



CANADIAN ASSOCIATION
OF LIQUOR JURISDICTIONS

ASSOCIATION CANADIENNE
DES SOCIÉTÉS DES ALCOOLS

The Canadian Association of Liquor Jurisdictions

Product Identification Standards for Use in the Distribution of Beverage Alcohol

November 2018

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Section 1 - General

Changes to the 2005 Edition

- 1.1 The term Global Trade Identification Number or GTIN (pronounced G-TIN) used in this document refers to any of the product identifiers known as U.P.C. (Universal Product Code) or EAN (European Article Number) including UPC-A, UPC-E, EAN-8, EAN-13, ITF-14 and GS1-128 (formerly known as UCC/EAN-128). See [Appendix H](#) - GTIN Terminology.
- 1.2 Version 2005 changes included:
 - It is no longer necessary for the Canadian Standard Product Code (CSPC) to appear on consumer selling units or shipping containers (cartons or trays). Suppliers may remove it from existing packaging at their convenience. The CSPC numbering system has been discontinued.
 - The practice of annually changing the GTIN number on wines available for sale on an ongoing basis is discouraged. This change also eliminates an inconsistency in wording between the earlier English and French versions. Refer to [Vintage Dated Products](#).

Introduction

- 1.3 This document was originally prepared and published in June 1995 and subsequently revised in May 1996, September 1998, May 2002 and May 2004, by the Product Identification Standards Committee (PISC) under the auspices of the Canadian Association of Liquor Jurisdictions (CALJ). The committee was made up of representatives of liquor jurisdictions and the supplier community.
- 1.4 This June 2018 edition was revised by the CALJ - *National Quality Assurance Committee Product Identifications Working Group*, with representation from various liquor jurisdictions and beverage alcohol Trade associations.
- 1.5 The purpose of this document is to describe standards for the use of the GS1 Global Trade Item Number (GTIN) bar codes in the distribution of beverage alcohol within in Canada. A glossary of terminology is available in [Appendix E](#).
- 1.6 In general, the standards comply with internationally accepted GS1 Standards. There are minor variations that are noted in [Appendix B](#).
- 1.7 Original CALJ implementation recommendations:
 - the use of the GTIN in a retail symbology (U.P.C. or EAN symbology) on all consumer selling units (effective June, 1997);
 - the use of the GTIN-14 (ITF-14 or GS1-128) Shipping Container Code (SCC) on all shipping containers (cartons or trays) that are not consumer selling units¹ (effective January, 1997);
 - the use of a SCCC (Serial Shipping Container Code) label on unit loads (e.g., palletized cubes shipped on pallets or slip sheets) at the discretion of individual jurisdictions.

¹ Footnote See additional requirements for when a [Shipping Container is also a Consumer Selling Unit](#).



Section 2 - Getting Started

User of this document who are not familiar with the basic structure and/or format of a GTIN may first wish to read [Appendix A](#), GTIN Concepts.

Internet Viewing

- 2.1 The May 2018 English language edition of this document may be viewed and downloaded on-line via the Internet at: <http://www.calj.org/Home.aspx> under *All Publications* menu. A French language edition is expected to be available on-line in the Fall of 2018.

If You are Already Marking Your Products with a GTIN

- 2.2 If you are using a GTIN (U.P.C. or EAN) today and are conforming to published GS1 Standards then your product will generally conform to the standards in this document.
- 2.3 There are minor differences between these standards and the generally used GTIN standards. These differences are set out in [Appendix B](#) of this document.
- 2.4 There are also specific requirements for shipping containers (cartons and trays) and unit load labels (e.g., palletized cubes typically shipped on pallets or slip sheets or transported using clamp load technologies).

If You Need a Company (Manufacturer) Number

- 2.5 Canadian-based companies should contact:

GS1 Canada
1500 Don Mills Road, Suite 800,
Toronto, Ontario,
M3B 3K4

Phone: 416-510-8039
Phone (toll-free): 1-800-567-7084
Fax: 416-510-1916

Email: info@gs1ca.org
Website: www.gs1ca.org

- 2.6 Suppliers in other countries should contact their local GS1 office. A list of GS1 member organizations can be found at: <http://www.gs1.org/contact/overview>

If You Need Information to Plan Your GTIN Program

- 2.7**
- Read this manual carefully.
 - Obtain the GS1 manuals listed in [Table 1](#), below.
 - Consult with packaging designers and suppliers of packaging materials. Typically, they have already had significant experience with GTIN requirements.

If You Need Additional Technical Information

- 2.8** This document provides specific information about the marking of [consumer selling units](#), [shipping containers](#) and [unit loads](#) (e.g., palletized cubes typically shipped on pallets or slip sheets or transported using clamp load technologies).
- 2.9** Readers who require more detailed technical information may wish to obtain one or more of the manuals listed in [Table 1](#), below. They are available on-line from GS1 Canada's website: [Bar Code Standards](#).
- 2.10** For inquiries on how to obtain GS1 technical standards in a language other than English, contact your local GS1 office or a GS1 office in a country that recognizes the requested translation as an official language.

To obtain GS1 technical standards in French (*Francis*), visit the GS1 – Canada's website at: www.gs1ca.org or GS1 France's website at: <https://www.gs1.org/locations/france>.

| TABLE 1 – GS1 REFERENCE MANUALS AND STANDARDS | |
|--|--|
| Ten Steps to GS1 Bar Code Implementation | This document guides new barcode users through the basic steps required to begin using barcodes. |
| GS1 General Specifications | This document is the foundational GS1 standard that defines how identification keys, data attributes and barcodes must be used in business applications. |
| Bar Coding Basics for Shipping Containers | <p>This document is an introduction to the standards for creating and using shipping container codes. This document is designed for manufacturers, distributors and suppliers who need a basic understanding of:</p> <ul style="list-style-type: none"> • how to create a bar code number; • which type of bar code symbol to use; and • how to apply bar codes to shipping containers |
| Symbology Placement Guidelines | <p>This document is an extract from the GS1 General Specifications Version 17, Section 6 Symbology Placement Guidelines.</p> <p>It includes guidelines for the placement of barcodes on packages and containers. It provides the general principles that apply, mandatory rules, and recommendations for symbol placement on specific packaging and container types.</p> |
| Bar Coding Basics for Designers, Printers and Packagers | <p>This document provides an introduction to the standards used for bar code symbols on product packaging.</p> <p>It discusses the requirements and possible problems associated with:</p> <ul style="list-style-type: none"> • Colours, contrast, reflectance and obscuring patterns; • Size and placement of the bar code symbol on different packaging types; • Materials used in the packaging; and • Different printing methods |
| 1D Barcode Verification Process Implementation Guideline | <p>This implementation guide provides instructions for creating a consistent verification service for testing barcode quality as well as data integrity. This will include guidance on the minimum recommended requirements and basic items including:</p> <ul style="list-style-type: none"> • creation of procedures / guidelines • recommended basic reference documents and guides • illustration of scenarios with Pass-Fail grade symbols |



Product Identification Standards

Section 3 – Standards for Consumer Selling Units

Section 3 - Standards for Consumer Selling Units

Accepted Number Formats

3.1 CALJ members will accept consumer selling units marked with the following bar code symbologies:

- the eight digit GTIN-8 (formerly UPC-E or EAN-8); or
- the twelve digit GTIN-12 (formerly UPC-A); or
- the thirteen digit GTIN-13 (formerly EAN-13)

Note: Other bar code symbologies may be used in conjunction with a GTIN 8, 12 or 13 bar code to encode additional product information. Examples include the addition of a two-dimensional Quick Response Code (QR Code) to direct consumers to a suppliers website or a Databar bar code to electronically encode production date code information.

3.2 The terms GTIN-8, GTIN-12 and GTIN-13 when used in this document are meant to include all version of the U.P.C. or EAN symbols.

3.3 Although the GTIN-14 is also a GTIN it is used exclusively for shipping containers (cartons or trays). It should not be used for consumer selling units even if the shipping container is also the consumer selling unit (e.g. 12 or 24 bottles/cans of beer or a mixed case of 750 mL bottles of wine).

Refer to Section 6.0 – [Standards For Shipping Containers](#) for more details regarding use of the GTIN-14.

Standards for Scannability

3.4 All GTIN bar code symbols must meet the quality standards established by GS1 in the [1D Barcode Verification Process Implementation Guideline](#).

3.5 Symbol quality should be measured with an approved verifier using the test procedures defined by the GS1 standards. The minimum acceptable test scores are listed in [Appendix D](#).

3.6 The members of CALJ recognize that some package formats are unable to comply with the exact requirements of these standards. Individual members will therefore accept products that do not strictly comply with the standards if they pass the following test.

Based on a sample of one hundred units and using a presentation scanner, ninety-five percent (95%) of the units must scan on the first pass and all units must scan in two passes.

3.7 This exception is intended primarily for packages where the physical design of the product or its label limits the space available for the symbol. It is not to be used as an excuse to reduce the symbol size for aesthetic reasons. When allocating space on a label, government regulatory requirements have priority, followed by the bar code symbol. Both have priority over marketing information.

Section 4 - Change of GTIN

General

- 4.1 Changes in the GTIN can result from a change in either the Company Number (GS1 Company Prefix) or the GTIN Item Number.
- 4.2 When the GTIN Item Number of the consumer selling unit changes the GTIN Item number on the shipping container must also change.
- 4.3 When any GTIN Item number changes the supplier must provide sufficient advance notice to its customers to ensure an orderly transition to the new number. Failure to provide proper notification may result in non-compliance fees.
- 4.4 Although it is not mandatory, it is recommended that suppliers change their GTIN Item Number if a packaging format change impacts recycling¹ of the container, regardless of whether or not the change in packaging results in a 20% change to the gross weight of the shipping container or a 20% change to one or more dimensions of the shipping container, e.g., converting from PET bottles to Tetra-Pak, refer to 4.9, below. (*new*)
- 4.5 Users of this document are encouraged to refer to the GS1 - *GTIN Management Standard Rules* for additional industry requirements for changing a GTIN.

Change of Company Number (GS1 Company Prefix)

- 4.6 If an existing brand is acquired or sold, the new manufacturer should phase in its own Company Number on the product. This is not strictly necessary if the brand will operate as a separate company.
- 4.7 In practice, this phase-in can take many months and sometimes years. It is, therefore, recognized that a single supplier may have products with more than one Company Number, or that the same Company Number may legitimately be in use by more than one supplier.

Change of GTIN Item Number

- 4.8 Changes to package graphics do not require a change in the GTIN Item Number.
- 4.9 The GTIN Item Number must be changed if:
 - the volume of product in the package changes (e.g. 700 ml to 750 ml); or
 - the number of units in a multi-unit package changes (e.g. from six to eight); or
 - a change in alcohol strength results in a tax or duty rate change under Customs and Excise regulations; or
 - the retail price is printed on the consumer selling unit packaging and the retail price changes or if the price is removed from the packaging; or (*new*)
 - a change in packaging format, e.g., glass bottles to PET bottles results in a change to the gross weight of the shipping container by +/- 20% or more; or (*new*)
 - one or more dimensions of the shipping container changes by +/- 20% or more. (*new*)

¹Footnote A change in package format may affect recycling charges and advance notice of the change should be provided to the jurisdictions affected.

Reuse of Numbers

- 4.10** Reuse or reassignment of a GTIN from one trade item to another is prohibited except in situations where a GTIN was assigned to an item that was not actually produced. In these situations the GTIN may be deleted from any catalogue immediately without first being marked as discontinued and may be reused 12 months after deletion from the seller's catalogue.
- 4.11** Trade items that have been withdrawn from the market and are reintroduced may use the original GTIN if they are reintroduced without any modifications or changes that would require assignment of a new GTIN, as detailed in 4.1 through 4.9, above.

Section 5 - Product Marking Standards for Consumer Selling Units

General

- 5.1** Users of this document are encouraged to refer to the GS1 manual Symbol Placement Guidelines for additional information pertaining to the placement of barcode symbols on consumer selling units that may be required for markets outside Canada. This manual provides additional information regarding the general principles for placement of barcode symbols on consumer selling units, mandatory rules that apply, as well as, recommendations for symbol placement on specific packaging and container types.
- 5.2** In addition to the Product Marking Standards provided within this document, each consumer selling unit must also comply with Canadian mandatory labeling requirements prescribed under the Canada Food and Drugs Act and Regulations (FDA and FDR) and the Canada Consumer Packaging and Labelling Act and Regulations (CPLA and CPLR).

Consumer Selling Units *(new)*

- 5.3** A consumer selling unit refers to the container in which a beverage alcohol product is packaged when offered for retail sale. These may include:
- an individual bottle (glass, PET, etc. or an ornamental bottle made from ceramic, crystal, etc.)
 - an individual can (aluminum, steel, etc.)
 - an individual Bag-in-a-Box, Tetra-Pak or any other form of alternative packaging such as a flexible stand-up pouches or single serve containers, e.g., cup-packs and acrylic glassware with peel-off foil lids
 - a multi-unit package, gift pack or case pack¹.

Individual Bottles

- 5.4** There are five approved ways to locate a GTIN barcode symbol on a bottle². They are:
- on the front label;
 - on a wrap-around front label so that the symbol, while part of the front label, is on the side when the product is displayed;
 - on a back label;
 - on a sticker;
 - for certain types of bottles, on the tamper evident seal.
- 5.5** If the symbol is located on the tamper evident seal, it will be better to orient the symbol in ladder style (bars parallel to the bottom of the package) to avoid the distortion that can occur by wrapping the symbol around the neck, refer to Orientation of the Symbol in [Appendix A](#).

¹ Footnote ¹ Refer to: [Shipping Container is also a Consumer Selling Unit](#)

² Footnote ² The symbol must not be applied to the actual bottom of a bottle.

Section 5 – Product Marking Standards for Consumer Selling Units

- 5.6** Applying the symbol to a neck ring is not recommended by GTIN standards due to poor scanning performance. CALJ members will accept marking on a neck label if this is the only location available to the supplier and the symbol passes the scanning test described in the section [Standards for Scannability](#) above. Suppliers who intend to mark a neck ring must recognize that they are taking a risk. Care must be taken in designing and applying the label to avoid problems such as wrinkling or the obscuring of the symbol by incorrect overlapping of the ends of the ring. The symbol should also be oriented in ladder style.

50 mL Bottles

- 5.7** A GTIN barcode symbol is required.
- 5.8** The symbol should be oriented in ladder format.
- 5.9** Because of its small size, it may be necessary to truncate the bar height to accommodate the symbol.
- 5.10** Reduction to the minimum magnification (80%) should be considered, particularly, if truncation is necessary.
- 5.11** Suppliers may wish to use an eight digit GTIN-8 (U.P.C. Version E or EAN-8¹) symbol, if possible, on these packages.

Individual Cans

- 5.12** A GTIN barcode symbol is required to appear on each can, regardless of whether or not the can is sold as an individual unit or is packaged and sold in a multi-unit package².
- 5.13** The symbol must be located near the bottom of the can away from any welds, beads or flutes that could distort the symbol.
- 5.14** Depending on the size of the symbol and the diameter of the can, it may be necessary to orient the symbol with the bars parallel to the bottom of the can (ladder style) rather than perpendicular to the bottom (picket fence).

Cans Packaged in Multi-Unit Packages Utilizing Ring or Sleeve Technologies

- 5.15** When a package consists of cans that are connected by rings or sleeves, e.g., made from high-density polyethylene (HDPE), low-density polyethylene (LDPE), polyethylene terephthalate (PET) or other materials, the GTIN barcode symbol on the can will be scanned at retail. A separate GTIN barcode symbol designating the pack is not required.
- 5.16** For point of sale purposes, retailers may define the item as either the can or the multi-unit package and use an override key or a multiple key for the exceptions.

Footnote 1 Note: GS1 Member Organizations are discontinuing the assignment of EAN-8 numbers. In addition, a U.P.C. Version E can only be used with numbers that have a Number System Character of "0".

Footnote 2 Cans may be sold individually even if they are packaged in a multi-unit package.

Bottles or Cans Packaged in Open Multi-Unit Packages

- 5.17 A GTIN barcode symbol is required to appear on each bottle or can packaged within an open multi-unit package.
- 5.18 A GTIN barcode symbol is not required on the multi-unit package.
- 5.19 If a GTIN barcode symbol is used on the multi-unit packages (not required by the Canadian Association of Liquor Jurisdictions) the GTIN Number on the package must be different from the GTIN Number used on the individual bottles or cans.
- 5.20 For point of sale purposes, retailers may define the item as either the bottle or can or the multi-unit package and use an override key or a multiple key for the exceptions.

Bottles or Cans Packaged in Closed Multi-Unit Packages

- 5.21 A GTIN barcode symbol is required to appear on each closed multi-unit package that is a consumer selling unit .
- 5.22 The symbol is required to be located on the bottom or side of the multi-unit package.
- 5.23 Only one symbol is required for multi-unit packages that are not shipping containers (cartons or trays). Refer *When the Shipping Container is also the Consumer Selling Unit* if the multi-unit package is both the consumer selling unit and shipping container (e.g. 12 or 24 bottles/cans of beer or a mixed case of 750 mL bottles of wine).
- 5.24 Cans and individual bottles sealed with a tamper-evident closure are required to be marked with a GTIN barcode symbol, even when the closed multi-unit package is the consumer selling unit¹.
- 5.25 Individual bottles packaged within a closed multi-unit package are not required to be marked with a GTIN barcode symbol:
 - if the bottle is sealed with a none tamper-evident closure; or
 - if the bottle is not intended for individual sale.
- 5.26 The GTIN Number on the closed multi-unit package must be different from the GTIN Number used on the individual cans or bottles.

Single-Serve Beverage Alcohol Containers with Removable Lids (*new*)

- 5.27 Packaging innovations within the beverage alcohol industry have led to the introduction of single serve containers designed with a removable tamper-evident lid. Examples include, cup-packs and acrylic glassware with peel-off foil lids. Most often, these containers are packaged for sale in multi-unit packages (open and closed).
- 5.28 Although it is not mandatory, suppliers are encouraged to mark each single-serve container with a GTIN, in addition to all other mandatory label information, on any part of the container except the top (lid) or bottom.
- 5.29 This initiative supports local recycling programs established in member jurisdictions.

¹ Footnote 1 Member jurisdictions, at their sole discretion, may choose to sell individual cans and bottles sealed with tamper-evident closures that are packaged in closed multi-unit packages.

Permanent Outer Packages

- 5.30** Containers of beverage alcohol products, e.g., glass or PET bottles, steel or aluminum cans, Tetra-Paks, etc., that are further packaged and sold in a permanent outer package, e.g., a decorative solid or corrugated fibreboard gift box or metal tin, must be marked with a GTIN barcode symbol on the outer package. Suppliers, at their sole discretion, may also mark the container packaged within the outer package with a GTIN barcode symbol. In this case, the same GTIN Number should be used for both.
- 5.31** The symbol should be located on the bottom of the outer package. If the construction of the package does not allow the symbol to be placed on the bottom, it should be located on the side near the bottom.
- 5.32** The same GTIN barcode symbol may be used when containers of the same product, with and without a permanent outer package, are combined within the same shipping container¹ (carton or tray), provided both packages are intended for individual sale.
- 5.33** When two or more containers of the same product or different products are combined in a permanent outer package to create a new consumer selling unit, a new GTIN Number must be assigned. Care must be taken to ensure that only the GTIN barcode symbol on the outer package is visible to the barcode scanner.

Temporary Outer Packages

- 5.34** When containers of beverage alcohol products, e.g., glass or PET bottles, steel or aluminum cans, Tetra-Paks, etc. are further packaged and sold in a temporary outer package^{1&2}, e.g., a decorative solid or corrugated fibreboard gift box or metal tin and there is no price difference, the temporary outer package must be marked with the same GTIN barcode symbol as the container packaged inside. Care must be taken to ensure that only one symbol is visible to the scanner.

Free Item Packs (Value Added Products)

- 5.35** When a free item is attached to a container of a beverage alcohol product the same GTIN should be used on the consumer selling unit, unless one of the dimensions of the shipping container or the gross weight of the shipping container changes by more than 20%.^{1&2}
- 5.36** If the free item also contains beverage alcohol, for example if the free item is a 50 mL bottle, the same GTIN can only be used if:
- there is no change in the alcohol strength of the original product; and
 - the cost to the jurisdiction including duty and taxes is the same as the regular product.
- 5.37** The free item must not have a GTIN symbol. If it does, it should be defaced or obscured so that it cannot be scanned at the checkout (point of sale).

Footnote ¹ GS1 GTIN Management Standard Rule 4 - Dimensional or Gross Weight Change apply. Refer to [Change of Item Number](#).

Footnote ² Some jurisdictions may require a new GTIN be assigned to the shipping container in order to segregate inventory of the Free Item Pack from inventory of the regular SKU.

Vintages Dated Products

- 5.38** Changes in a product's GTIN may cause disruptions in the supply chain and should be avoided. While supplier's may change a GTIN as they feel necessary the practice of annual changes to the GTIN of a vintage dated product that is retailed on a continuous basis, e.g., retailed as a "flow-through" or "commodity product", is strongly discouraged.
- 5.39** A separate GTIN must be used when:
- two or more vintage years of the same product are retailed at the same time, but at different price points; or
 - the change in vintage year is recognized by the consumer as being of different quality than a previous vintage year AND this product is not retailed on a continuous basis, e.g., retailed as a "flow-through" or "commodity product".

Non-Beverage Alcohol Products

- 5.40** Consumer selling units of all non-beverage alcohol products must be marked with a GTIN bar code symbol that conforms with [GS1 Symbol Placement Guidelines](#).

Examples of non-beverage alcohol products include: (*new*)

- accessory items such as bottle openers, cork screws, coaster, T-shirts, decorative gift bags and decorative gift boxes or tins;
- non-beverage food items such as rimming salts, biscotti or ice;
- non-beverage food items infused with a beverage alcohol such as icewine truffles or chocolates filled with a liquor or liqueur;
- non-alcoholic beverages such as dealcoholized beer, wine and ready to drink products, soda, fruit juices or other cocktail mixers.



Product Identification Standards

Section 6 – Standards for Shipping Containers

Section 6 - Standards for Shipping Containers

General

- 6.1 Shipping containers refer to containers in which consumer selling units are packaged for shipment. This includes **cartons** and **trays**, as well as, containers that are also the consumer selling unit, e.g., 12 or 24 bottles/cans of beer or a mixed case of 750 mL bottles of wine.
- 6.2 Users of this document are advised to read all relevant sections carefully, as there are different requirements for *Products Packed in Cartons*, *Products Packed in Trays* and *Shipping Containers that are also a Consumer Selling Unit*.
- 6.3 Each shipping container will be marked with a combination of human readable and bar coded information, see *Table 2*.
- 6.4 A GTIN-14 barcode symbol (formerly known as a Shipping Container Code or SCC-14) must appear on one side panel and one end panel¹ of each shipping container. A GTIN-12 or GTIN-13 should be used on the shipping container only if the shipping container is also the *Consumer Selling Unit*. Refer to *Symbology* for more information regarding approved barcode formats.

Products Packed in Cartons

- 6.5 A GTIN-14 barcode symbol must appear on one side panel and one end panel¹ of each carton.
- 6.6 Unless otherwise identified as “optional”, the following markings are also required to appear on cartons:
 - **Selling Unit** - the number of consumer selling units packaged within the carton;
 - **Unit Size** - the net quantity size (volume) of each consumer selling unit;
 - **Product Type** (optional) - the type of beverage alcohol product, e.g., wine, beer, whisky, rum, liqueur, etc.;
 - **Product Description** - a human readable description of the product;
 - **Shipping Container Weight** – the approximate weight of the carton when filled with the consumer selling units; and
 - **Product Date Code** - a batch number or lot code or production date or best before date or purchase order number.
- 6.7 Refer to *Table 2 - SHIPPING CONTAINER MARKINGS (Human Readable Information)* for detailed information pertaining to font size and positioning of markings that are required to appear on cartons.

¹ Footnote ¹ GS1 requirements for placing the bar code symbol on a shipping container state, “If possible, place the shipping container code on two adjacent sides, or a minimum of one side. This differs from CALJ requirements.

Products Packed in Trays

- 6.8** Modified standards have been adopted for tray packed products. These standards apply only to trays of product that pass through a liquor jurisdiction warehouse.
- 6.9** A GTIN-14 barcode symbol must appear on one side panel and one end panel of each tray. The bar code symbols may appear on the two opposite sides if both of the following conditions apply:
- The symbol is printed directly on the tray using an ink jet printer; and
 - The speed of the conveyor line at the printing location is 25 cases per minute or higher.
- 6.10** The following markings are required on cartons but are optional on tray packed products:
- **Selling Unit** - the number of consumer selling units packaged within the carton;
 - **Unit Size** - the net quantity size (volume) of each consumer selling unit;
 - **Product Description** - a human readable description of the product;
 - **Shipping Container Weight** – the approximate weight of the carton when filled with the consumer selling units.
 - **Product Date Code** - a batch number or lot code or production date or best before date or purchase order number.
- 6.11** Refer to [Table 2](#) - SHIPPING CONTAINER MARKINGS (Human Readable Information) for detailed information pertaining to font size and positioning of markings that are required to appear on trays.

Shipping Container is also a Consumer Selling Unit

- 6.12** When a shipping container is also the consumer selling unit, e.g., 12 or 24 bottles/cans of beer or a mixed case of 750 mL bottles of wine, a GTIN-12 or GTIN-13 barcode symbol is required. The symbol must appear in two locations. Suppliers have the option of placing the symbol on either two adjacent sides or the top and bottom. The GTIN-14 (ITF-14 or GS1-128) is not required¹ but the supplier may put it on the shipping container if they require it for markets outside Canada.
- 6.13** Only one GTIN symbol is required when:
- the shipping container is a consumer selling unit; and
 - the shipping container contains six or fewer bottles or cans; and
 - each of the bottles or cans contains 500 ml or less.
- 6.14** Although it is not mandatory, it is recommended that the size of the GTIN-12 or GTIN-13 barcode symbol be magnified to between 160% and 200% of nominal symbol size for products distributed through a warehouse environment.
- 6.15** All shipping containers that are also a consumer selling unit are required be marked with a Product Date Code, see [Table 1](#).

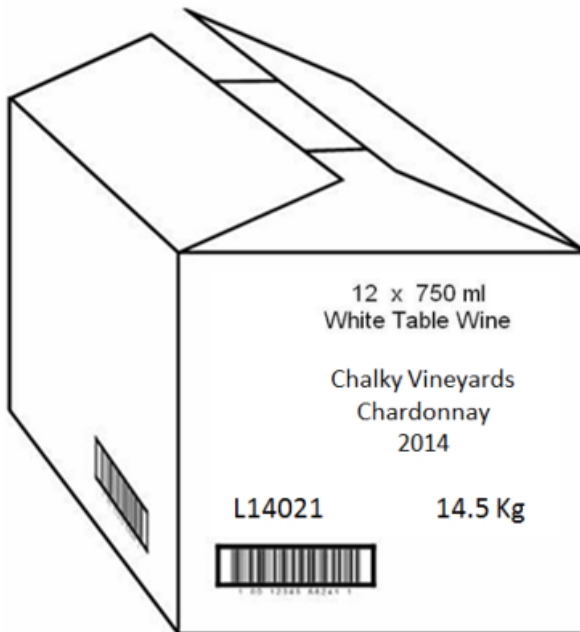
Footnote¹ Most liquor jurisdictions require a GTIN 14 to be databased in combination with the GTIN 12 or GTIN 13. To create a GTIN 14 for a shipping container that is also the consumer selling unit, use the existing GTIN 12 or 13 code and zero (0) pad to the left of the first digit to create a 14 digit code.

- 6.16** The following markings are required on cartons but are optional on shipping containers that are also a consumer selling unit.
- **Selling Unit** - the number of consumer selling units packaged within the carton;
 - **Unit Size** - the net quantity size (volume) of each consumer selling unit;
 - **Product Description** - a human readable description of the product;
 - **Shipping Container Weight** – the approximate weight of the carton when filled with the consumer selling units.
- 6.17** In addition to the Product Marking Standards provided within this document, each consumer selling unit must also comply with Canadian mandatory labeling requirements prescribed under Canada’s Food and Drugs Act and Regulations (FDA and FDR) and Canada’s Consumer Packaging and Labelling Act and Regulations (CPLA and CPLR).

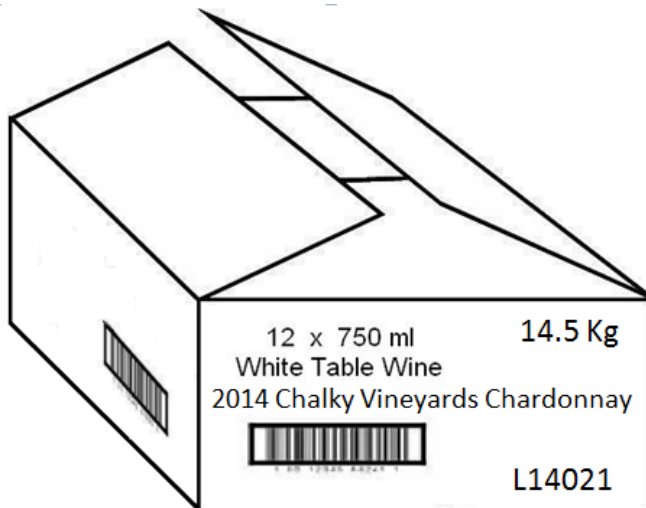
Section 7 - Product Marking Standards on Shipping Containers

Examples of Markings on Shipping Containers

7.1 Product placed in shipping container in a vertical (upright) position.



7.2 Product placed in shipping container in a horizontal position.



Section 7 – Product Marking Standards on Shipping Containers

TABLE 2 – SHIPPING CONTAINER MARKINGS (Human Readable Information)

| MARKINGS | LOCATION | HEIGHT (minimum) | OTHER SPECIFICATIONS |
|--|--|--------------------------|---|
| (1) GTIN-14 Shipping Container Code ^{1&2} | <i>Cartons:</i> On one side panel and an adjacent end panel. | See Other Specifications | Exact size, placement and format is determined by the bar code symbol used, e.g., Interleaved 2 of 5 (ITF-14) or GS1-128. Refer to <i>Bar Code Formats</i> and <i>Position of the Bar Code Symbol</i> sections for details. |
| | <i>Trays:</i> On one side panel and an adjacent end panel; or on two opposite sides if: 1) the symbol is printed directly on the tray using an ink jet printer; and 2) the speed of the conveyor line at the printing location is 25 cases per minute or higher. | See Other Specifications | Exact size, placement and format is determined by the bar code symbol used, e.g., Interleaved 2 of 5 (ITF-14) or GS1-128. Refer to <i>Bar Code Formats</i> and <i>Position of the Bar Code Symbol</i> sections for details. |
| | <i>Container is a Consumer Selling Unit.</i> ³ A GTIN-12 or GTIN-13 must appear in two locations: <ul style="list-style-type: none"> • two adjacent sides; or • top and bottom | See Other Specifications | A GTIN-14 is not required but may be used if they require it for markets outside Canada. Exact size, placement and format is determined by the bar code symbol used, e.g., Interleaved 2 of 5 (ITF-14) or GS1-128. Refer to <i>Bar Code Formats</i> and <i>Position of the Bar Code Symbol</i> sections for details. |
| Human Readable Characters | Human readable numerical characters are required. | 5.0 mm (0.20") | |

Footnote¹ A unique GTIN-14 is required for each GTIN-8, GTIN-12 or GTIN-13 that is assigned to a single SKU.

Footnote² GS1 requirements for placing the bar code symbol on a shipping container state, "If possible, place the shipping container code on two adjacent sides, or a minimum of one side. This differs from CALJ requirements.

Footnote³ See special requirements for Container is a Consumer Selling Unit.



Section 7 – Product Marking Standards on Shipping Containers

Table 2 – SHIPPING CONTAINER MARKINGS - Cont'd

| | | | |
|------------------------------|---|-----------------------|---|
| <p>(2) Product Date Code</p> | <p>Cartons & Container is a Consumer Selling Unit:</p> <p>On same side panel or same end panel as shipping container code.</p> <p>Trays: Optional</p> | <p>13.0 mm (0.5")</p> | <p>The <i>Product Date Code</i> must be clearly distinguishable from any other coding if it is part of a larger bottling (packaging) code.</p> <p>Suppliers have the option of using a:</p> <ul style="list-style-type: none"> • Production Date • Best Before Date • Lot Code • Purchase Order Number |
| | | | <p><u>Option A: Production Date</u></p> <p>Approved date formats for A <i>Production Date</i> are:</p> <ul style="list-style-type: none"> • month/day/year in an alpha format expressed as Jan. 21, 2017 or January 21, 2017 • yyyy/mm/dd or dd/mm/yyyy in a numeric format expressed as 2017/01/21 or 21/01/2017 • yyyy/m/dd or dd/m/yyyy in an alpha-numeric format expressed as . 2017/A/21 or 21/A/2017 <p>Note: the letter "l" is omitted from the alpha-numeric format.</p> <ul style="list-style-type: none"> • Julian Calendar format expressed as yyddd, e.g., 17021 |
| | | | <p><u>Option B: Best Before Date</u></p> <p>Appropriate wording must clearly indicate that a Best Before date is being used, e.g., Best Before or BB.</p> <p>Approved date formats for a <i>Best Before Date</i> are:</p> <ul style="list-style-type: none"> • Best Before End Of: <p>01 02 03 04 05 06 07 08 09 10 11 12 – 17 18 19</p> <ul style="list-style-type: none"> • month/day/year, in an alpha format expressed as Apr. 21, 2017 or April 21, 2017 • yyyy/mm/dd or dd/mm/yyyy in a numeric format expressed as 2017/04/21 or 21/04/2017 |

Section 7 – Product Marking Standards on Shipping Containers

Table 2 – SHIPPING CONTAINER MARKINGS - Cont'd

| | | | |
|---------------------------------------|---|-----------------------|--|
| <p>(2) Product Date Code – Cont'd</p> | | | <ul style="list-style-type: none"> • yyyy/m/dd or dd/m/yyyy in an alpha-numeric format expressed as 2017/D/21 or 21/D/2017 <p>Note: the letter “l” is omitted from the alpha-numeric format.</p> <ul style="list-style-type: none"> • Julian Calendar format expressed as yyddd, e.g., 17111 <p>Option C: Lot Code Expressed as Lyyddd, e.g., L17021</p> <p>Option D: Purchase Order Number Expressed as P.O. # 0054321</p> |
| <p>(3) Selling Unit</p> | <p>Cartons: On same end panel as shipping container code.</p> <p>Trays & Container is a Consumer Selling Unit: Optional</p> | <p>13.0 mm (0.5”)</p> | <p>On same line and immediately preceding the unit size.</p> <p>Indicates the number of consumer selling units packaged inside the shipping container.</p> <p>For multi-unit packages, indicate the number of consumer selling units per shipping container and the number of units packaged within each multi-unit package, e.g., 4 (6 X 355 ml).</p> |
| <p>(4) Unit Size</p> | <p>Cartons: On same end panel as shipping container code.</p> <p>Trays & Container is a Consumer Selling Unit: Optional</p> | <p>13.0 mm (0.5”)</p> | <p>On same line and immediately after the Selling Unit .</p> <p>Indicates the size of the individual selling units packaged within the shipping containers, expressed in litres (L) or millilitres (ml), e.g., 375 ml, 750 ml, 1.14 L, 1,5 L, etc.</p> <p>For multi-unit packages, indicate the quantity and size of individual units packaged within each multi-unit package, e.g., (6 X 355 ml).</p> |
| <p>(5) Product Type</p> | <p>Cartons, Trays & Container is a Consumer Selling Unit: Optional</p> | <p>13 mm (0.5”)</p> | <p>Generic description of the product type, e.g. white wine, red wine, liqueur, whisky, rum, beer, etc.</p> |

Section 7 – Product Marking Standards on Shipping Containers

Table 2 – SHIPPING CONTAINER MARKINGS - Cont'd

| | | | |
|-------------------------------|---|--|--|
| (6) Product Description | <p>Cartons: On same end panel as shipping container code.</p> <p>Trays & Container is a Consumer Selling Unit: Optional</p> | <p>10.6 mm (0.42")</p> <p>13 mm (0.5")</p> | <p>Describes the product: including brand name. May include vintage year (e.g. World Vineyards Chenin Blanc 2016).</p> <p>May be part of preprinted graphics.</p> <p>Refer to Description of Product on Shipping Container for additional details.</p> |
| (7) Shipping Container Weight | <p>Cartons: On same end panel as shipping container code.</p> <p>Trays & Container is a Consumer Selling Unit: Optional</p> | <p>13 mm (0.5")</p> | <p>Approximate weight¹, in kilograms (kg), of the full shipping container.</p> |

Description of Product on Shipping Container

- 7.3 The intent of this requirement is to allow for easy recognition of the product where scanning is not normally used e.g. the stock area of retail stores.
- 7.4 A human readable description of the retail product must appear on all shipping containers. (Product packed in trays is exempt if the contents of the tray can be readily identified without removing it from the tray.) The brand name must be included if the same product e.g. white rum or Chenin Blanc is offered by multiple suppliers. The vintage year may also be included at the supplier's option.
- 7.5 The description may be printed on the case, applied on a label or incorporated into the preprinted package graphics.
- 7.6 The font used must be at least 13 mm (0.5 inches) in height.
- 7.7 The description must be located on the same end of the case as the bar code.
- 7.8 When the consumer selling units packaged within a shipping container contain a Free Item Pack (value added product) or special promotional packaging, the description on the shipping container should be changed to allow easy identification of the promotional product or packaging. A label with text may be used in addition to the regular case description.

Footnote¹ Approximate weight is not intended as a shipping weight.



Section 8 – Structure of the GTIN-14 (Shipping Container Code)

General

- 8.1 The GTIN-14 (Shipping Container Code) is a fourteen digit number closely related to GTIN-12 or GTIN-13 on the selling unit:

| | |
|--------------------------------|--------------------|
| GTIN-12 (UPC-A) | 0 12345 67890 5 |
| GTIN-14 (ITF-14 or GS1-128) | 1 00 12345 67890 2 |

| | |
|--------------------------------|--------------------|
| GTIN-13 (EAN-13) | 93 12345 67890 7 |
| GTIN-14 (ITF-14 or GS1-128) | 1 93 12345 67890 4 |

- 8.2 The left most digit of the GTIN-14 is a Packaging Indicator. This digit is used to differentiate between containers with different quantities of the same item. In this way, a supplier could offer a case of six or a case of twelve; only the packaging indicator and check digit would change.
- 8.3 The packaging indicator can also be used to differentiate changes in the consumer package, such as a temporary gift box, an on-pack promotion or glass versus plastic packaging. This allows different types of warehouse inventory to be easily identified by both the supplier and the retailer.
- 8.4 The digits, one through eight can be used as the packaging indicator. (Nine is reserved for other purposes and cannot be used.) Therefore, up to eight different shipping container configurations can be accommodated.
- 8.5 The digits in positions three through thirteen of the GTIN-14 correspond to the first eleven digits of the product's GTIN-12 number. When the product uses a GTIN-13, the digits in positions two through thirteen would correspond to the first twelve digits of the product's GTIN-13 number.
- 8.6 The final digit is a check digit but because it is calculated on the preceding thirteen digits (refer to Appendix C - [Calculation of Check Digits](#)) including the packaging indicator, it will be different from the check digit of the GTIN-12 or GTIN-13.

8.7 The following are examples to show the structure of a GTIN 14 digit Shipping Container Code:

| | | | | | | |
|-------|---|----|-------|-------|---|-----------|
| | 1 | 00 | 12345 | 67890 | 2 | (ITF) |
| *(01) | 1 | 00 | 12345 | 67890 | 2 | (GS1-128) |
| | ↑ | ↑ | ↑ | ↑ | ↑ | |
| | A | B | C | D | E | |

* The human readable Application Identifier (01) is required for all GS1-128 symbols.

- A** Indicator Digit:¹ assigned by the manufacturer to differentiate between different shipping container configurations of the same consumer selling units, e.g., 6 units or 12 units per shipping container.
- B** Number System Character:^{2 & 3} assigned by GS1.
- C** GS1 Company Prefix:⁴ assigned by GS1.
- D** Item Reference: assigned and controlled by the manufacturer.
- E** Check Digit: calculated using a specific mathematical formula based on the previous thirteen digits, to ensure accuracy of the encoded information.

Note¹: Use 1-8 if the same item number is used for the GTIN-12 or GTIN-13 or "0" (zero) if a different item number is used. Nine (9) is reserved for other purposes and cannot be used.

Note²: GTIN-12 (UPC-A) use a single digit Number System Character and therefore require a leading filler "0" (zero).

Note³: Some GTIN-13 (EAN-13) codes use a 3 digit Number System Character. In this case the Item Reference number is reduced to 4 digits.

Note⁴: B and C combined form the GS1 "Global" Company Prefix. A lead (filler) zero is used to convert a single digit UPC Company Prefix to a GS1 "Global" Company Prefix.

Indicator Digit "0"

8.8 When the middle eleven or twelve digits of the GTIN-14 (ITF-14 or GS1-128) are **not** the same as those on the consumer selling unit then the Indicator Digit must be "0".

| | |
|---------------------------------|-----------------------------------|
| GTIN -12 (UPC-A) | 0 12345 6789 <u>0</u> 5 |
| GTIN-14 (ITF-14 or GS1-128) | <u>0</u> 00 12345 6789 <u>3</u> 6 |

| | |
|--------------------------------|-----------------------------------|
| GTIN -13 (EAN-13) | 93 12345 6789 <u>0</u> 7 |
| GTIN-14 (ITF-14 or GS1-128) | <u>0</u> 93 12345 6789 <u>3</u> 8 |

- 8.9** It is the practice of some companies to assign GTIN-14 numbers that are completely unrelated to the GTIN number on the consumer selling unit. The first ten digits of the consumer selling unit GTIN-12 (UPC-A) or the first eleven digits of the GTIN-13 (EAN-13) should be used whenever possible. The use of a completely unrelated number on the shipping container creates unnecessary complication and has been shown to increase errors in communicating information between buyers and suppliers and should, therefore, be avoided.

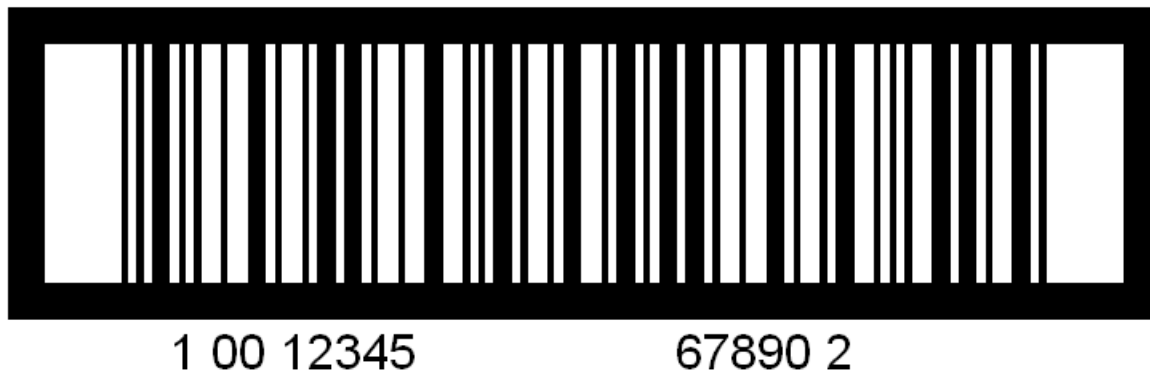
Symbology (Bar Code Format)

- 8.10** The GTIN-14 barcode may be printed using either the Interleaved 2 of 5 (ITF) or the GS1-128¹ symbology.
- 8.11** The symbol may be printed directly on the carton or applied on a label. If a label is used the glue or adhesive must completely cover the back surface of the label.
- 8.12** The Interleaved 2 of 5 symbol is usually better suited for direct printing on the shipping container. The GS1-128 version is smaller but requires a higher printing resolution that makes it the preferred choice when printing on labels.

Interleaved 2 of 5 Symbol

- 8.13** The Interleaved 2 of 5 bar code may be preprinted directly onto the shipping container. It may also be printed on the shipping container at the time of filling. It is suitable for direct printing, flexography or ink jet printing. Complete specifications for this symbol are available from GS1 Canada in the [GS1 General Specifications](#) guide.

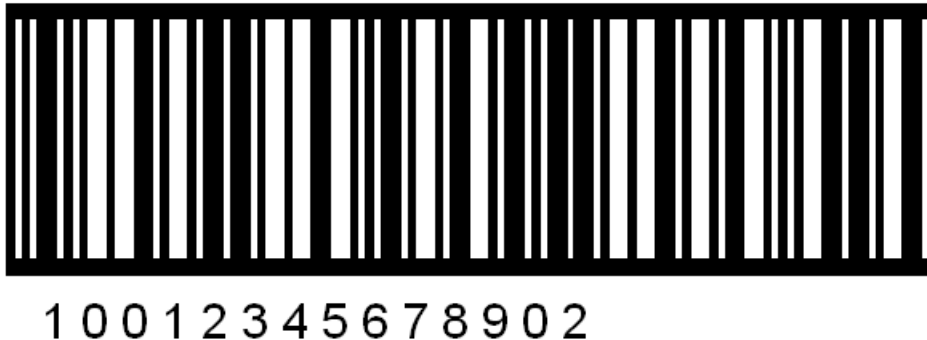
Shipping Container Code - Interleaved 2 of 5 with bearer bar - approx. 100% nominal size



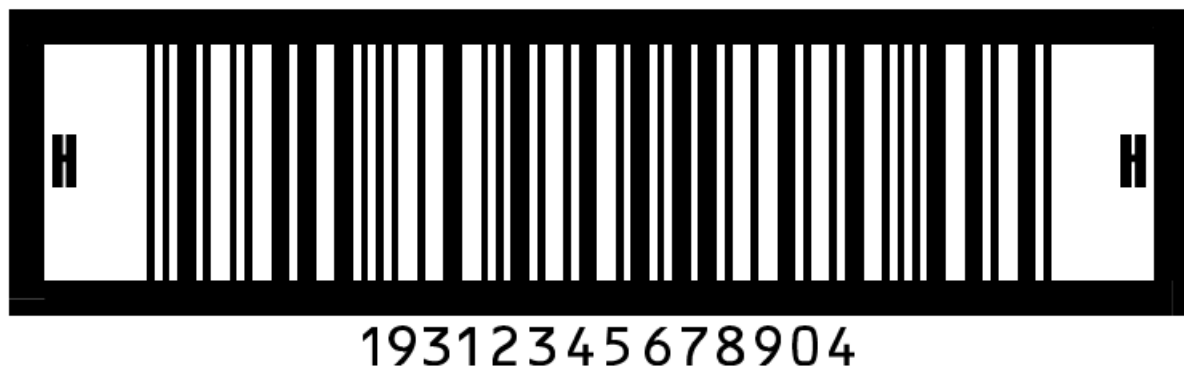
- 8.14** The human readable characters are printed below the symbol in the Interleaved 2 of 5 format.
- 8.15** The border around the symbol is called a bearer bar. It is designed to ensure even pressure when printing the symbol and also helps to prevent misreads during scanning
- 8.16** The bearer bars must touch the top and bottom of the vertical bars. There can be no space between the bearer bars and vertical bars.

Footnote¹ The GS1-128 is a special version of the Code128 bar code symbology that uses an application identifier (01) to indicate the code is a GTIN-14. Other Code 128 symbologies are not permitted for use as a GTIN-14.

- 8.17 The thickness of the bearer bar depends on the type of printing process used and the size of the symbol.
- 8.18 Heavier bars are required if the symbol is printed directly on the shipping container using a plate printing process. Narrower bearer bars may be used if the symbol is printed onto a label or is ink-jet printed onto the shipping container.



- 8.19 Vertical bearer bars are only required when the symbol is produced by printing directly on the container using a plate printing process. They are optional when using other printing techniques, such as ink jet printing.
- 8.20 When vertical bearer bars are used, the quiet zones are inside the bearer bars.
- 8.21 A quiet zone is still required at each end of the symbol even when vertical bearer bars are not used.



- 8.22 If “H” marks are used as a quality control guide for the printer, they must not intrude into the quiet zone. This will require 3 mm. of additional space at each end of a nominal size symbol.
- 8.23 Depending on the printing process used and the type of material that it is printed on, it may be possible (or necessary) to change the magnification of the symbol. The acceptable magnification range is from 62.5% of the nominal size to 120%. This would produce a symbol that ranges from 92 to 181mm. (3.6 to 7.1 inches) long compared to the nominal or 100% symbol that is 152 mm. (6.00”) long (all measurements include the quiet zone that is required at each end and the vertical bearer bars).

- 8.24** An analysis of GTIN-14 (SCC-14) symbols on shipping containers has shown that reducing the size of the GTIN-14 (ITF-14) below 70% dramatically increases the scanning failure rate. Where space or printing equipment restricts the height available, it is better to use a larger magnification even if the space or equipment does not allow for the full bar height. This is explained more fully in the section “Position of the Bar Code Symbol” below.

GS1-128 Symbol

- 8.25** The GS1-128 symbology may also be used to print GTIN-14 barcodes.



Shipping Container Code in GS1-128 format

Dotted lines indicate the approximate borders of the quiet zones.

- 8.26** GS1-128 is a family of predefined identification numbers. An application identifier number has been assigned to each member of the family to identify it. When a GS1-128 is used for the GTIN-14, the fourteen digits of the shipping container code must be preceded by its application identifier of “(01)”.
- 8.27** All sixteen numeric characters will appear in the bar code but the application identifier characters will be discarded by the scanner as soon as the number has been read.
- 8.28** The brackets and spaces only appear in the human readable characters. They are not included in the bar code.
- 8.29** The application identifier is not included when calculating the check digit for the GTIN-14.
- 8.30** When using the GS1-128 bar code the human readable characters should appear above the bars.
- 8.31** In order to allow scanning on a moving conveyor, the minimum symbol size is 68 mm. (2.68”) measured from the left edge of the left most bar to the right edge of right most bar. This corresponds to an “X” dimension of 0.508 mm. (0.020” or 20 mils).

Use of GTIN-12 or GTIN -13 Symbols on Shipping Containers

- 8.32** A GTIN-12 (UPC-A) or GTIN-13 (EAN-13) symbol may only be used on a shipping container¹ if the shipping container is also a consumer selling unit in Canada, see [Shipping Container is also the Consumer Selling Unit](#).

¹Footnote Although it is not mandatory, it is recommended that the size of the GTIN-12 or GTIN-13 barcode symbol be magnified to between 160% and 200% of nominal symbol size for products distributed through a warehouse environment.

Section 9 - Position of the GTIN-14 Bar Code Symbol

General

- 9.1 The symbol must appear on one side and one end of the shipping container and always in a horizontal position (never in a ladder style).

Symbol located on the end (shortest panel) of the case

- 9.2 The symbol on the end of the case may be placed at any height on the end panel. It must be located so the nearest vertical bar is at least 32 mm. (1.25") from either vertical edge of the panel.

Note: International standards require that the symbol be placed with the bottom of the vertical bars 32 mm (1.25") (+/- 3 mm or 1/8") from the bottom of the case. This is not required by the CALJ standards but may be required in other markets.

Symbol located on the side (longest panel) of the case

- 9.3 The symbol on the side of the case must be located with the bottom of the vertical bars 32 mm (1.25") (+/- 3 mm or 1/8") from the bottom of the case. The vertical bars must be at least 32 mm. (1.25") from the vertical edge of the panel.



- 9.4 If the vertical bars of the symbol are at least 25 mm. (1.0") high the symbol may be located with bottom of the bars up to 76 mm. (3.0") from the bottom of the case. While placement in the range of 32 to 76 mm. (1.25" to 3.0") is acceptable under the CALJ standards, it may not be acceptable to customers outside Canada.

Symbols on labels

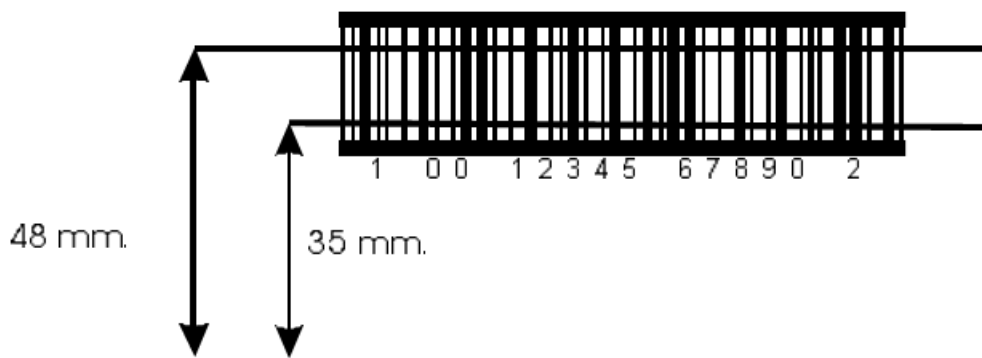
- 9.5 The symbol may be applied on a label. Some rotation of the symbol is acceptable.
- 9.6 The effective height must never be less than 13 mm. (0.5").



- 9.7** The guidelines for placement of the label described in “Symbol located on the side (longest panel) of the case” above should be interpreted using the effective height of the symbol.

Reduced height symbols

- 9.8** Certain types of printing equipment such as ink jet printers may not be able to print a full height symbol. It may also be difficult to print the full height symbol on some shipping trays.
- 9.9** Reducing the magnification of the symbol to reduce the height may dramatically affect the reliability of scanning.
- 9.10** Under these circumstances, it is preferable to use a higher magnification (wider symbol) even if the bar height does not meet the published specifications.
- 9.11** The effective bar height must never be less than 13 mm. (0.5”).
- 9.12** When the bar height is truncated, the symbol must be placed to cover the band from 35 mm. (1.38”) to 48 mm. (1.9”).





Product Identification Standards

Section 10 – Location of Human Readable Bar Code Number

Section 10 - Location of Human Readable Bar Code Number

General

- 10.1** The standards for Interleaved 2 of 5 (ITF-14) and GS1-128 bar codes have slightly different requirements for human readable information.
- 10.2** The following spacing should be used:
- | | |
|----------------|-------------------------|
| ITF-14 | 0 00 12345 67890 5 |
| GS1-128 | (01) 1 00 12345 67890 2 |
- 10.3** The human readable characters ~~must~~ should be a minimum of 5.0 mm. (0.20”) high. Any sans serif font may be used.

Section 11 – Standards for Unit Loads

General

- 11.1 Unit loads refer to *'palletized'* cubes of shipping containers assembled for transport, whether placed onto pallets, slip sheets or transported using other mechanical devices or other technologies, e.g., clamped loads.
- 11.2 Each unit load must be marked with labels containing the Serial Shipping Container Code (SSCC). Not all jurisdictions intend to use the SSCC. Jurisdictions will provide at least six months advance notice to suppliers before requiring unit load labels with the SSCC.
- 11.3 Floor loaded product, e.g., product hand loaded directly onto the floor of an inter-modal container, do not require a label.
- 11.4 There is no requirement to apply a SSCC label to a highway trailer or inter-modal container used to transport unit loads.

Serial Shipping Container Codes (SSCC)

- 11.5 The SSCC does not identify the product. It is a serial number approach that gives each pallet a unique number.
- 11.6 When the unit load is shipped, relevant information will be transferred from the supplier to the customer by the EDI Advanced Ship Notice (856) or Shipping and Billing Notice (857) transactions. The Shipping and Billing Notice will list the Serial Shipping Container Code and contents of each pallet.



Serial Shipping Container Code-18

Dotted lines indicate approximate borders of quiet zone

- 11.7 The SSCC uses an eighteen (18) digit GS-128 bar code¹ with an application identifier (00).

Footnote ¹ GS-128 bar codes have some unique properties as compared to standard Code 128. Complete specifications are available from the GS1 Canada in the GS1 General Specification.

11.8 The number is made up as follows:

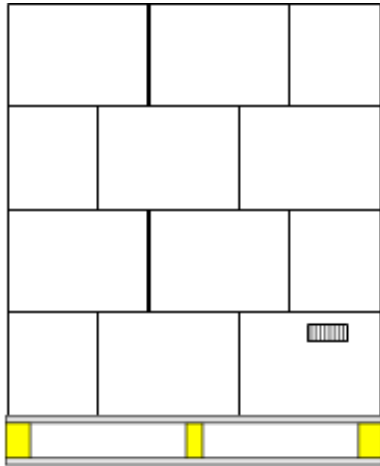
- **(00)** - An application identifier that tells the scanner that the number is a Serial Shipping Container Code.
- **1** - An extension digit (logistical variant). A one (1) designates a pallet, a two (2) designates a trailer load or inter-modal container and a three (3) is typically used on all shipping containers by suppliers in countries outside of North America.
- **0012345** - The GS1 company prefix.
- **55555555** - A serial number used to make each unit unique.
- **8** - A check digit. The application identifier (00) is not included in the check digit calculation.

Unit Load Label Format

- 11.9** Each unit load (*'palletized'* cube) will have one bar coded label.
- 11.10** The label must contain a Serial Shipping Container Code (SSCC) in the approved GS-1 format. The bar code must have an "X" dimension (narrow bar width) of at least 0.762 mm (30 mil. or 0.030"). This will require a label six inches wide.
- 11.11** The symbol bars must be at least 38 mm. (1.5") high. The human readable digits must be at least 5 mm. (0.2") high.
- 11.12** Suppliers may include other information including other bar codes on the label for their own internal use.

Unit Load Label Location

- 11.13** The symbol must be on the face of the load on the right hand side and preferably in the lower right corner.
- 11.14** The label should be applied to a carton on the load. If necessary, the label may obscure some of the data on the case to which it is applied but not the GTIN-14 (ITF or GS1-128).



- The label must be placed so that right hand edge is 50 to 125 mm. (2-5") from the right edge of the load.
- The preferred vertical location is to place the label near the top of the first carton on the unit load but placement higher on the pallet (up to 1.5 metres or sixty inches from the floor) will be accepted.
- If the unit load is shrink-wrapped, the label may be applied before or after the shrink-wrap is applied. The preferred approach is to apply the shrink-wrap after the label has been applied so that unit load identity is not lost when the shrink-wrap is removed.
- Tests have established that the bar codes can be scanned through the shrink-wrap. Care is required to ensure that there is not excessive wrinkling in the area of the bar code.

- 11.15** Unit loads should be positioned with the labels facing the rear doors.

Appendix A – GTIN Concepts

A1 – GTIN-12 (UPC-A)

- A1.1** The GTIN version most widely used in North America is referred to as GTIN-12, formerly known as a U.P.C. Version A or UPC-A.



Dotted lines show approximate boundaries of the quiet zones

- A1.2** This symbol has twelve digits that are represented in both bars and in human readable characters.
- A1.3** The first six to ten¹ digits identify the owner/controller of the label and are commonly referred to as the Company Prefix or Manufacturer Identification Number². In North America, they are assigned by GS1 Canada, GS1 US or GS1 Mexico.
- A1.4** Following the Company Prefix is the Item Reference Number which is assigned by the supplier (together a total of 11 characters).
- A1.5** The final digit is a check digit that is calculated from the first eleven digits. It is used to verify the accuracy of input during scanning or key entry. See [Appendix C](#) for details on the calculation of the check digit.

Footnote ¹ The use of eight digit Company Identification Numbers is a recent change. Companies who are given eight digit numbers are limited to 999 item numbers.

Footnote ² The Company Identification Number on a product may be controlled by a manufacturer, a marketing company who contracts out its manufacturing, or an agent. Generally, it should indicate the company who owns the brand. In this document, the term supplier is used to represent all three.

A2 - GTIN-12 Zero Suppressed (UPC-E)

- A2.1** A few products have a narrower symbol with eight digits. This is called a GTIN-12 Zero Suppressed, formerly known as a U.P.C. Version E or UPC-E. It can be used when the twelve digit number contains four or more consecutive zeroes.
- A2.2** The number: **0 12345 00005 8**
can be represented in Version E as: **0 123455 8**.
- A2.3** Version E can only be used with numbers that have a Number System Character of “0”.



Dotted lines show approximate borders of the quiet zones

- A2.4**
- Unless the Company Number ends in one or more zeroes, the only Item Numbers that can be used are “00005” through “00009”.
 - The check digit is calculated based on the twelve digits.
 - Scanners will automatically recognize and interpret a Version E symbol.
 - If the Company Number ends in one or more zeroes, additional Item Numbers can be used but special rules apply.¹ These are available from GS1 Canada.

A3 - GTIN-13 (EAN-13)

- A3.1** GTIN-13 codes are similar in structure to the GTIN-12, but have 1 additional digit encoded in the Company Prefix or Manufacturer Identification Number.
- A3.2** This format is referred to as GTIN-13 (EAN/UCC-13 or EAN-13).



¹ Footnote *All Company Numbers ending in zeroes have been issued. The only way to get one is to buy it from the current owner.*

A4 - GTIN-8 (EAN-8)

- A4.1** There is also a shorter version of the GTIN-13 (EAN-13) called GTIN-8 (EAN-8).
- A.4.2** Unlike the GTIN-12 Zero Suppressed (UPC-E) this is an eight digit number and does not expand to thirteen digits. GTIN-8 (EAN-8) numbers are assigned individually to companies by their local GS1 member organization¹.



A5 - Assignment of GTIN Numbers

- A5.1** The GTIN number is determined by the supplier. Each supplier will use its own Company Number and combine it with whatever three or five digit Item Number it wishes to assign.²

A6 - Symbol Quality

- A6.1** Several technical measures are used to evaluate symbol quality. Complying with the print quality standards is primarily the responsibility of the package designer and the printer. Confirming compliance to the standards, should be a normal check before packaging materials leave the printer.
- A6.2** While the standards are quite complex and require sophisticated testing equipment for actual measurement, the principles are relatively simple.
- A6.3** The scanner must be able to distinguish the dark bars from the lighter background and it must be able to determine the relative width of the bars and spaces.
- A6.4** Information on package design and printing is available in the manual [Bar Coding for Designers Printers and Packagers](#). Technical details of the GTIN standards are available in the [GS1 General Specifications](#) manual. Both manuals are available from GS1 Canada.
- A6.5** Package design and the printing process both have a significant impact on the quality of the bar code symbol. The symbol must have good contrast between the light and dark bars and the background material must not have too high a reflectance. Spots or voids in the symbol can cause the scanner to mistake these marks for lines or spaces and prevent the symbol from being read successfully.
- A6.6** It is also critical that the number in the human readable portion be the same as the one in the bars.
- A6.7** Symbol size and the colours of the bars and background also have a significant effect on scanning success.

¹ Footnote ¹ All Company Numbers ending in zeroes have been issued. The only way to get one is to buy it from the current owner.

² Footnote ² Some suppliers have attempted to give the Item Number meaning in their own system by using various digits to indicate the type of product, package type or package format. Unless the company has a very limited number of products, these systems can be difficult to maintain. Over time, as new products are acquired or introduced, the structure usually starts to break down.

A7 - Symbol Size

- A7.1** The consumer selling unit GTIN symbol can be produced in a range of sizes. The nominal or 100 % symbol is 25.9 mm. (1.020”) high X 37.3 mm. (1.469”) wide. This size includes a quiet zone or clear space that is required by the scanner at each end of the symbol.



GTIN-12 (U.P.C.- A) 100%

- A7.2** The symbol can be produced with a magnification range of 80% to 200%.
- A7.3** The printing process used and the type of material upon which the symbol will be printed determine the minimum size that can be reliably scanned. Some processes, like letterpress, can more easily achieve all of the necessary standards and will permit a smaller symbol. Others, such as flexography, require a larger symbol to meet the specifications.
- A7.4** The critical issue is resolution. The sharper the image, the smaller the symbol can be. As the symbol gets smaller, the tolerance in the width of the bars becomes more critical.
- A7.5** The width of the symbol includes a quiet zone to the left and right of the bars. The scanner uses the quiet zone to establish a reflectance reading for the background material. This reading is used to establish the contrast between the light background and the dark bars.
- A7.6** For the nominal size symbol, this quiet zone is 03 mm (0.117”) W.
- A7.7** The height of the symbol extends from the bottom of the numbers to the top of the bars. This can usually be confirmed by measuring a symbol.
- A7.8** It is generally possible to print at the minimum 80 % magnification factor on most paper labels because of the high quality of the printing methods and the quality of the label materials used.
- A7.9** Some types of products, such as those where the package graphics are printed directly onto cardboard or screen printed onto bottles, may require a larger symbol.

A8 - Reducing the Size of the Symbol

- A8.1** Package designers frequently try to minimize the size of the symbol, either because the space available is limited or, because they consider the symbol to be ugly, and therefore a blemish on their art.
- A8.2** Reducing the size of the symbol increases the risk that it will not scan. Most retailers treat a symbol that does not scan in the same way they would treat an unlabelled product.
- A8.3** Several techniques can be used to reduce the size of the label when space is limited.
- Use the minimum magnification size possible for the printing process and the type of material being printed upon.

- Use a Version E (zero suppressed) symbol.
- A very slight reduction can be gained by judiciously reducing the size of the human readable characters.
- The final technique is truncation or a shortening of the height of the bars. Truncation is commonly used but is not supported in the GTIN standards.

A8.4 Truncation

A8.4.1 Truncation can reduce the scanner's ability to read the symbol.

A8.4.2 Most scanners read a symbol by projecting a dot of red light in a sweeping pattern onto the symbol and then recording the light reflected back.¹

A8.4.3 To read successfully, the dot must travel from one end of the symbol to the other without running off the top or bottom of the symbol. The shorter the height of the bars, relative to the width of the symbol, the more difficult it will be to scan the symbol. This is particularly true for flat-bed or presentation scanners that are installed at the checkout counter. This type of scanner broadcasts the light in many different directions, in a usually successful effort, to find and read a symbol. Unlike a hand held scanner, the operator does not aim the scanner.

A8.4.4 On very small packages, truncation (reducing the height of the bars) may be the only way to fit a GTIN symbol onto the product. If truncation is used for aesthetic reasons, product may be rejected and/or compliance charges may be assessed.

A8.4.5 If truncation must be used, then it must be used with the minimum practical magnification size to reduce the width of the symbol.

A9 - Symbol Colours

A9.1 The critical issue in choosing colours is to provide the best possible contrast between the light background and the dark bars.

A9.2 Black bars on a white background will always work well but are not the only choice.

A9.3 The human eye is not a reliable judge of light and dark in a bar code.

A9.4 Most scanners use red light. Under this red light, yellow and red tend to be invisible. This makes them good choices for background colours while blue and black are best for the bars.

A9.5 Printing processes create different colours by layering black, blue, red and yellow inks.

A9.6 Some colours, like browns, that appear quite dark to the human eye may not scan well because they contain a significant amount of red and yellow.

A9.7 An experienced package designer and a good printer will be able to identify colour combinations that provide scannability while harmonizing with the overall package design.

Footnote ¹ The light is often generated by a helium-neon laser that is bounced off a moving mirror. The movement of the mirror causes the light dot to move so quickly that it appears as a solid line to the human eye.

A10 - Orientation of the Symbol

- A10.1** The orientation of the symbol may be dictated by technical issues, such as the direction of the press during printing.
- A10.2** Except for packages that have the symbol on the bottom, the symbol should be positioned to make it easy to read the human readable characters when the package is picked up with the left hand. This is the normal procedure at the point of sale checkout. This means that the symbol must be oriented so that the human readable characters are towards the bottom or on the left hand side.
- A10.3** **Symbol Curvature**
- A10.3.1** When a symbol is placed with the human readable characters at the bottom, the curvature of small diameter packages, such as bottles or cans, may distort the distance between lines for the scanner. For example, the maximum magnification for a symbol on a bottle with a 64 mm. (2.5”) diameter is 106 %. Any symbol larger than this may not scan because of the distortion introduced by the curvature.¹ This distortion can be eliminated by rotating the symbol 90 degrees so that the bars appear as a ladder (parallel to the bottom) rather than in the normal picket fence style (at right angles to the bottom).

Footnote ¹ Detailed information including maximum magnification factors for various diameters is available from GS1 Canada in [GS1 General Specifications manual](#).

Appendix B – Relationship Between GS1 and CALJ Standards

B1 Every effort has been made to conform to the GS1. There are, however, a few instances where this was considered either unnecessary or not possible.

| | GS1 Standards | CALJ Standards |
|--|--|--|
| Bottles or Cans in Open Multi-unit Packages | Mark bottles/cans with a GTIN and apply a different GTIN to bottom of carrier. | Apply a GTIN to bottles/cans only. A GTIN on the carrier is optional. If used it must be different from the GTIN on the bottles/cans. |
| Free Item Packs (Value Added Products) | A GTIN symbol is not permitted to appear on the Free Item. If a symbol is present, it must be defaced. A new GTIN must be assigned to the consumer selling unit and shipping container if the 'new' package dimensions exceed 20% in any direction or if the gross weight is impacted by 20%. | A GTIN symbol is not permitted to appear on the Free Item. If a symbol is present, it must be defaced ¹ . A new GTIN must be assigned to the consumer selling unit and shipping container ² if the 'new' package dimensions exceed 20% in any direction or if the gross weight is impacted by 20%. <ul style="list-style-type: none"> • The same GTIN can only be used if: • there is no change in the alcohol strength of the original product; and • the cost to the jurisdiction including duty and taxes is the same as the regular product. |
| GTIN-14 (ITF or GS1-128) on Shipping Containers (cartons or trays) | GS1 standards recommend application of the symbol on two adjacent sides of the shipping container, but as a minimum on one side. | Application of the symbol on two adjacent sides is required. |
| GTIN-14 (ITF or GS1-128) on Shipping Containers (cartons or trays) | Place the symbol with bottom of bars 32 mm from bottom of shipping container. | May place symbol with bottom of bars 32 mm to 76 mm from bottom of shipping container. |
| Shipping Containers is also a Consumer Selling Unit | GTIN may be used on two adjacent sides of shipping container. | GTIN is required and may be placed on two adjacent sides or top and bottom of shipping container. |

Footnote¹ This practice recognizes that most free items are applied after the original product has been produced when a GTIN change would be more difficult and expensive. In some cases, the free item is applied to in-store inventory.

Footnote² Some jurisdictions may require a new GTIN-14 to be assigned to the shipping container.

Appendix C – Calculation of Check Digits

C1 Check digits are usually automatically calculated for you by the film master supplier or by bar code generating software. The check digit for the GTIN-8 (U.P.C. Version E) is calculated on the full twelve digit number, including the suppressed zeroes. The check digit for the GTIN-8 (EAN-8) symbol is calculated on the eight digits:

| Position | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
|----------|----|----|----|----|-----------|----------|----|----|----|---|---|---|---|---|---|---|---|----------|
| GTIN-12 | | | | | | 0 | X | X | X | X | X | X | X | X | X | X | X | C |
| GTIN-13 | | | | | | X | X | X | X | X | X | X | X | X | X | X | X | C |
| GTIN-14 | | | | | PI | X | X | X | X | X | X | X | X | X | X | X | X | C |
| SSCC | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | C |

C2 **PI** = Packaging Indicator **C** = Modulus 10 Check Character **0** = Filler 0 for GTIN-12

X = Numbers The same five step process is used for all numbers.

C3 The following example shows the calculation for the Serial Shipping Container (SSCC) number 0 0012345 555555555 8

| Position | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
|----------|----|----|----|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|
| SSCC-18 | 0 | 0 | 0 | 1 | 2 | 3 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 8 |

Step 1: Starting from position 2 add up the value of the even numbered positions.

$$5 + 5 + 5 + 5 + 5 + 4 + 2 + 0 + 0 = 31$$

Note: the application identifiers (00) or (01) that are used with GS1-128 bar codes are not included in the check digit calculation.

Step 2: Multiply the result of Step 1 by 3.

$$31 \times 3 = 93$$

Step 3: Starting from position 3 add up all the odd numbered positions. Position 1 is not included because it is the check digit.

$$5 + 5 + 5 + 5 + 5 + 3 + 1 + 0 = 29$$

| Position | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
|----------|----|----|----|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|
| SSCC-18 | 0 | 0 | 0 | 1 | 2 | 3 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 8 |

Step 4: Add the results of Steps 2 and 3.

$$93 + 29 = 122$$

Step 5: The check character is the smallest number which when added to the result of Step 4 gives a number that is a multiple of 10.

$$122 + X = 130 \quad X = 8$$

C4 “8” is the smallest number that when added to 122 results in a multiple of 10. Therefore, the check digit in this example is “8”.

Appendix D – Quality Specifications for Symbols

- D1** Symbols should be checked regularly with a verifier test instrument at all stages of production and use.
- D2** Symbol quality should be evaluated using the methods and standards set out by GS1 in the [1D Barcode Verification Process Implementation Guideline](#).
- D3** The procedure for testing is described in [GS1 General Specifications](#) manual based on the ISO/IEC symbol specification test, 15416 Barcode Print Quality Test Specifications for Linear Symbols.
- D4** The following is provided for information only. For detailed information on the test criteria and procedures, please consult the GS1 manuals.

| Minimum ISO (ANSI) symbol grade | | | |
|---|---------|-------|---------------|
| Symbol Type | Numeric | Alpha | Aperture Size |
| GTIN-8, GTIN-12 and GTIN-13 on selling units | 1.5 | C | 6 mils |
| All Interleaved 2 of 5 on shipping containers | 0.5 | D | 20 mils |
| GS1-128 or GTIN-12 (UPC-A) or GTIN-13 (EAN-13) on shipping containers | 1.5 | C | 10 mils |

- D5** These results are based on the use of a verifier using light with a wavelength of 670nm +/- 10.
- D6** The numeric scores are based on the average of ten scans taken at different locations on the symbol. For averaging, the following weights are used: A=4, B=3, C=2, D=1 and F=0.
- D7** These standards specify the symbol quality at point of use. It is recommended that suppliers achieve a quality level at least one grade higher at the point of production to allow for normal wear and tear during handling.

D8 All symbols must pass each of the following criteria:

| Pass Criteria | | Fail |
|---|--|---------------------|
| Truncation ¹ | No truncation on consumer selling unit | Truncation |
| Magnification: 1. on consumer selling unit 2. on shipping container 3. on pallet label | $\geq 80\%$ and $\leq 200\%$ see table Appendix G see table Appendix G | < 80 or $> 200\%$ |
| Edge Determination | Pass | Fail |
| Decode | Pass | Fail |
| Quiet Zone | Pass | Fail |
| Minimum Reflectance | 0.5 or less of maximum reflectance | > 0.5 |
| Minimum Edge Contrast | 15% or greater | $< 15\%$ |

D9 In addition to passing each of the previous criteria, all symbols must obtain a passing grade on each of the following criteria.

D10 The passing grade is determined by the type of symbol and whether it is on a retail unit or a shipping container.

D11 The final score for a symbol is based on its lowest score in any category.

D12 The symbol fails if it has an “F” on any category.

| | A | B | C | D | F |
|-----------------|--------------------|--------------------|--------------------|--------------------|----------|
| Symbol Contrast | $\Rightarrow 70\%$ | $\Rightarrow 55\%$ | $\Rightarrow 40\%$ | $\Rightarrow 20\%$ | $< 20\%$ |
| Modulation | ≤ 0.7 | ≤ 0.6 | ≤ 0.5 | ≤ 0.4 | > 0.4 |
| Decodability | $\Rightarrow 0.62$ | $\Rightarrow 0.50$ | $\Rightarrow 0.37$ | $\Rightarrow 0.25$ | < 0.25 |
| Defects | ≤ 0.15 | ≤ 0.20 | ≤ 0.25 | ≤ 0.30 | > 0.30 |

Footnote¹ Vertical bars less than specified height. Truncation will be accepted on very small products where it can be shown that the space available on the product and the label did not allow for a full height symbol.

Appendix E – Glossary of Terms

| | |
|----------------------------|--|
| Bar Code | A symbol that encodes data into a machine readable pattern of adjacent, varying width, parallel, rectangular dark bars and pale spaces. |
| Bar Code Symbol | The Bar Code Symbol consists of both the bar code and the human readable data. |
| Bearer Bars | Bar abutting the tops and bottoms of the bars in a barcode or a frame surrounding the entire symbol, intended to equalise the pressure exerted by the printing plate over the entire surface of the symbol and/or to prevent a short scan by the barcode reader. |
| Check Digit | A final digit calculated from the other digits of some GS1 identification keys. This digit is used to check that the data has been correctly composed. |
| Clear Space | See Quiet Zone |
| Consumer Selling Unit | The container in which a beverage alcohol product is packaged when offered for retail sale. A consumer selling unit may be a single unit container such as a bottle or can or a multi-pack package consisting of multiple containers. For some items, the consumer selling unit may also be the shipping container. |
| Direct Print | A process in which the printing apparatus prints the symbol by making physical contact with a substrate (e.g., flexography, ink jet, dot peening). |
| EDI | Electronic Data Interchange is the direct exchange between computers of business information in standard formats. |
| GS1® | Based in Brussels, Belgium, and Princeton, USA, it is the organisation that manages the GS1 system. Its members are GS1 Member Organisations. |
| GS1 Canada | Is a neutral, not-for-profit association that develops and maintains global standards for efficient business communication. Canadian manufacturers and suppliers may subscribe to GS1 Canada to obtain a GS1 Company Prefix. |
| GS1 Application Identifier | The field of two or more digits at the beginning of an element string that uniquely defines its format and meaning. |
| GS1 Company Prefix | A unique string of four to twelve digits used to issue GS1 identification keys. The first digits are a valid GS1 Prefix and the length must be at least one longer than the length of the GS1 Prefix. The GS1 Company Prefix is issued by a GS1 Member Organisation. As the GS1 Company Prefix varies in length, the issuance of a GS1 Company Prefix excludes all longer strings that start with the same digits from being issued as GS1 Company Prefixes. |
| GS1-128 | A subset of Code 128 that is utilized exclusively for GS1 system data structures. |
| GTIN | Global Trade Identification Number is a new term that has been introduced to collectively refer to all U.P.C. and EAN bar codes |
| GTIN-8 | The 8-digit GS1 identification key composed of a GS1-8 Prefix, item reference, and check digit used to identify trade items. Symbologies include EAN-8 and U.P.C. Version E (UPC-E) |
| GTIN-12 | The 12-digit GS1 identification key composed of a U.P.C. Company Prefix, item reference, and check digit used to identify trade items. Symbologies include U.P.C. Version A (UPC-A). |
| GTIN-13 | The 13-digit GS1 identification key composed of a GS1 Company Prefix, item reference, and check digit used to identify trade items. Symbologies include EAN-13. |



Product Identification Standards

Section 12 – Appendices

| | |
|--|--|
| GTIN-14 | The 14-digit GS1 identification key composed of an indicator digit (1-9), GS1 Company Prefix, item reference, and check digit used to identify trade items. Symbologies include Interleaved Two of Five and GS1-128. |
| GTIN-18 (SSCC) | See Serial Shipping Container Code. |
| Interleaved 2 of 5 | See GTIN-14. |
| Item Reference | A component of the Global Trade Item Number (GTIN) assigned by the brand owner to create a unique GTIN. |
| Leading Zero(s) | Digits (always zeroes) which must be placed in the leftmost position(s) of a data string when GTIN-8, GTIN-12, or GTIN-13 are encoded in an GS1 AIDC data carrier that requires 14-digits or when used for the same intent in other data structures such as GRAI. |
| Linear Barcode | Barcode symbology using bars and spaces in one dimension. |
| Magnification | Different sizes of barcodes based on a nominal size and a fixed aspect ratio; stated as a percentage or decimal equivalent of a nominal size. |
| Manufacturer Number | See GS1 Company Prefix. |
| Multi-Unit Package | A consumer selling unit consisting of more than a single container of beverage alcohol. Examples include a four, six, eight, twelve or twenty four packs of beer or a mixed case of wine, e.g., twelve different 750 mL bottles. |
| Nominal Size | The typical (100%) size for a bar code. Larger or smaller sizes may be required/possible depending on the material that the symbol will be printed on and/or the type of printing process used. |
| Packaging Indicator | A single digit that is used as part of the GTIN-14 (SCC). It is used to identify variations in packaging type or shipping container quantity. |
| Packaging Type | A single digit within the GTIN-18 (SSCC) that is used to identify the shipping unit as a shipping container, pallet or other unit load. |
| Point of Sale (POS) | Refers to the retail checkout where omnidirectional barcodes must be used to enable very rapid scanning or low volume checkout where linear or 2D matrix barcodes are used with image-based scanners. |
| QR Code | QR Code A two-dimensional matrix symbology consisting of square modules arranged in a square pattern. The symbology is characterised by a unique finder pattern located at three corners of the symbol. QR Code Version 2005 is the only version that supports GS1 system identification numbers, including Function 1 Symbol Character. QR Code symbols are read by two-dimensional imaging scanners or vision systems. |
| Quiet Zone | A clear space which precedes the start character of a barcode and follows the stop character. Formerly referred to as “clear area” or “light margin”. |
| Serial Shipping Container Code (SSCC-18) | The GS1 identification key used to identify logistics units. The key comprises an extension digit, GS1 Company Prefix, serial reference, and check digit. |



Product Identification Standards

Section 12 – Appendices

| | |
|----------------------------------|---|
| Shipping Container Code (SCC-14) | See GTIN-14. |
| Shipping Container | A shipping container is a transport package. It can range in size from carton or tray to highway trailer or inter-modal container and can include containers such as barrels. |
| Standard Shipping Container | A container of a single product or a fixed configuration of multiple products. |
| Symbology | A defined method of representing numeric or alphabetic characters in a barcode; a type of barcode. |
| Truncation | Printing a symbol shorter than the symbology specification's minimum height recommendations. Truncation can make the symbol difficult for an operator to scan. |
| U.P.C. Company Prefix | A GS1 Company Prefix starting with a zero ('0') becomes a U.P.C. Company Prefix by removing the leading zero. A U.P.C. Company Prefix is used to issue GTIN-12. |
| Vintage Year or Vintage Date | A crop year. |

Appendix F – Summary of Version Changes

May 2002

1. References to the CSPC, the previous national product number, have been removed as that number has been replaced by the U.P.C.
2. Additional reminders that advance notice must be given for changes to the U.P.C./EAN or SCC-14 were inserted in several places within the document.
3. Reference were added to note that new Company Identification Numbers may be either six digits allowing a five digit number or eight digits allowing a three digit item number.

May 2004

1. A statement was added to remind suppliers that they are no longer required to include the CSPC number on any retail or shipping container.
2. Terminology was changed to reflect the global move towards GTIN nomenclature
3. A clarification was added to the section on vintage wines to indicate that annual changes to the GTIN are undesirable and should only be used for specialty wines under particular conditions.
4. An appendix was added to show the changes in terminology associated with the introduction of the GTIN nomenclature

November 2018

1. The following general revisions were made:
 - The document was reformatted to include section headers and sub-section numbering
 - Hyperlinks to internal and external references have been added
 - Antiquated information and references have been removed
 - UCC/EAN definitions, terminologies and nomenclature have been replaced with GTIN definitions, terminologies and nomenclature
 - References to UCC/EAN documents, standards and manuals have been updated to the correspond with related GS1 documents, standards and manuals
 - New requirements have been marked as (*new*)
2. The *Elimination of CSPC Numbers* section has been removed.
3. A recommendation was added that suppliers change their GTIN Item Number if a consumer selling unit packaging format change impacts recycling, see 4.4.
4. New conditions that require a change in GTIN Item Number have been added, see 4.9.
5. Reuse or reassignment of a GTIN Item Number from one trade item to another had been updated to align with GS1. Beginning January 1, 2019, reuse or reassignment of a GTIN Item Number will be prohibited except in situations where a GTIN Item Number was assigned to a trade item that was not actually produced or it is assigned to a trade item that was withdrawn from the market and is being reintroduced, see 4.10 and 4.11.
6. A definition for a *Consumer Selling Unit* has been added, see 5.3.

7. Requirements for *Single-Serve Beverage Alcohol Containers With Removable Lids* have been added, see 5.27 through 5.29.
8. Clarification has been added to alert suppliers that a new GTIN Item Number is required on the consumer selling unit and shipping container of a *Free Item Pack* if:
 - one or more of the shipping container dimensions changes by more than 20%; or
 - the gross weight of the shipping container changes by more than 20%, see 5.35.
9. Clarification has been added to alert suppliers that some member jurisdictions may require a new GTIN be assigned to the shipping container of a *Free Item Pack* to segregate inventory of the *Free Item Pack* from inventory of the regular SKU, see 5.35, footnote².
10. Clarification has been added to confirm that a shipping container includes a carton or tray or a consumer selling unit that is also shipping container. In addition, requirements for *Tray Packed Products* and *When the Shipping Container is also the Consumer Selling Unit* were relocated and combined under *Section 6 – Standards for Shipping Containers*.
11. The transitional provision that allowed the use of a GTIN-12 (U.P.C. Version A) or a GTIN-13 (EAN-13) bar code symbol on shipping containers that are not a consumer selling unit has been withdrawn.
12. The *Human Readable Information* table was renamed *Table 2 – Shipping Container Markings (Human Readable Information)* and expanded to include cartons, trays and shipping containers that are also consumer selling units.
13. *Table 2* was expanded to include additional examples of product date code formats that are accepted by member liquor jurisdictions.
14. Clarification has been added to alert suppliers that consumer selling units must also comply with all federally legislated labeling requirements, see 6.17.
15. Requirements for marking *Free Item Packs* with a GTIN were removed from the *Standards for Shipping Containers* section and added as a footnote under *Free Item Packs (Value Added Products)*, *Section 5- Product Marking Standards for Consumer Selling Units*.
16. The *Bar Code Symbol Location on Corked Products* section and all references to the use of a bottle orientation symbol on shipping containers have been removed. Member jurisdictions require all products, including wine packaged with a cork closure, to be shipped in an upright or horizontal position, see 7.1 and 7.2.
17. *Standards for Pallets* was renamed *Standards for Unit Loads* and updated to include pallets, slip sheets and 'palletized cubes' transported using other mechanical devices or other technologies, e.g., clamped loads, see Section 11.

Appendix G – Bar Code Symbol Dimensions

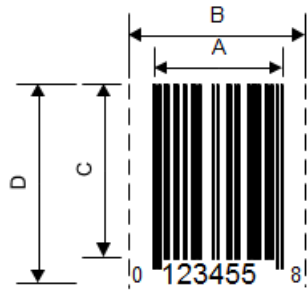
GTIN-12 (UPC-A)



| In millimeters | | | | |
|----------------|-------|-------|-------|-------|
| Magnification | A | B | C | D |
| 80% | 25.08 | 29.83 | 18.29 | 20.73 |
| 90% | 28.22 | 33.56 | 20.57 | 23.32 |
| 100% | 31.35 | 37.29 | 22.86 | 25.91 |
| 120% | 37.62 | 44.75 | 27.43 | 31.09 |
| 160% | 50.16 | 59.66 | 36.58 | 41.45 |
| 200% | 62.70 | 74.58 | 45.72 | 51.82 |

| In inches | | | | |
|---------------|-------|-------|-------|-------|
| Magnification | A | B | C | D |
| 80% | 0.988 | 1.175 | 0.720 | 0.816 |
| 90% | 1.112 | 1.322 | 0.810 | 0.918 |
| 100% | 1.235 | 1.469 | 0.900 | 1.020 |
| 120% | 1.482 | 1.763 | 1.080 | 1.224 |
| 160% | 1.976 | 2.350 | 1.440 | 1.632 |
| 200% | 2.470 | 2.938 | 1.800 | 2.040 |

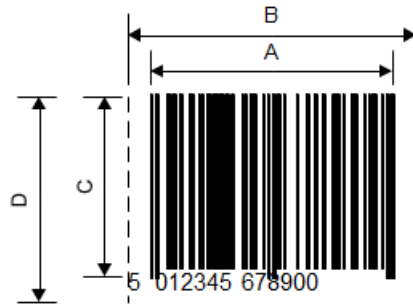
GTIN-8 Zero Suppressed (UPC-E)



| In millimeters | | | | |
|----------------|-------|-------|-------|-------|
| Magnification | A | B | C | D |
| 80% | 13.46 | 17.69 | 18.29 | 20.73 |
| 90% | 15.15 | 19.90 | 20.57 | 23.32 |
| 100% | 16.83 | 22.11 | 22.86 | 25.91 |
| 120% | 20.20 | 26.53 | 27.43 | 31.09 |
| 160% | 26.93 | 35.38 | 36.58 | 41.45 |
| 200% | 33.66 | 44.22 | 45.72 | 51.82 |

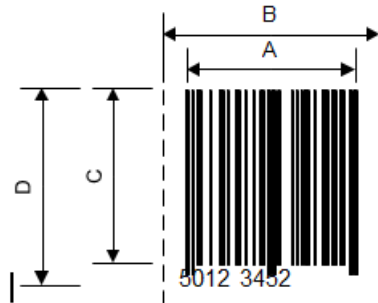
| In inches | | | | |
|---------------|-------|-------|-------|-------|
| Magnification | A | B | C | D |
| 80% | 0.530 | 0.697 | 0.720 | 0.816 |
| 90% | 0.597 | 0.784 | 0.810 | 0.918 |
| 100% | 0.663 | 0.871 | 0.900 | 1.020 |
| 120% | 0.796 | 1.045 | 1.080 | 1.224 |
| 160% | 1.061 | 1.694 | 1.440 | 1.632 |
| 200% | 1.326 | 1.742 | 1.800 | 2.040 |

GTIN-13 (EAN-13)



| In millimeters | | | | |
|----------------|-------|-------|-------|-------|
| Magnification | A | B | C | D |
| 80% | 25.08 | 29.83 | 18.29 | 20.73 |
| 90% | 28.22 | 33.56 | 20.57 | 23.32 |
| 100% | 31.35 | 37.29 | 22.86 | 25.91 |
| 120% | 37.62 | 44.75 | 27.43 | 31.09 |
| 160% | 50.16 | 59.66 | 36.58 | 41.45 |
| 200% | 62.70 | 74.58 | 45.72 | 51.82 |

GTIN-8 (EAN-8)



| In millimeters | | | | |
|----------------|-------|-------|-------|-------|
| Magnification | A | B | C | D |
| 80% | 17.69 | 21.38 | 14.58 | 17.05 |
| 90% | 19.90 | 24.06 | 16.41 | 19.18 |
| 100% | 22.11 | 26.73 | 18.23 | 21.21 |
| 120% | 26.53 | 32.08 | 21.88 | 25.57 |
| 160% | 35.38 | 42.77 | 29.17 | 34.10 |
| 200% | 44.22 | 53.46 | 36.46 | 42.62 |

GTIN-14 (SCC-14) using Interleaved 2 of 5 bar code



| In inches | | | | | | |
|---------------|-------------|-------|-------|-------|-------|-------|
| Magnification | X dimension | A | B | C | D | E |
| 70% | 0.028 | 3.374 | 4.314 | 0.280 | 0.190 | 0.880 |
| 80% | 0.032 | 3.856 | 4.876 | 0.320 | 0.190 | 1.000 |
| 90% | 0.036 | 4.338 | 5.438 | 0.360 | 0.190 | 1.130 |
| 100% | 0.040 | 4.820 | 6.000 | 0.400 | 0.190 | 1.250 |
| 110% | 0.044 | 5.302 | 6.652 | 0.440 | 0.190 | 1.380 |

| In millimeters | | | | | | |
|----------------|-------------|---------|---------|--------|-------|--------|
| Magnification | X dimension | A | B | C | D | E |
| 70% | 0.711 | 85.728 | 109.58 | 7.100 | 4.826 | 22.350 |
| 80% | 0.813 | 97.998 | 123.850 | 8.100 | 4.826 | 25.400 |
| 90% | 0.914 | 110.278 | 138.120 | 9.100 | 4.826 | 28.700 |
| 100% | 1.016 | 122.348 | 152.400 | 10.200 | 4.826 | 31.750 |
| 110% | 1.118 | 134.618 | 166.670 | 11.200 | 4.826 | 35.050 |

The vertical bearer bars are required when printing directly on corrugate using a plate based printing process. When other processes such as ink jet printing or labels are used the vertical bearer bars may be omitted and the width of the horizontal bearer bars may be reduced to twice the X dimension. The human readable characters must be at least 5.1 mm (0.20").

The human readable characters must be at least 5.1 mm (0.20").

GTIN-14 (SCC-14) using GS1-128 bar code



| In millimeters | | | | | |
|----------------|-------------|---------|---------|-------|--------|
| Magnification | X dimension | A | B | C | D |
| 50.8% | 0.508 | 68.072 | 80.772 | 6.350 | 31.750 |
| 63.5% | 0.635 | 85.090 | 97.790 | 6.350 | 31.750 |
| 76.2% | 0.762 | 102.108 | 117.348 | 7.620 | 31.750 |

| In inches | | | | | |
|---------------|-------------|-------|-------|-------|-------|
| Magnification | X dimension | A | B | C | D |
| 50.8% | 0.020 | 2.680 | 3.180 | 0.250 | 1.250 |
| 63.5% | 0.025 | 3.350 | 3.850 | 0.250 | 1.250 |
| 76.2% | 0.030 | 4.020 | 4.620 | 0.300 | 1.250 |

The human readable characters must be at least 5.1 mm (0.20")

GTIN-18 (SSCC) using GS1-128



| In millimeters | | | | | |
|----------------|-------------|---------|---------|-------|------|
| Magnification | X dimension | A | B | C | D |
| @ 76.2% | 0.762 | 118.872 | 134.112 | 7.620 | 38.1 |

| In inches | | | | | |
|---------------|-------------|-------|-------|-------|-----|
| Magnification | X dimension | A | B | C | D |
| @ 76.2% | 0.030 | 4.680 | 5.280 | 0.300 | 1.5 |

The human readable characters must be at least 5.1 mm (0.20").



Appendix H – GTIN Terminology

| New Global Terms | Legacy Terms | Explanation |
|------------------------------------|---|--|
| Global Trade Identification Number | UPC-A UPC-E EAN-8 EAN-13 SCC-14 | A term used describe any trade item number |
| UCC-12 | U.P.C. | The twelve digit product number with or without its barcode representation |
| EAN/UCC-13 | EAN-13 | The thirteen digit product number with or without its barcode representation |
| EAN/UCC-8 | EAN-8 | The eight digit product number with or without its barcode representation |
| SSCC-18 | SSCC-18 | The eighteen digit number used to identify unit loads, e.g., a pallet or slip sheet. |



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