Apparel and General Merchandise

E-Commerce Fulfillment Guideline

Developed by the GS1 US Omni-Channel Ready Merchandise Workgroup

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1   Revision Summary

Table 1-1 Revision Summary

Date	Section	Pages	Revision
MAY 16 2016	All	All	1st Release Published

2   Introduction

This E-Commerce Fulfillment Guideline addresses packaging, identification and marking for merchandise shipped to a distributor or retailer fulfillment center. The term "fulfillment" refers to completing the distribution and shipping process for orders placed online by consumers with retailers.

Note: Best practices in this guideline do not apply to established "Brick-and-Mortar" retail practices.

Best practices are derived through consensus from discussions with retailers and suppliers that are members of the *GS1 US Apparel and General Merchandise Initiative*.

NOTE: As with all GS1 Standards and solutions, the GS1 US Apparel and General Merchandise E-Commerce Fulfillment Guideline is voluntary, not mandatory. It should be noted that use of the words "must" and "require" throughout this document relate exclusively to technical recommendations for the proper application of the standards to support the integrity of your implementation.

NOTE: GS1 US does not provide compliance advice for legal, statutory, and/or regulatory requirements. Each company is individually responsible for meeting all federal, state, and local legal requirements for their company and their products. Consult with your company's legal counsel or compliance team (regulatory or quality) for more specific information about statutory and regulatory requirements.

2.1   Objective

This guideline is intended to harmonize processes used to prepare and ship product to traditional retailers and distributors for accommodating omni-channel distribution to consumers.

With online and in-store distribution, supply chain handling costs, time and resource challenges are increasing. For example, in apparel, product shipped to a retail store is often expected to arrive on an appropriate hanger. However, the same product shipped directly to the consumer is expected to arrive folded in a plastic bag with the hanger removed.

2.2   Overview

This guideline will continually evolve, moving toward a single process based on cost savings and capabilities. This document intends to consolidate the "as is" scenarios for members to follow and to avoid any "reinventing the wheel" when developing their process for handling, fulfilling and distributing online orders for apparel items.

2.3   Assumptions

This document began and has been developed with the assumption that it is not and may never be exhaustive in its approach to e-commerce fulfillment. As trading partner implementations occur and the channel becomes more mature, this document will be updated with additional guidance.

This document should be viewed as Phase One of a multi-phased approach to the issue. This is not a final solution, but an evolving guidance that is determined by industry consensus.

2.4 Goals and Benefits

The GS1 US Omni-Channel Ready Merchandise E-Commerce Fulfillment workgroup will use a phased approach driving to a single solution across all channels. As each phase is agreed upon (over time), additional benefits are expected and new goals will be set. The goals and benefits sought to be addressed are:

Phase 1: Reduce retailer's order-to-fulfillment cycle time

Phase One attempts to gain alignment in how a manufacturer ships to a retailer e-commerce fulfillment facility by consolidating common or agreeable retailer requirements. This is a starting point and focuses on those areas where we can most easily gain consensus; that is: packaging, identification and marking of apparel, footwear and accessories.

Phase 2: Deeper dive into standardization

Phase Two will include additional product categories and will also attempt to further reconcile the different packaging for Brick and Mortar and e-commerce channels. The objective will be to decrease wasted packaging and to reduce the variety of packaged Stock Keeping Units (SKUs) maintained in inventory by a supplier.

Future Phases: Continue to improve efficiency related to material and labor required for fulfillment

Future Phases will seek to incorporate the suite of guidelines into a single harmonized document giving users a single point of reference for merchandise readiness across channels.

3 Best Practices for E-Commerce Fulfillment

General Statement

- With brick-and-mortar, the best practice is for the supplier to prepare product at the production source. This may or may not be best practice for e-commerce fulfillment, and will be subject to further study and specific guidance in future versions of this document.

  When it is the best practice for e-commerce fulfillment, it requires the retailer to commit orders for e-commerce far enough in advance that the supplier can designate instructions to the factory to separate e-commerce orders from store orders.

- U.P.C./EAN (GTIN) for the item must be the same, regardless of whether fulfillment is for brick and mortar or e-commerce. This is REQUIRED for network-wide inventory visibility and sell-through tracking.

3.1 Unit of Measure (UOM)

The *GS1 US Trade Item Identification and Communication Guidelines* (TIIC) for Electronic Data Interchange (EDI) are intended to facilitate the use of the GTIN. The prepack, setpack and multipack content below are explained in more detail in the TIIC Guideline; section 5.3 provides Global Trade Item Number® (GTIN®) assignment rules.

Best practice for Consumer Unit of Measure is to align the selling unit with how it is to be packed. Trading partners should be aligned on UOM. The UOM on an order should match the UOM that is packed and shipped by the supplier.

- If a product is sold as a multi-pack or setpack, there is an expectation that there is a U.P.C. assigned to each level of selling.

  - **Setpack -** A setpack is a group of trade items (the same or different) that is intended to be sold as a single consumer unit at Point of Sale; however, alternatively, the group may be separated and the individual trade items sold individually. The setpack is identified and marked with a unique GTIN, as are each of the contained trade items, maintaining the one-to-one relationship between trade item/color ID/size ID and the GTIN. Each individual trade item GTIN must be

scannable at the Point of Sale and may or may not be orderable, separately outside the setpack(s). A separate and unique GTIN is assigned to each setpack. This GTIN is also scannable at Point of Sale. For a setpack, each different trade item within the setpack will be assigned a GTIN, maintaining the one-to-one relationship between trade item/color ID/size ID and the GTIN. The individual trade item GTIN must be scannable at the Point of Sale (POS), and may or may not be orderable separately outside the setpack(s). A separate and unique GTIN is assigned to each setpack. This GTIN is also scannable at Point of Sale.

☐ **Multipack -** A multipack is a group of trade items (the same or different) that are intended to be sold as a single consumer unit at Point of Sale (e.g., a three pack of men's white T-shirts or a 12-piece set of glassware). A multipack is not intended to be broken apart and sold as individual trade items. A multipack is assigned a single GTIN. Generally, components of a multipack are not marked with the individual trade item GTINs.

■ If a retailer will ship/fulfill at a different pack quantity than shipped by the manufacturer, the retailer should indicate those intentions to the manufacturer.

■ The GTIN should equal the selling Unit of Measure (to the consumer), and product should be packaged to match this. If the retailer sells in a different UOM than the supplier has it packed, it has to be repackaged. Additionally, if the product is not individually ticketed it must also be reticketed.

☐ Examples:

- If a supplier is going to package socks in threes, the intention should be to sell it as a set of three pairs.

- Children's wear that is packaged as a set (i.e., three onesies) should be sold as a set of three to the consumer.

- Bedding normally sold in sets (i.e., fitted sheet, top sheet, 2 pillowcases) UOM= 1 set. Breaking up the set is a retailer business decision.

- Bath items (e.g., towels, washcloths, etc.) are normally sold as Eaches. They can be sold as sets, but are individually packaged. UOM= 1 each.

3.2   Ticketing/GTIN Identification

Control/Click the link: 2.0 Retail Price Marking

■ Ticketing for e-commerce fulfillment should align with established brick-and-mortar policy for "price-on" or "price-off" (Suggested Retail Price). Suppliers should not need to modify ticketing practices for e-commerce.

■ Items should be identified with a GTIN and ticketed at each orderable/shipping quantity. (See the Glossary in this document for the definition of a trade item).

■ For general merchandise, GTINs may be reused after 48 months have elapsed from the end of commercialization of the item; for apparel items only, 30 months.

■ The online GTIN Allocation Rules should be followed when identifying trade items.

☐ NOTE: In cosmetics, best practice is that the retailer asks supplier NOT to change the GTIN when packaging changes occur.

☐ Note: Industry is currently using property marks to designate different treatment/trim/packaging for the same GTIN/U.P.C. (i.e., hangers, special ticketing, etc. does not change the U.P.C.).

■ GTIN/U.P.C. is traditionally analogous to STYLE/COLOR/SIZE variations. This is how product is tracked.

■ ALL EXTERNAL PRODUCT MARKING SHOULD MATCH INTERNAL PRODUCT MARKING. Every effort should be made to ensure that all product identification is consistent and correct. For e-commerce,

most processes are driven by scanning the barcode that is visible and scannable from the outside of the polybag. Failure to properly ticket will result in mis-picks which can impact reverse logistics, add time to order processing, and/or cause the wrong product to be sent to the consumer. It may also create problems in product put away upon receipt, and issues when picked to fulfill consumer orders.

- ☐ Retailers should ensure that their internal policy for external ticket placement aligns across all channels.

- ☐ Note that references to external product marking do not apply to EPC®. Where EPC-enabled item level RFID is in use, existing RFID tag placement guidelines still apply.

- ■ The barcode visible from the outside of the e-commerce package needs be a UPC-A, EAN-8, or EAN-13 (no other types of barcodes, i.e., GS1-128 or ITF-14). For RFID-enabled trading partnerships, EPC should be on the tagged item, but the U.P.C. or EAN barcode should still appear on the polybag for picking/scanning.

- ■ Items should be ticketed as it is packed for shipment to the consumer.

  - ☐ Items ordered by and shipped to consumers as Eaches, should be ticketed at the Each level (e.g., champagne flutes shipped by manufacturer in 4's or 6's, but sold individually to the consumer: each flute should be ticketed).

- ■ GTIN is to be encoded in an UPC/EAN barcode with clearly legible Human Readable Interpretation (HRI), or an EPC-enabled RFID tag, or both. NOTE: E-Commerce orders should follow the same practice as stores. In other words, align across channels (i.e., if EPC is in use for stores, use EPC for e-commerce as well).

- ■ For additional ticket information see *Apparel and General Merchandise UPC/EAN Tag Format and Placement* Section 2.4.

- ■ The barcode is to comply with the dimensional and quality requirements of Symbol Specification Table #1 (*GS1 General Specifications*):

  - ☐ Minimum X-Dimension 0.0104"

  - ☐ Minimum Symbol Height 0.720"

  - ☐ Minimum Print Quality specification 1.5/06/660

3.3   Packaging

General Statement:

Control/Click the link: 7.0 Packaging Materials

Product packaging should meet the following criteria:

- ■ Retain consumer presentation quality.

- ■ Product must remain in package.

- ■ Care must be taken during the product planning stage to ensure that the product is protected. For example, if a product is banded for display and sale, it needs to be poly-bagged to protect the product in shipment.

- ■ Packaged product must pass the "shake test" (i.e., the product is packaged snugly in its bag so that it retains its shape (does not fall to the bottom of the bag) and does not fall out of the bag while in transit throughout the supply chain).

- ■ Product packaging should keep the item from getting soiled, broken, wrinkled, or rendered unfit for sale.

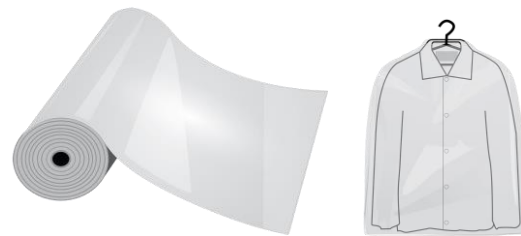### 3.3.1   Polybags

3.3.1.1 Polybag Type

- **Flat Type:**
  Clear BHT-free polyethylene plastic bag used to package single items or sets of items. The package is then designed to lay flat.

- **Roll Type:**
  Clear BHT-free polyethylene plastic bag used to package single hanging items. Bag is designed to slide over garment, has a small hole at top to expose the hanger hook.


3.3.1.2 Polybag Closure Options

When planning the product closure option, consideration must be given to the possible need for secure re-sealability of the package.

- BHT-free Adhesive Seal
- Heat Seal
- Snap Closure
- Fold Closure
- Tuck Closure

3.3.1.3 Polybag Ventilation

- To prevent air from being trapped in the flat type polybag, vent with "half-moon" or "butterfly" vents only. These vents help maintain product integrity and quality.
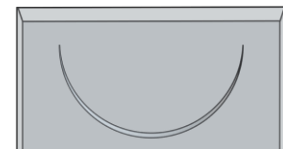
- An exception is permitted for those leather, suede or fur goods that require full size air holes. This exception may be trading-partner specific.
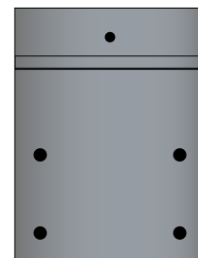
3.3.1.4 Polybag Warning Statement

- Each supplier is responsible to locate and comply with state and local regulations when it comes to the products they manufacture and distribute. It is important to coordinate the regulatory requirements with the requirements set forth by retailers/distributors. Retailers and distributors are urged to align their requirements with the applicable regulatory requirements to limit the need for separate supplier inventories per customer requirements.

- Examples of agencies that may have regulatory oversight or information regarding polybags include (but are not limited to):
  - Municipal, state and federal consumer protection agencies
  - Agencies charged with regulating the movement/trading of goods, such as the Federal Trade Commission
  - Municipal, state and federal health and/or safety commissions
  - Several trade associations also have valuable information and can be consulted

- Please note that this applies to all levels of packaging.

- See the Appendix for URLs of example warning statements.

3.3.1.5 Polybag Material and Material Thickness

Polybag material must be clear, BHT-free polyethylene.

- Acceptable roll type polybag minimum thickness is 0.75 mil.
- Acceptable flat type polybag minimum thickness is 1.25 mil.

3.3.1.6 Polybag Label Placement

Control/Click the link: 2.0 Retail Price Marking

The product's UPC/EAN barcode must be visible and scannable. If it is possible for the product's UPC/EAN barcode to be obscured, a supplemental UPC/EAN barcode sticker must be placed on the outside of the package.

- For product where packaging is stable or there is an insert (i.e., a cardboard wrap around bedding or boxed accessories), there is no need for polybag sticker since product movement will not obscure the UPC/EAN.
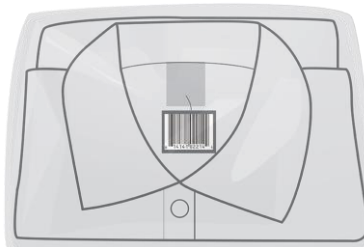
■ When a supplemental UPC/EAN barcode sticker is needed, the preferred placement is the lower rear quadrant of the package; however, acceptable alternate placements include the center of the package front or low on the package front (but not so low as to fold under the package).

| Preferred Placement | Acceptable Alternative Placement |
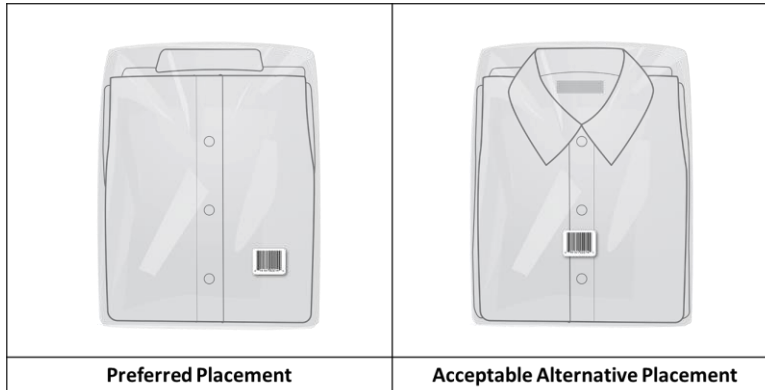
■ Note: Both polybag warning statement and branding takes precedence with regard to sticker placement.

    ☐ Hanging merchandise – UPC/EAN should be placed near top of Upper Right Quadrant while facing the human front of the garment (see figure below).
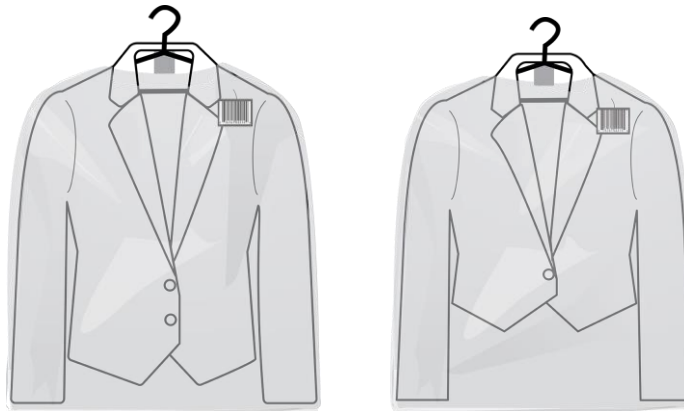
3.3.2   Shipping Containers

Control/Click the link: 9.0 Shipment Packaging

Minimum/maximum dimensional and weight requirements can be found in the guidelines at the above link.

4 Product-Specific Best Practices for E-Commerce Fulfillment

Control/Click the link: *Voluntary Guidelines for Hanger Specifications for Floor-Ready Merchandise*

Individual Apparel Consumer Trade Items are to be packaged in individual, sealed polybags.

4.1 Apparel

Table 4-1 Product-Specific Best Practices

Product Type	Example *(examples are offered not as specific requirement but as guidance only)*	Example Graphic *(examples are offered not as specific requirement but as guidance only)*	Recommendation: *Hanging versus Flat*
Men's, Women's & Children's Tops and Bottoms	▪ Sportswear & Activewear ▪ Underwear & Intimate ▪ Sleepwear & Robes ▪ Swimwear ▪ Dress Shirts ▪ Skirts		Flat
Casual Outerwear	▪ Ski Jackets & Parkas ▪ Puffer Coats & Jackets ▪ Jean Jackets ▪ All Weather & Rain coats		Flat
Dress Outerwear	▪ Topcoats ▪ Wool & Blend Pea Coats ▪ Cashmere Coats ▪ Leather, Fur & Suede		Hang
Men's & Women's Suits	▪ Suits ▪ Suit Separates ▪ Sportcoats & Blazers		Hang

Product Type	Example *(examples are offered not as specific requirement but as guidance only)*	Example Graphic *(examples are offered not as specific requirement but as guidance only)*	Recommendation: *Hanging versus Flat*
Special Occasion & Social Dresses	▪ Evening Gowns ▪ Bridal & Prom Dresses ▪ Beaded/Sequin Cocktail Dresses plus girls, infants and toddlers		Hang
Casual & Business Dresses	▪ Jersey Dresses ▪ Woven Shirtdresses ▪ Work Dresses/ Shifts ▪ Rompers & Jumpsuits		Flat
Designer / Bridge Clothing			Hang

NOTE 1: This table is provided to give guidance as to the best packaging to protect the garment from creasing or soiling, etc.

Note 2: If product is currently shipped without a hanger and meets presentation requirement, it is recommended that you not insert a hanger.

5   Glossary

Term	Definition
mil	Unit of measure used in North America to identify material thickness or barcode bar width. One mil equals one thousandth of an inch (.001"). Does not relate to, or mean millimeters.
1.5/06/660	Notation example of how to express barcode print quality to a barcode printer/provider: ▪ "1.5" represents the minimum print quality ISO grade (C) ▪ "06" represents the barcode verifier light aperture and represents the dimension of ".006" ▪ "660" is the wavelength in nanometers of light to be used when testing the barcode- 660 is red light
Trade Item	Any item (product or service) upon which there is a need to retrieve predefined information and that may be priced, ordered, or invoiced at any point in any supply chain.
Style	A style is a trade item void of any color and size implications. A style number should be assigned to include all sizes and colors. The style number is a seller's primary identification of a product and a meaningful link to GTINs (individual color/size) for both seller and buyer. For more information, please refer to Section 3.1.3 in the *Trade Item Identification and Communication Guidelines for Electronic Data Interchange (TIIC)*.
BHT	Butylated hydroxytoluene (also known as dibutylhydroxytoluene) is a lipophilic organic compound, chemically a derivative of phenol that is useful for its antioxidant properties commonly used to preserve foods and cosmetics to slow down the autoxidation rate of ingredients in a product that can cause changes in the taste or color. There have been many studies which demonstrate that BHT accumulates over time in the body, having a toxic impact on the lungs, liver and kidneys amongst other negative effects.
HRI	Human Readable Interpretation: Characters, such as letters and numbers, which can be read by persons and are encoded in GS1 AIDC data carriers confined to a GS1 Standard structure and format. The Human Readable Interpretation is a one-to-one illustration of the encoded data. However Start, Stop, shift and function characters, as well as the Symbol Check Character, are not shown in the HRI.
Pre-pack	A pre-pack is an assortment of trade items that is intended to be ordered by the retail buyer as a single line item; however, the individual items within the prepack are intended to be sold separately at the point of sale. For a pre-pack or standard assortment of trade items, each different item within the pre-pack will be assigned a GTIN maintaining the one-to-one relationship between trade item/color ID/size ID and GTIN. Each of the component GTINs is scannable at the Point of Sale and may or may not be orderable separately outside of the prepack. In addition, a separate, unique GTIN is assigned to each orderable prepack. This GTIN is not scannable at the Point of Sale.
Multi-pack	A multi-pack is a group of trade items (the same or different) that are intended to be sold as a single consumer unit at the Point of Sale (e.g., a three pack of men's white T-shirts or a 12-piece set of glassware). A multi-pack is not intended to be broken apart and sold as individual trade items. A multi-pack is assigned a GTIN that is different from the GTIN that may be assigned to the individual trade items. Generally, components of a multi-pack are not marked with the individual trade item GTINs. Each different multi-pack of the same trade items (e.g., three-pack socks versus six-pack socks) must have a different GTIN assigned. Each different multi-pack GTIN must also have its own trade item/color ID/size ID.
Set-pack	A set-pack is a group of trade items (the same or different) that is intended to be sold as a single consumer unit at Point of Sale; however, alternatively, the group may be separated and the individual trade items sold individually. The set-pack is identified and marked with a unique GTIN, as are each of the contained trade items, maintaining the one-to-one relationship between trade item/color ID/size ID and the GTIN. Each individual trade item GTIN must be scannable at the Point of Sale and may or may not be orderable, separately outside the set-pack(s). A separate and unique GTIN is assigned to each set-pack. This GTIN is also scannable at Point of Sale. For a set-pack, each different trade item within the set-pack will be assigned a GTIN, maintaining the one-to-one relationship between trade item/color ID/size ID and the GTIN. The individual trade item GTIN must be scannable at the Point of Sale and may or may not be orderable, separately outside the set-pack(s). A separate and unique GTIN is assigned to each set-pack. This GTIN is also scannable at Point of Sale.
EPC	Electronic Product Code
RFID	Radio Frequency Identification
UPC/EAN	How the industry refers to the group of "point of sale" barcodes titled by ISO as "the EAN/UPC Symbology."

6   Appendix: URLs for Polybag Warning Statement Examples

- *http://www.leginfo.ca.gov/cgi-bin/displaycode?section=bpc&group=22001-23000&file=22200-22205*

- *http://www.mass.gov/eohhs/docs/dph/regs/105cmr630.pdf*

- *http://w3.health.state.ny.us/dbspace/NYCRR10.nsf/56cf2e25d626f9f785256538006c3ed7/8525652c00680c3e852565300065d650?OpenDocument*

- *http://webserver.rilin.state.ri.us/Statutes/title11/11-9/11-9-16.HTM*

- *http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+18.2-320*

- *http://www.amlegal.com/nxt/gateway.dll/Illinois/chicago_il/municipalcodeofchicago?f=templates$fn=default.htm$3.0$vid=amlegal:chicago_il*

- *https://www.plasticsindustry.org/files/industry/Plastic%20Bag%20Warning%20Label%20Requirements%202012-12-04%20pdf.pdf*

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IAPMO

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