunlight. After opening, keep the sachet tightly closed.” - Other requirements: "Not for sale or Exchange", "Do not litter logo", "Breastfeeding logo", "It is strongly recommended to start breastfeeding immediately after birth, exclusively breastfeed during the first 6 months and continue until at least 24 months" - Donor and WFP logo: as per contractual requirement. - Beneficiary feedback hotline: if required in the contractual agreement. <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>

3. SECONDARY PACKAGING - CARTONS

Product Description

Cartons suitable for humanitarian supply shall contain: 100x100g or 140x75g or 200x50g of Fortified Biscuits or as per contract.

Number of units per carton:

Material Composition

Unbleached double wall corrugated board.

Material Composition Details

| Material Quality | Value | Unit | Standard | Comment |
|------------------|-------|------|----------|---------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Dimensions

Fully filled for maximum strength and dimension adjusted to the load.

Construction

- Minimum recommended grammage: 700 grams per square meter.
- It is under supplier responsibility to select material that will resist to multiple handling and up to 2 meters stacking.
- The fluting must be vertical, supporting the load. B+C fluting is recommended.
- The carton should be plain brown with virgin fibres and paper from sustainably managed forest if possible. Please consult WFP to approve the use of recycled fibres.
- No stapling will be accepted.
- Storage condition must be included in certificate of analysis of material.

Shape of Packaging

| Parameter | Details |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Arrangement | The primary packaging must be placed in an appropriate way in the carton box during the packing process to avoid packaging and product damage. |
| | |
| | |
| | |

| | |
|--|--|
| | |
|--|--|

Typical physical properties

| Parameter | Value | Unit | Standard | Additional Comments |
|-----------------------------------------|-------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| ECT (edge crush test) | 11 | kN/m | ISO 3037 or equivalent | eq. 60 lbs/in |
| Drop test (primary packaging in carton) | | Not applicable | <p>Drop test shall be performed as per principles of ISO 2248/ASTM D5276 (or equivalent), with following sequence on the same carton:</p> <ul style="list-style-type: none"> - Edge dropping: carton is dropped from a height of 460mm on 1 edge (the angle between a prescribed surface of the package and the horizontal surface $\pm 5^\circ$) - Corner dropping: carton is dropped from a height of 460mm on 1 corner (the angle between a prescribed surface of the package and the horizontal surface $\pm 5^\circ$) - Face dropping: carton is dropped from a height of 460mm on 1 face (2° maximum angle between the impacting face and the horizontal surface) <p>The velocity at impact shall be within $\pm 19\%$ of that which would be achieved by a free fall.</p> <p>There shall be no rupture or loss of contents as a result of the test (e.g., no flaps opened, tape still adhering). The required minimum number of units to be checked with drop test is 3 cartons per 500mt. If only the carton is damaged, it shall be replaced.</p> | |
| | | | | |
| | | | | |
| | | | | |

| | | | | |
|--|--|--|--|--|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Certificates of compliance to be provided for physical properties parameters.

Marking Information:

| Product Name | Marking Information |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fortified Biscuits Fortified Food | <p>Fortified Biscuits shall be labelled in an appropriate language as per contract agreement.</p> <ul style="list-style-type: none"> - Name of the product: Product name in relevant food specification. - “Fortified food” - Net weight: 10 KG (100x100G), 10.5KG (140x75G), 10KG (200x50G) or as per contract. - Production date: DD/MM/YYYY. - Best before end: MM/YYYY. - Batch/lot number** - Manufactured by: Name and address. - Supplied by*: Name and address. - Manufactured in: XX - Storage instructions: “This side up”. Symbol to use → ISO 7000 N°0623 / “Keep away from Rain” Symbol to use → ISO 7000 N°0626 / “This packaging has been design to be stacked X boxes high”. Symbol to use → ISO 7000 No.2403 / “Keep away from sunlight”. Symbol to use → ISO 7000 N°0624. - Other requirements: “Not for sale or Exchange” - Donor and WFP logo: as per contractual requirement. - Beneficiary feedback hotline: if required in the contractual agreement. - Two (2%) percent marked cartons (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>

Instructions

4. TERTIARY PACKAGING

Palletizing

If pallets are used inside containers: it is highly recommended to have 3 first bottom layers placed as column stacking, the rest can be interlocked (cross-stacking) for load stability. Pallet shall be wrapped in a suitable manner (locked to the pallet, enough containment force) and the cartons should be banded when necessary. The cartons shall be secured to pallets to prevent any damage to the contents or packaging during shipment. Pallet used should be strong enough to support the charge during transportation. The pallets are recommended to be heat treated as per ISPM 15 standards (methyl bromide fumigation is not allowed).

Stuffing without pallets

If no pallets are used inside container: dunnage (of strong sheets such as carton, plywood...) should be placed inside each container at every three layers of cartons to provide the required stacking strength. In addition, protecting material like air bag, carton, polystyrene, can be used. Also, kraft paper shall be adhered to all internal sides, door, and floor of container. Kraft paper also need to be placed on the top of packaging.

Desiccant

For shipping containers, unless fully shrink-wrapped pallets are used, and unless otherwise specified in the contract, it is highly recommended to place desiccant in container at appropriate location to absorb moisture.

Supplier needs to use high quality desiccant and calculate the quantity of desiccant based on:

- Efficiency of desiccant
- Length of time in transit in container
- Container capacity

Supplier needs to provide in the offer the type of desiccant and quantity to be used for the consignment.

| 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 |
| 90-120 days | 13.50 kg | 25.00 kg |

Better alternative material can be used upon agreement with WFP.

Additional Information on Tertiary Packaging

Cargo shall be of uniform quality, clean (no deposits of dust, dead insects, droppings on primary/secondary packaging) and stacked/stored in a way to facilitate easy identification and traceability. Products that are visibly non-conforming are not acceptable and shall be removed (leaky packages, damaged, moldy, off smell/color/taste, smudged/unclear marking, water damaged etc.).

5. ANNEX

Annexes to this specification can be found on the links below.

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

FDALawRegulation-<https://www.fda.gov/food/ingredientspackaginglabeling/packagingfcs/default.htm>

OIMLR87Quantityofcommodityinpre-packages-https://www.oiml.org/en/files/pdf_r/r087-e16.pdf

VisualInspectionforpackagingqualitycontrol-<https://docs.wfp.org/api/documents/WFP-0000150009/download/>