unicef

for every child

Specifications
on packaging, palletization, and labelling

February 2024 revision

Contents

VERSION CONTROL

Version	Description / Name	Release Date	Status	Comment
1A	Packing Specifications (non-CPH destinations)	May 2019	Obsolete	No longer valid as of April 2023
1B	Packing Specifications CPH Warehouse	Sep 2020	Obsolete	No longer valid as of April 2023
2	UNICEF Packing Specifications on Packaging, Palletization and Labelling	May 2023	Obsolete	Clarification of wording Merging of old Specifications (CPH and Non-CPH) New Label Specification Full integration of GS1 standards for labels
3	UNICEF Specifications on Packaging, Palletization and Labelling	Feb 2024	Current	Adding acceptable tolerance for pallets/cases humidity level; Updating the guidance on the usage of Application Identifiers and updating the labels; Introducing the excel template of UNICEF label; Updating wrapping/strapping requirements; Aligning the text with GS-1 vocabulary. Text/numbering corrections

Disclaimer:

Any Material/Product specific Packaging, Palletization and Labelling instructions provided in the UNICEF tender, LTA and/or Purchase Order documents supersede the general instructions from this document.

For clarifications regarding any packaging conditions not explicitly addressed within this specification (e.g., oversized, non-standard, bulk, non-cased/palletized shipments, etc.), please contact the relevant UNICEF procurement center.

1. SCOPE AND GENERAL REQUIREMENTS

1.1. Scope Of Application

1.1.1. These Packing Specifications are obligatory for all orders placed by UNICEF on or after October 02, 2023, and for all corresponding shipments organized by UNICEF suppliers.

1.1.2. The packaging levels[1] covered in this Specification include tertiary packaging only:

a) Cases[2]: A standard logistic unit that contains trade items (packaged either individually or grouped as an inner pack).

b) Pallets: A logistic unit that contains either cases, inner packs, or "Eaches".

Packaging levels affected by the updated UNICEF warehouse Packing Specifications (2023):
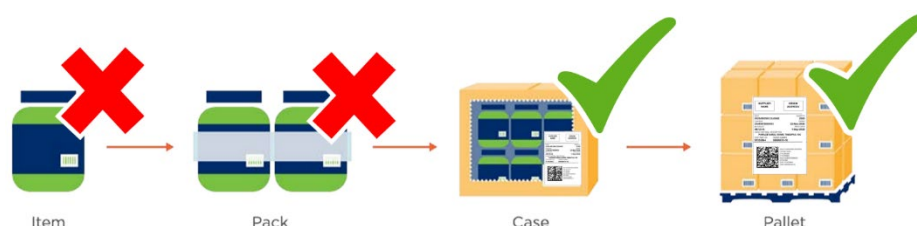

Figure 1. Packing Specs Scope Diagram

NOTE: For any guidance on the item or pack level packaging or labeling, please contact the relevant UNICEF procurement center. Original image source: https://tinyurl.com/yrzk5h94 (www.gs1us.org)

1.2. General Requirements

1.2.1. Besides the requirements for Cases and Pallets, Suppliers must also comply with the unique item specifications for packaging and labelling as defined in the Contractual Provisions section of every UNICEF Purchase Order (PO) [3]

1.2.2. Suppliers who do not comply with this Packing Specification shall be invoiced the extra cost of re-work deemed necessary as per the schedule of fees listed on the UNICEF website[4].

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[1] https://www.gs1us.org/resources/data-hub-help-center/packaging-level

[2] In this document, the term "Case", will also encompass the terms, "Cartons", "Bales", "Packs" or any other term typically used for the tertiary level of packaging which may be used as a separate export shipping unit.

[3] https://www.unicef.org/supply/documents/purchase-order-po-service-contract-and-contractual-provisions

[4] https://www.unicef.org/supply/technical-specifications-packing-packaging-and-labelling

1.2.3. UNICEF also reserves the right to reject non-compliant shipments. All additional costs in relation to the rejection of the shipment must be borne by the Supplier.

1.2.4. Where any exceptions to the guidance in these specifications are required, please contact the relevant procurement center in UNICEF.

2. CASES AND PALLETS

2.1. Case Specifications

2.1.1. Where possible, all cases and packaging material used must be of new, non-recycled corrugated fiberboard. Any deviations from this standard must meet the following minimum Design and Quality Specifications:

2.1.2. Design

Box style	Full-overlap slotted container (FOSC)
FEFCE/ESBO Code	0203 modified as described below
Closure	Outside flap, glued and stitched
Flute designation	BC double wall
Structural instructions	Meeting inner flaps. All corners of long side flaps are chamfered 25x25 mm.

2.1.3. Quality and standards

Edge Compression Test (ECT)	≥ 17 kN/m	(EN ISO 3037)
Bursting strength (Mullen)	≥ 2200 kPa	(EN ISO 2759)
Water absorptiveness (Cobb 1800)	< 155 g/m^2	(EN ISO 535)
Bending stiffness	MD: ≥ 44000 Nmm CD: ≥ 19500 Nmm	(EN ISO 5628)

2.1.4. Moisture content of cases must not exceed 12%.

2.1.5. Quality instructions:

Min. 60% of resulting box strength must be maintained in tropical conditions, i.e. 40°C and 90 % R.H. Box compression test (BCT) must be provided. Proof of compliance must be provided upon request.

2.1.6. Suppliers must avoid weak packaging/glue/tape, poor perforations, missing tray/lid, loose wrap, undersized/oversized cases, unsecured sales units, or other packaging defects.

2.1.7. During normal handling and processing in the UNICEF supply chain, cases and packaging are exposed to various conditions such as heavy compression on rollers and belts, as well as vibration, abrasion, temperature and humidity changes. These conditions may impact the quality of the cases and packaging. Therefore, it is mandatory for all Supplier-provided cases and packaging, except glass items, to be able to withstand a drop test of 1 meter.

2.1.8. The cases and packaging used must have flat and sturdy surfaces capable of supporting their own weight, as well as the weight of other cases stacked

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on top, without any bending, deflection, or distortion. The strength of the cases once palletized in a cube used must have sufficient structural integrity to allow for the stacking of 3 x 950 kgs pallet (as a minimum).

2.1.9. It is strictly prohibited for cases to bulge due to over-packed contents or to collapse because of excessive air space.

2.2. Pallet Specifications

2.2.1. Acceptable pallets:

a) US/UK Standard Wooden Pallet- 1200mm x 1000mm, one way pallet, Heat treatment according to ISPM 15, the relevant acceptable standard is: Grade A Stringer Pallets or 9 Block Pallets.

b) European Wooden Pallet- 1200mm x 800mm, one way pallet as per UIC 435-2, Heat treatment according to ISPM 15, the relevant acceptable standard is: DIN EN 13698.

2.2.2. Entry height from the floor must be a minimum 97 mm – to allow for manipulation by hand pallet jack / truck.

2.2.3. When stacking loaded pallets on a solid, level surface, the bottom layer pallet must have a minimum load rating capacity of 3,000 kgs.

2.2.4. All pallets provided must be compatible with pallet racking systems with a depth of 800mm. The wooden planks of the pallets must bear the minimum load and not flex or bow when placed on the pallet racking systems.

2.2.5. UNICEF reserves the right to reject any pallets which are non-compliant with the above requirements including those which are dirty and/or damaged. The Supplier will be for any necessary replacement pallet and/or rework costs;

2.2.6. The moisture content of pallets must not exceed 20%.

2.3. Case Stacking

2.3.1. The maximum allowable height per pallet is 1100 mm (including the pallet).

2.3.2. The maximum allowable weight per pallet is 950 kgs (including the pallet).

2.3.3. On the pallets, cases must be stacked in an interlocked pattern with each layer arranged in opposing directions whenever possible. This will increase the stability of the pallet during transport.

2.3.4. Overhang of cases is not permitted. All stacked materials must remain within the footprint of the pallet.

2.3.5. Corner boards, Edge protectors and Top caps may be used however recyclable corrugated fiberboard is the only material allowed.

2.3.6. Ensure even load distribution on pallets to prevent uneven weight distribution, mitigating the risk of instability during transportation.

2.4. Pallet Wrapping

2.4.1. Stretch wrapping is mandatory for all palletized goods that include stacked cases, to contain or prevent damage during transport.

2.4.2. The Supplier must only use transparent Stretch Wrap which is 20 micrometers (0.02 mm) x 450 mm.

2.4.3. All stretch wrapping must start from the top of the wooden pallet working upwards in an overlapping pattern.

2.4.4. The bottom layer must be double wrapped.

2.4.5. It is not permitted to cover the pallet fork entry holes with stretch wrap.

2.4.6. Loose stretch-wrap ends are not tolerated.

2.4.7. Double-stacked pallets must not be wrapped together.

2.5. Pallet Strapping

2.5.1. In addition to stretch wrapping, or when the pallets do not contain stacked cases, goods may be fixed with straps of polypropylene. Steel straps are not acceptable.

2.5.2. Goods must be fixed with at least 4 straps, 2 on the pallet's short side and 2 on the long side.

2.6. Water Exposure, Dust and Mold

2.6.1. All goods and packing materials (Cases, Pallets, etc.) received into UNICEF's custody must be free from water exposure, dust, and mold.

2.6.2. The Supplier must ensure that materials are packed and stored in a clean, dry, and well-ventilated warehouses to avoid water exposure, dust and mold contamination during storage and transportation.

2.6.3. The Supplier must use clean and dry packaging materials such as stretch wrap or pallet covers to protect the products from water exposure, dust, and mold accumulation during transportation.

2.7. Packing Configuration

Cases and pallets must never contain mixed POs, PO items lines, Materials/SKUs, Batches

3. PACKING LIST

3.1. General Requirements

3.1.1. All inbound shipments/orders/deliveries must be provided with a detailed packing list with which UNICEF can execute a timely Goods Receipt / delivery confirmation against.

3.1.2. If an inbound shipment contains multiple containers or trucks, the supplier must submit a complete packing list which details the contents per container or per truck.

3.1.3. Each Packing list must include the following details:

3.1.3.1. Ship to Address

3.1.3.2. Ship from Address

3.1.3.3. Supplier Name

3.1.3.4. UNICEF PO number (8 digits, no leading zeroes)

3.1.3.5. UNICEF PO Item number (typically 2-3 digits, no leading zeroes)

3.1.3.6. UNICEF Material number (8 alpha numeric characters)

3.1.3.7. UNICEF Material Description (*must match the PO)*

3.1.3.8. GS1 Global Trade Item Number (GTIN) (*where available/required*)

3.1.3.9. Quantity (as per the UNICEF Sales Unit / PO Unit of Measure)

3.1.3.10. Quantity per Batch number *(where applicable)*

3.1.3.11. Country of Origin per material

3.1.3.12. HS Code per material

3.1.3.13. Number of Pallets or other logistic units (*with Pallet type – US/EUR*)

3.1.3.14. Product Batch number *(where applicable)*

3.1.3.15. Product Production date *(where applicable)*

3.1.3.16. Product Expiry date *(where applicable)*

3.1.4. Failure to comply with UNICEF's Packing List requirements entitles UNICEF to impose a fee upon the Supplier for any missing or incorrect packing list.

3.1.5. The final case or pallet loaded onto the container/truck must have the Packing List physically attached on its exterior in a weather sealed pouch/envelope. The attachment must be positioned to face outward on the case or pallet and be easily visible to the person unloading it.

3.1.6. For Road deliveries, a second Packing List must be provided to the carrier (driver) for presentation at the warehouse receiving area.

3.2. Single shipment

When shipping LTL / LCL / Air Freight, one case must have a packing slip affixed to its exterior with each of the handling units sequentially numbered.

3.3. Multiple shipment

3.3.1. In case of multiple shipments of the same order, separate/individual loading lists must be prepared for each container/truck.

3.3.2. When shipping LTL/LCL/Air Freight, one case for each purchase order must have a packing slip affixed to its exterior with each of the handling units sequentially numbered.

4. GS1 COMPLIANT LABELLING

4.1. Scope of application

GS1 compliant logistic labelling is mandatory for all Cases and Pallets shipped to UNICEF. A guide on the use of Application Identifiers can be found in Table 1.

4.2. General labelling requirements

4.2.1. The label information must be written in human readable format as well as encoded into 2D DataMatrix barcodes.

4.2.2. If special storage, transport and/or handling conditions are required, labelling indicating such requirements shall also be affixed visibly both to the cases and the pallets. For temperature sensitive goods and for goods classified as dangerous goods, both the cases and the pallets must be clearly and visibly labelled to international standards with the storage and transport requirements. If goods require auxiliary monitoring equipment such as Data Loggers or RFID chips, more information will be shared in the respective underlying tender documents, Long Term Agreement (LTA) and/or PO document.

4.2.3. All Cases must be numbered consecutively.

4.3. Barcode labelling

The Cases and Pallets must be labelled with the following information in both human readable format and encoded in a single 2D GS1 DataMatrix barcode using ECC 200 Reed-Solomon error correction:
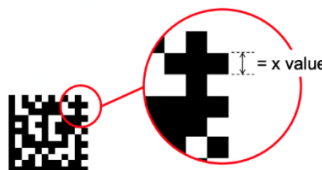
Table 1. GS1 Application Identifiers to be used on UNICEF cases/pallets labels.

GS1 AI	GS1 Description	Format[5]	UNICEF Label Data Title Text	UNICEF Labelling requirement
00	Serial Shipping Container Code (SSCC)	N2+N18	SSCC	Mandatory for Medicines, Medical Devices, and IT equipment. Optional for all other products
02	Global Trade Item Number (GTIN) of contained trade items	N2+N14	CONTENT	Mandatory for Medicines, Medical Devices, and IT equipment. Optional for all other products
10	Batch or lot number	N2+X..10	BATCH/LOT	Mandatory for Batch Managed Materials Maximum of 10 characters allowed
11	Production date (YYMMDD)	N2+N6	PROD DATE	Mandatory for Batch Managed Materials Not required for all other products
17	Expiration date (YYMMDD)	N2+N6	EXPIRY	Mandatory for Batch Managed Materials Not required for all other products
37	Count of trade items or trade item pieces contained in a logistic unit	N2+N..8	QUANTITY	Mandatory for all goods Supplier to use the quantity based on the UNICEF Unit of Measure from the PO
241	Customer part number	N3+X..8	CUST PART NO.	Mandatory for all goods Supplier to use the UNICEF material number from the PO
400	Customers purchase order number	N3+X..12	ORDER NUMBER	Mandatory for all goods, the PO number and PO Item number must be concatenated together and encoded: "68XXXXXX-XXX"
N/A	N/A	X40	UNICEF MATERIAL DESCRIPTION	Mandatory for all goods Supplier to use same wording as used in the UNICEF PO

4.3.1. The barcodes must be readable and graded achieving at least 1.5 (C) in accordance with ISO/IEC 15415:2011

4.3.2. The X dimension in mm must conform with GS1 standards as follows:

Symbol	X dimension mm (inches)			Quite Zone	Minimum quality specification
	Minimum	Target	Maximum		
GS1 DataMatrix (ECC 200)	0.743 (0.0292)	0.743 (0.0292)	1.50 (0.0591)	1 X on all four sides	1.5/20/660

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[5] In GS1 Application Identifiers (AIs), N denotes a numeric value and X an alphanumeric value. For instance, in N2+N14, N2 is a 2-digit identifier and N14 is a 14-digit numeric value. In N2+X..10, X..10 is an alphanumeric value up to 10 characters.

See section 5.12.3.5 Figure 5.12.3.5-1 of the [GS1 General Specifications](#) for further information.

4.3.3. The final Application Identifiers to be used in the Supplier's label will depend on the type of product and the mandatory minimum UNICEF labelling requirements detailed in [Table 1](#).

4.3.4. Label Samples (see Annexes A, B)

4.3.5. For additional assistance to comply with UNICEF's GS1 label standard, please use the [UNICEF GS1 Label Template](#) for reference purposes.[6]

4.3.6. Also refer to section 5.6 of the GS1 General Specifications for further information on complying with the GS1 standards.

4.3.7. Quantity: The quantity indicated on both case and pallet labels must accurately represent reflect the quantity of UNICEF's Sales Units contained within each individual case or pallet.

4.3.8. Partial cases: Partial cases must be marked with the word "PARTIAL".

4.4. Date formats

4.4.1. The Production/Expiry date written in the middle section of the label must be in the following format: DD/MMM/YYYY.

4.4.2. The Production/Expiry date written in the bottom section of the label must be in GS1 format: YYMMDD together with AIs (11) and (17).

4.4.3. If a Supplier defines only a month and year of production/expiry of their product, for the UNICEF label the Supplier shall include the day as per follows: production date - first day of the month; expiry date- last day of the month.

4.5. Case Label Size and Positioning

4.5.1. The Case label must be A7 size[7].

4.5.2. The label must be affixed to the front side of the case, visible when stacked together with other cases on the pallet used for shipping.

4.6. Pallet Label Size and Positioning

4.6.1. The Pallet label must be A6 size.

4.6.2. 2 x labels must be affixed to the two short sides of the pallets, outside of the plastic stretch wrapping.

4.7. Label format compliance

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[6] The UNICEF GS1 Label Template is meant to be used ONLY for reference purposes, it is the sole responsibility of the Supplier to ensure accuracy and compliance of the labels used.

[7] NOTE: In exceptional cases, UNICEF may allow for the relaxing of this rule, but only after obtaining their explicit written approval and depending on the specific circumstances

4.7.1. Prior packing/labelling an outbound delivery, the Supplier must submit a sample of the pallet and case labels to UNICEF for verification via email at PackingSpecs@unicef.org.

4.7.2. In the event of non-compliance with UNICEF's mandatory minimum labelling requirements, UNICEF reserves the right to either reject the delivery of the order or invoice a rework/relabeling fee to the Supplier.

5. ANNEX A – A6 PALLET LABEL SAMPLE

Company name and address

Origin address

TOP SECTION
- SUPPLIER SEGMENT
- TEXT AND GRAPHICS, LOGO
This area is also available for manufacturer info such as package size, package details, storage conditions, etc...

SSCC
10123456780000123 5
QUANTITY
4500

FIXED HEADERS ARIAL FONT SIZE 12

CONTENT
20123456780129
EXPIRY
11-Jan-2029

DYNAMIC TEXT ARIAL FONT SIZE 18

BATCH/LOT
AE12344
PROD DATE
12-Jan-2024

UNICEF MATERIAL DESCRIPTION
PARACETAMOL 500MG TABS/PAC-100

CUST PART NO.
S1234567
ORDER NUMBER
68000000-010

148 mm

(00) 10123456780000123 5
(02) 20123456780129
(10) AE12344
(17) 290111
(11) 240112
(37) 4500
(241) S1234567
(400) 68000000-010

BOTTOM SECTION PASTE ENCODED DATA MATRIX LABEL HERE

MANDATORY TO INCLUDE ENCODED DATA IN HRI FORMAT ARIAL FONT SIZE 12

PALLET 1 / 20

105 mm

(SAMPLE NOT TO SCALE)

6. ANNEX B – A7 CASE LABEL SAMPLE

TOP SECTION
- SUPPLIER SEGMENT
- TEXT AND GRAPHICS, LOGO
This area is also available for manufacturer info such as package size, package details, storage conditions, etc...

FIXED HEADERS
ARIAL FONT SIZE 12

DYNAMIC TEXT
ARIAL FONT SIZE 8

BOTTOM SECTION
PASTE ENCODED DATA MATRIX LABEL HERE

MANDATORY TO INCLUDE ENCODED DATA IN HRI FORMAT ARIAL FONT SIZE 8

105 mm

74 mm

(SAMPLE NOT TO SCALE)