



The Global Language of Business

GTIN Management Guideline for Construction Products

Release 1.0, Ratified, Jan 2023

Document Summary

| Document Item | Current Value |
|----------------------|-----------------------------------------------------|
| Document Name | GTIN Management Guideline for Construction Products |
| Document Date | Jan 2023 |
| Document Version | 1.0 |
| Document Issue | |
| Document Status | Ratified |
| Document Description | |

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Log of Changes

| Release | Date of Change | Changed By | Summary of Change |
|---------|----------------|------------|-----------------------------------------------------------------|
| 1.0 | Jan 2023 | C.Tetelin | Initial publication based on GSMP Work Requests 21-170 & 22-244 |
| | | | |

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1 Introduction

The Global Trade Item Number (GTIN) is a global supply chain solution that enables identification of any trade item that may be priced, ordered or invoiced at any point in the supply chain upon which there is a need to retrieve predefined information. Whatever the sector and kind of trade item, the rules in the [Global Trade Item Number Management Standard](#) apply.

This Global Trade Item Number Management Guideline for Construction Products provides construction-specific examples of the GTIN Management Standard.

Unique identification of construction products is critical to maintaining operational efficiencies that stakeholders rely on to exchange information about products in consistent ways, as well as ensuring the smooth operations of global supply chains. Additionally, the unique identification of construction products is crucial when complying with various regulations across the globe. Finally, unique identification, as well as communication between trading partners of changes to the products, are essential to ensure the right product is made available on the store shelf or directly to the end user.

Construction products typically have a long life span, with some of them being in active use for 50 or even 100 years. There are many external factors that might influence the usage and the value of a construction product over the course of its life. Examples of such factors are construction methods, regulations and knowledge about different material's properties in both the short- and the long-term.

To building owners and facility managers, the challenge of knowing what is in a building has always been there, but the rapid development of new materials combined with the increased focus on sustainability and circularity has accentuated these stakeholder's need to efficiently track construction products, and their properties and content, throughout their complete lifecycle. To meet these needs, this document further illustrates examples of how to manage GTINs for parties involved in maintenance, repair, upgrade, reuse, and recycling of construction products.

This document is designed to help industry make consistent decisions about the unique identification of construction products in open supply chains and to comply with the general [GTIN Management Standard](#). Overall, costs are minimised when all stakeholders throughout a products lifecycle adhere to the GTIN Management Standard. In addition, this could simplify CO₂ footprint calculations, track products and their content to simplify circular economy, re-use, recovery, as well as compliance with different green building certification schemes.

1.1 Scope

The scope of this guideline is outlined below.

- This is a guideline for identification of new professional construction products used in buildings and civil engineering works. This also includes professional construction products currently on the market without a GTIN and one of a kind, configured products.
- The guideline defines how GTINs SHOULD be used to persistently and uniquely identify a product for all stakeholders interacting with the product, including, but not limited to, manufacturer, retailers, contractors, facility management companies, companies involved in renovation, deconstruction, re-use, material recovery and waste processing.

The following are out of scope:

- All other GS1 Identification Keys except GTIN (e.g., GLN, GMN, GIAI etc.)
- Data capture
- Data sharing technologies.
- Serialisation of trade item instances
- Construction services
- Maintenance
- Solution for circular economy

1.2 Guiding principles and business objectives of changing a GTIN

This document provides guidance to create practical business and end user value, specifically when pre-defined information changes on an existing product or when a new product is introduced for the first time. The guiding principles are described in the [GTIN Management Standard](#).

At least one of the guiding principles must apply for a GTIN change to be required.

- Is a consumer and/or trading partner expected to distinguish the changed or new product from previous/current products?
- Is there a regulatory/liability disclosure requirement to the consumer and/or trading partner?
- Is there a substantial impact to the supply chain (e.g., how the product is shipped, stored, received)?

These principles, when applied to construction products, are interpreted to mean that product changes that affect downstream processes (for example, maintenance, next use, recovery or decommissioning) can result in a need for a GTIN change.

1.3 Defining a new product compared to a product change

When making decisions about product identification, it is important to understand the differences between a NEW product and changes to an existing product.

New products are those which do not currently exist in a brand owner's product offering and are new to the marketplace. A new product should be considered an "addition" to a product offering. The GTIN Management Standard requires that if a product is new, it should always be assigned a new GTIN to accurately distinguish the new product from any existing product, which is a product that is currently available.

Changes to existing products are considered "replacement products" (the previous version will no longer exist once the replacement product has flowed through, as determined by the brand owner). The GTIN Management Standard defines when a change to certain attributes of an existing product is such that a new GTIN is required.

- **New product:** A "new product" is defined as a product that does not currently exist or has not been available for sale and is an addition to the brand owner's portfolio/is new to the marketplace.
- **Product change:** An existing product, currently in the brand owner's portfolio and available in the marketplace whose attributes have been changed.

1.4 GS1 standards and legal/regulatory compliance

The GTIN Management Standard represents a minimum requirement. Please be advised that there may be regulation(s) in your market area that are more stringent and SHALL be adhered to. All local legal and regulatory requirements supersede the GTIN Management Standard.

1.5 GTIN Management Standard and brand discretion

Brand owners may change the GTIN as often as they think is appropriate based upon their needs as well as the needs of their consumers, trading partners and other stakeholders, considering the guiding principles defined in GTIN Management Standard.

2 GTIN Management Rule examples for construction products

This section provides GTIN Management Rule examples for construction products. These rules define when a GTIN MUST be newly assigned (NEW PRODUCT) or changed (REPLACEMENT PRODUCT) to be in conformance with the GTIN Management Standard.

The GTIN Management Rules define when GTIN changes are needed at the end user trade item level (base unit) as well as on higher level trade items (e.g., case, pallet) that currently exist and are used

in distribution processes. To enable traceability after an item has reached the end user, it is the base level/base unit that is the primary concern, since it will be on that level it will link to the information about the product. This is primarily valid for GTIN Rules 2.1 New product introduction and 2.2. Declared formulation or functionality

Remember that all the GTIN Management Rules need to be considered when making the final decision of whether or not to change a GTIN.

For every GTIN Management Rule described in the [GTIN Management Standard](#), the relevant guiding principles are explained together with the hierarchy levels of GTIN assignment.

The number of hierarchy levels depends on the type of product. For more information about hierarchy levels, please refer to the [GS1 General Specifications](#). An overview is also provided in Appendix A.

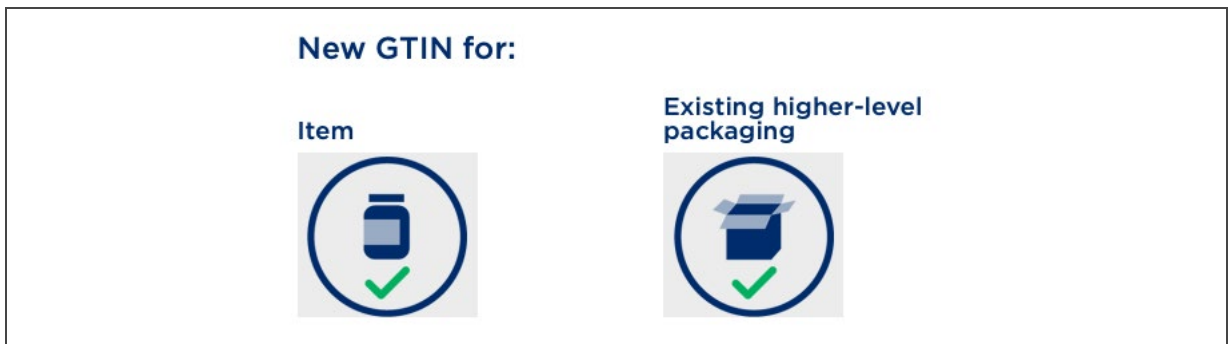
2.1 New product introduction

Please refer to [GTIN Management Standard section](#) devoted to new product introduction.

A "new product" is defined as a product that does not currently exist or has not been available for sale and is an addition to the brand owner's portfolio/is new to the marketplace.

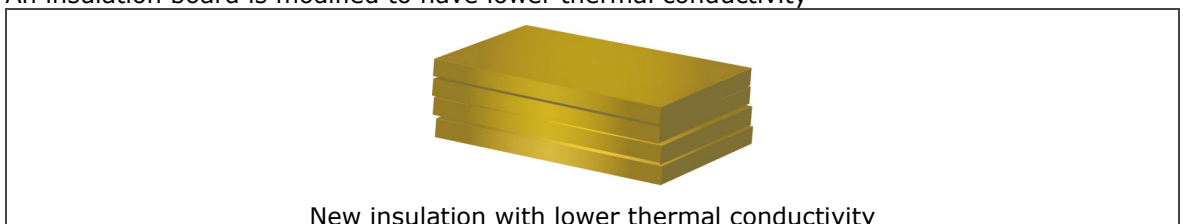
Any new product requires the assignment of a new GTIN.

Hierarchy levels of GTIN assignment

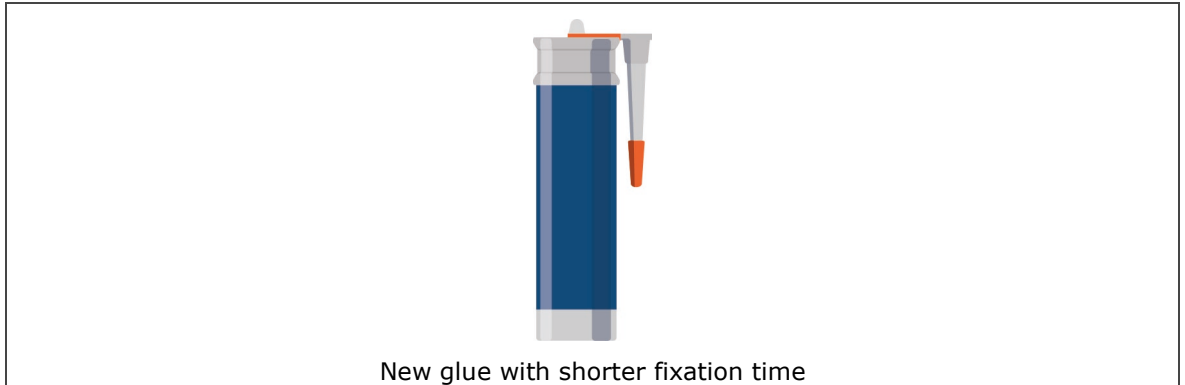


Examples of new construction products that require GTIN assignment include:

- A construction product is produced that has never been on the market before
- A wooden cornice is updated with a new profile
- An insulation board is modified to have lower thermal conductivity



- An electric screwdriver now has higher maximum torque
- A glue is introduced with a shorter fixation time



- A paint that is offered in a different shade of white
- A ready-made window is introduced
- A prefabricated concrete element is added to a product offering

2.2 Declared formulation or functionality

Please refer to [GTIN Management Standard section](#) devoted to declared formulation or functionality.

“Functionality” is defined as the particular use or set of uses for which something is designed.

“Formulation” is defined as a list of the ingredients or components used to create a trade item.

A change to the formulation or functionality that affects the legally-required declared information on the packaging of a product and also where the brand owner expects the consumer or supply chain partner to distinguish the difference requires a new GTIN. Both conditions must be met requiring the assignment of a new GTIN.

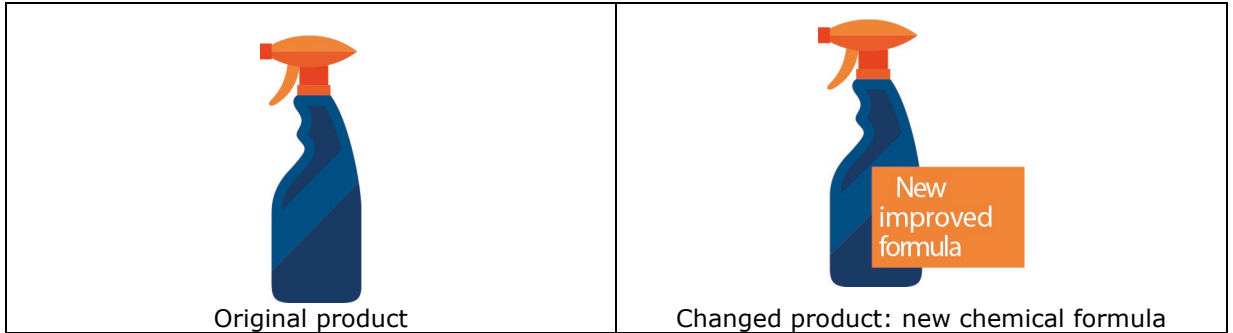
- ✔ **Note:** for the construction sector, an additional point to note is that a change in GTIN can be needed when a change in formulation or functionality has impact on downstream business processes (for example maintenance, next use, recovery, or decommissioning).

Hierarchy level of GTIN assignment

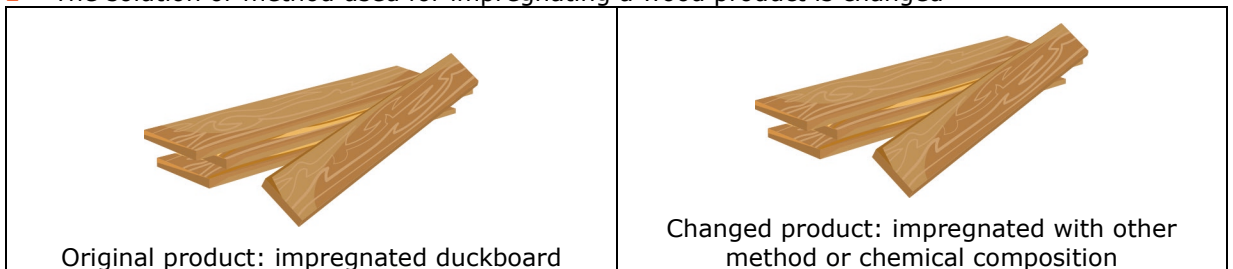


Examples of business scenarios that require GTIN change

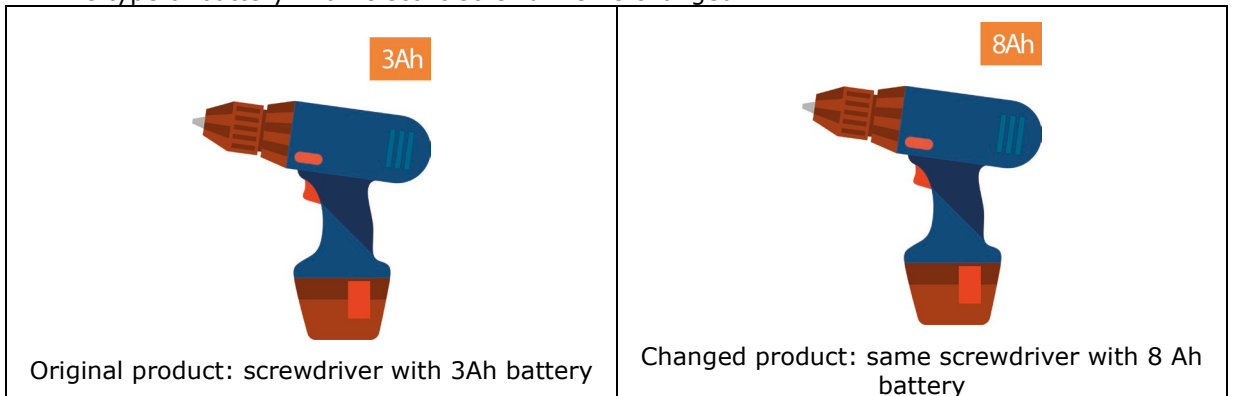
- The appearance grading of a softwood product is changed from G4-1 to G4-3
- The chemical content of a product is deliberately changed (not just through daily fluctuations in the production process)



- A paint that has a different chemical composition is used on a product
- The solution or method used for impregnating a wood product is changed



- The type of battery in an electric screwdriver is changed



- A plasterboard with changed density for extended application/function
- Changed hinges on window/door

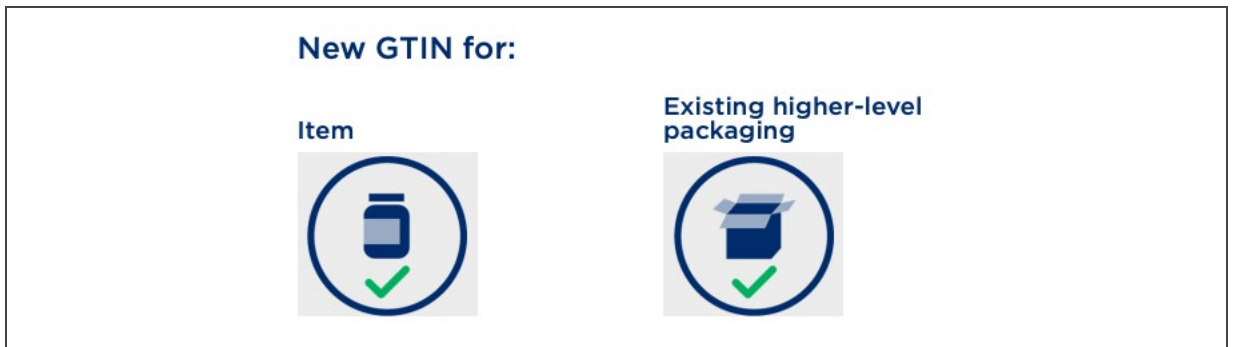
2.3 Declared net content

Please refer to [GTIN Management Standard section](#) devoted to declared net content.

“Net Content” is defined as the amount of the consumable product of the trade item contained in a package, as declared on the label, which may include net weight, volume, count, units, etc.

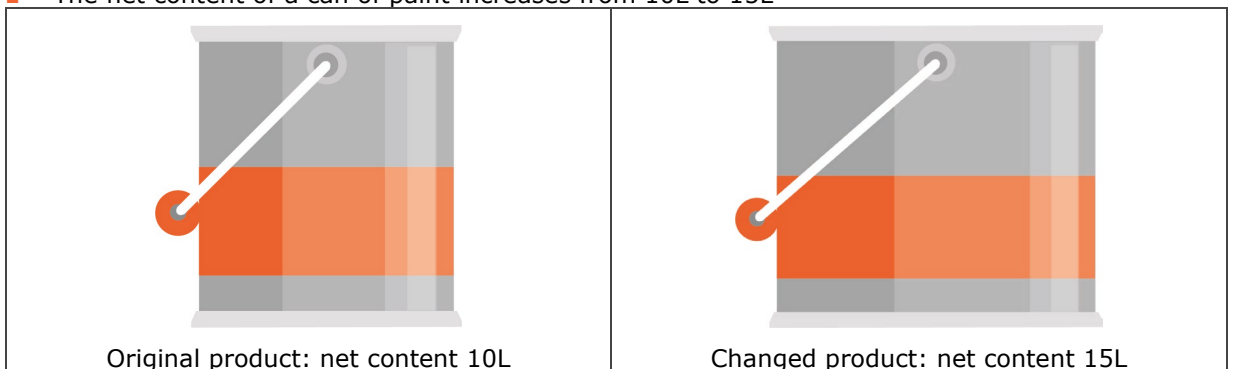
Any change (increase or decrease) to the declared net content that is printed on the pack, requires assignment of a new GTIN.

Hierarchy level of GTIN assignment

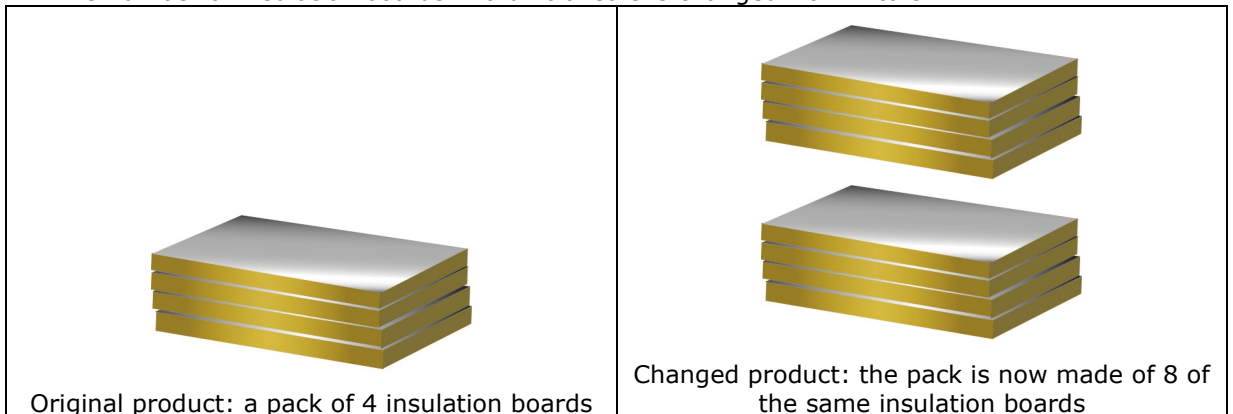


Example business scenarios that require GTIN change

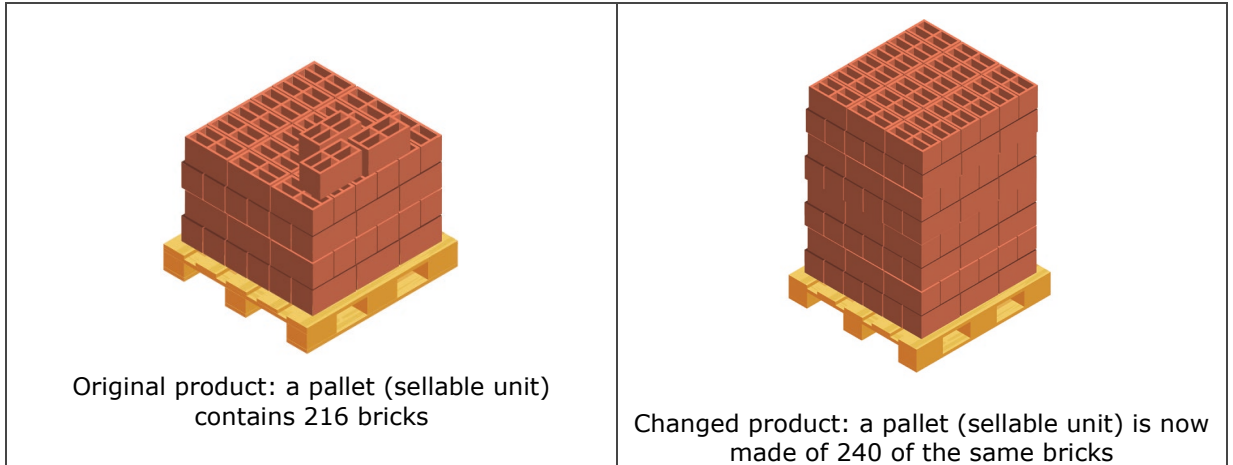
- The net content of a can of paint increases from 10L to 15L



- The declared net weight of a tube of sealant increases from 680 g (24 oz) to 794 g (28 oz)
- The declared number of plasterboards in a package change from 8 to 10
- The number of insulation boards in a unit of sale is changed from 4 to 8



- The declared number of bricks on a pallet is changed (the pallet is the sellable unit)

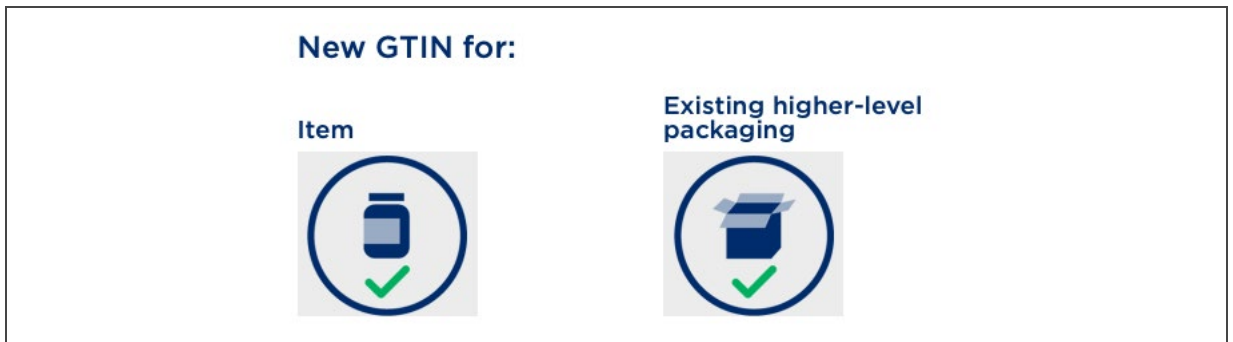


2.4 Dimensional or gross weight change

Please refer to [GTIN Management Standard section](#) devoted to dimensional or gross weight change.

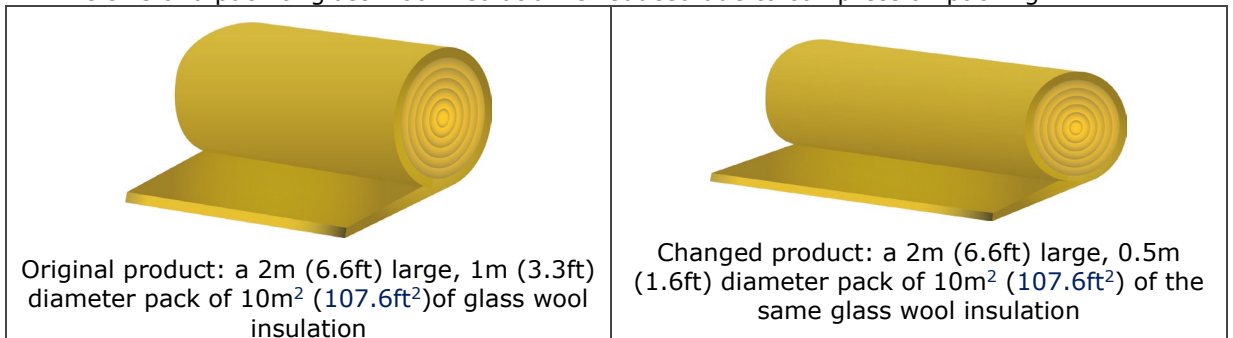
A change of over 20% to a physical dimension, on any axis, or gross weight, requires assignment of a new GTIN.

Hierarchy level of GTIN assignment

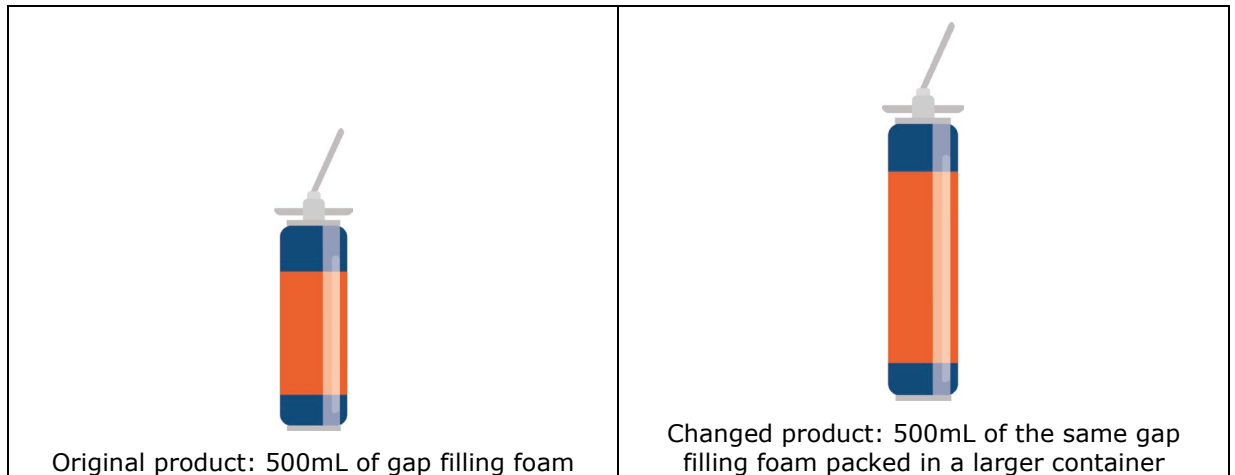


Example business scenarios that require a GTIN change

- The size of a pack of glass wool insulation is reduced due to compression packing



- The gross weight of a product increases by 50% from 0.34 kg (0.75 lb) to 0.68 kg (1.5 lb) due to a change in the packaging material from plastic to wood crate
- The height of a box of nails changes by 40% from 7.6 cm (3 in) to 10.64 cm (4.2 in)
- A gap filling foam is packed in a new larger container but with the same net content

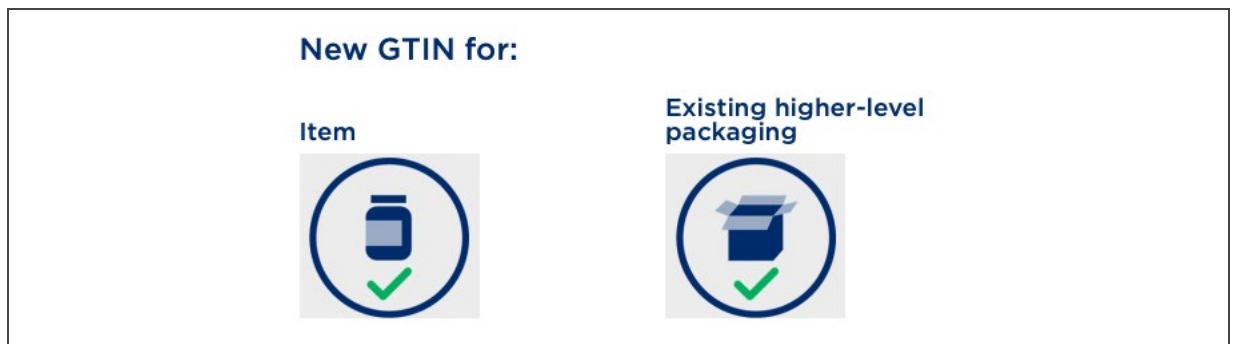


2.5 Add or remove certification mark

Please refer to [GTIN Management Standard section](#) devoted to add or remove certification mark.

A change to packaging to add a new, or remove an existing certification mark (e.g., EU Ecolabel, FSC or PEFC) that has significance to regulatory bodies, trading partners or to the end consumer, requires assignment of a new GTIN.

Hierarchy level of GTIN assignment



Example business scenarios that require GTIN change

- A product previously covered by a national standard is now covered by an EU harmonised standard, i.e., it is now required to be CE marked and have a Declaration of Performance



- Addition or removal of an EU Ecolabel certification mark
- Addition or removal of an "Energy Efficiency" logo provided by a government approved agency
- Addition or removal of an FSC or PEFC certification mark

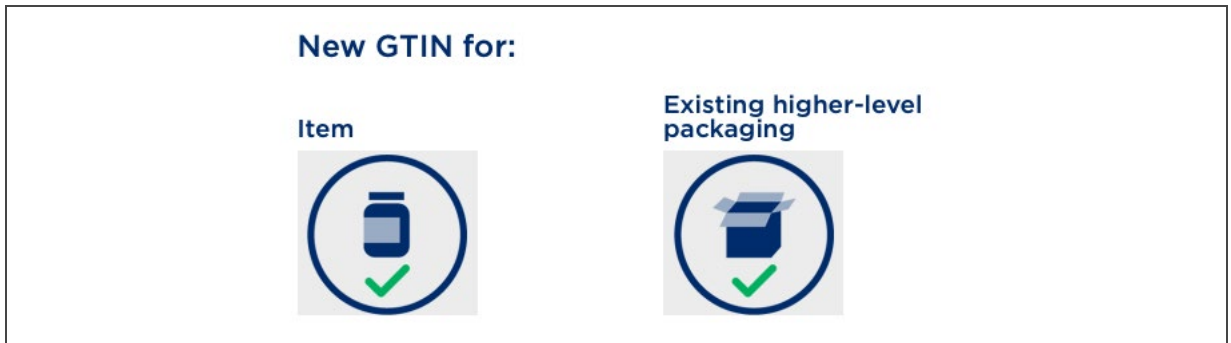
2.6 Primary brand

Please refer to [GTIN Management Standard section](#) devoted to primary brand.

The primary brand is the brand most recognisable by the consumer, as determined by the brand owner, and can be expressed as a logo and/or words.

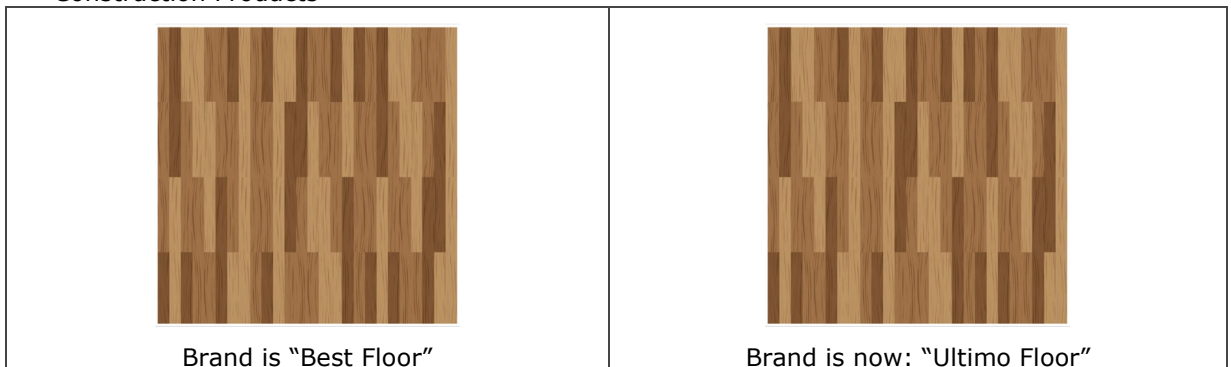
A change to the primary brand that appears on the trade item, requires assignment of a new GTIN.

Hierarchy level of GTIN assignment



Example business scenarios that require GTIN change

- The company's primary brand name changes from "Good Construction Products" to "Better Construction Products"

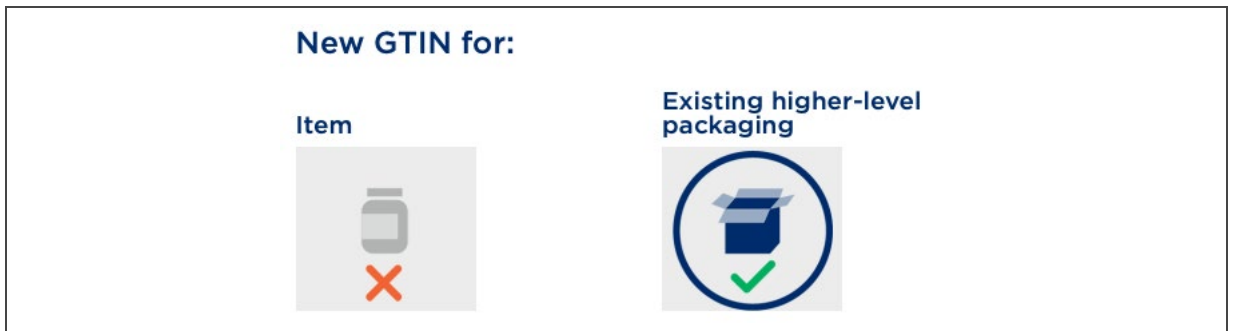


2.7 Time critical or promotional product

Please refer to [GTIN Management Standard section](#) devoted to time critical or promotional product.

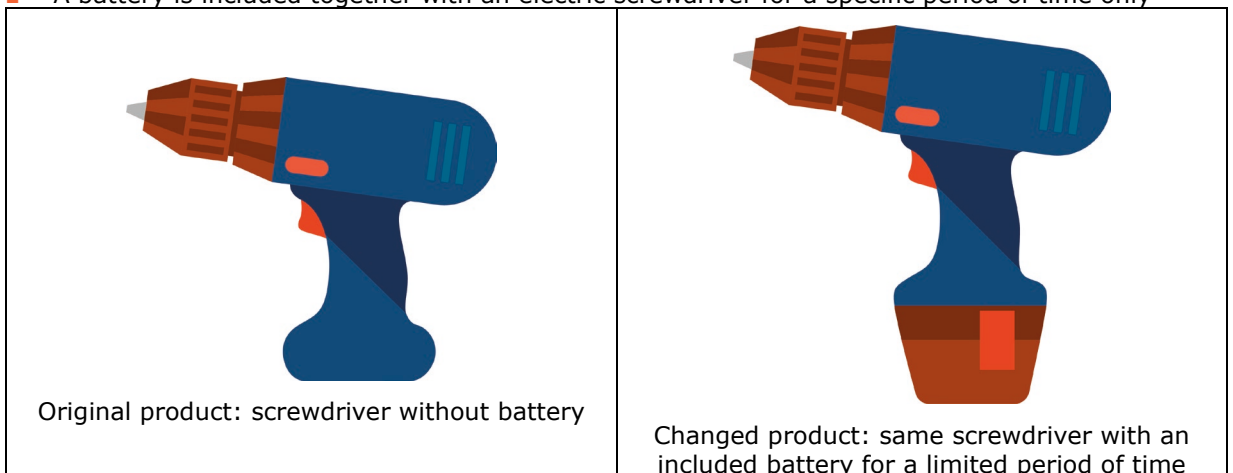
A change to a product that is being promoted (including packaging changes) for a specific event or date, impacting the required handling in the supply chain to ensure the trade item is available for sale during a specified time period, requires assignment of a new GTIN.

Hierarchy level of GTIN assignment



Example business scenarios where a unique GTIN at the higher-level packaging (e.g., pack, case, pallet) is required

- A free trial item (not identified with its own GTIN) is attached to an existing item for a promotional period, the declared net content of the original item is unchanged and packaging dimensions, or the gross weight of the product are NOT changed by more than 20%
- For a period of two months, a set amount of the proceedings for a specific product is donated to a charity. This is indicated by information on the package
- A battery is included together with an electric screwdriver for a specific period of time only



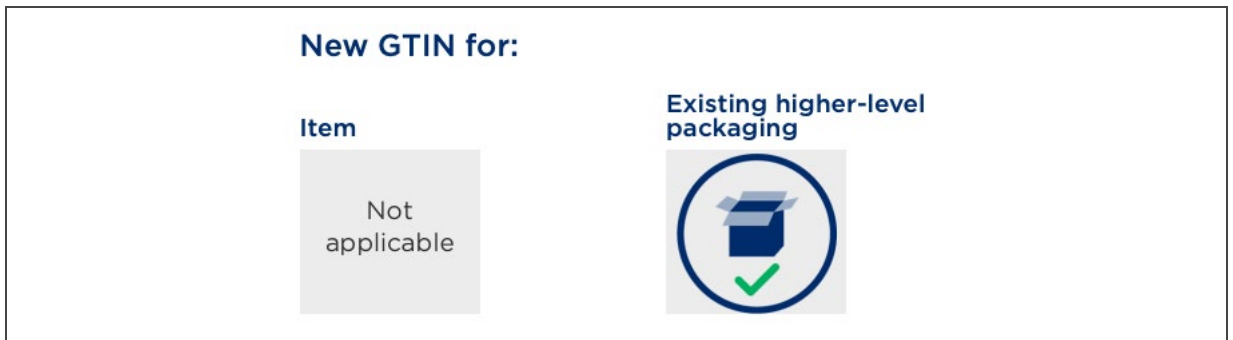
- A promotional version of a product is launched with "Special offer" printed on the packaging

2.8 Pack / case quantity

Please refer to [GTIN Management Standard section](#) devoted to pack/case quantity.

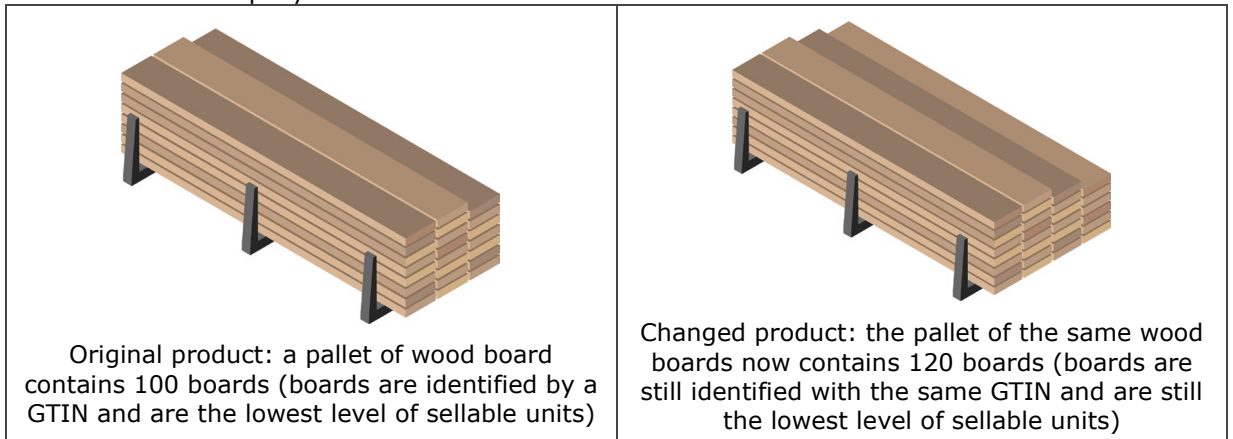
A change to the number of trade items in a case or a change to the quantity of cases in a pre-defined pallet configuration, requires assignment of a new GTIN.

Hierarchy level of GTIN assignment



Example business scenarios where a unique GTIN at the higher-level packaging (e.g., pack, case, pallet) is required

- A case configuration changes from containing 8 trade items to containing 12 trade items, the case needs to be uniquely identified
- A pallet configuration changes from containing 100 boards to containing 120 boards, the pallet needs to be uniquely identified



2.9 Pre-defined assortment

Please refer to [GTIN Management Standard section](#) devoted to pre-defined assortment.

A pre-defined assortment is defined as a pack of two or more trade items that are combined and sold together as a single trade item (may also be referred to as a bundle).

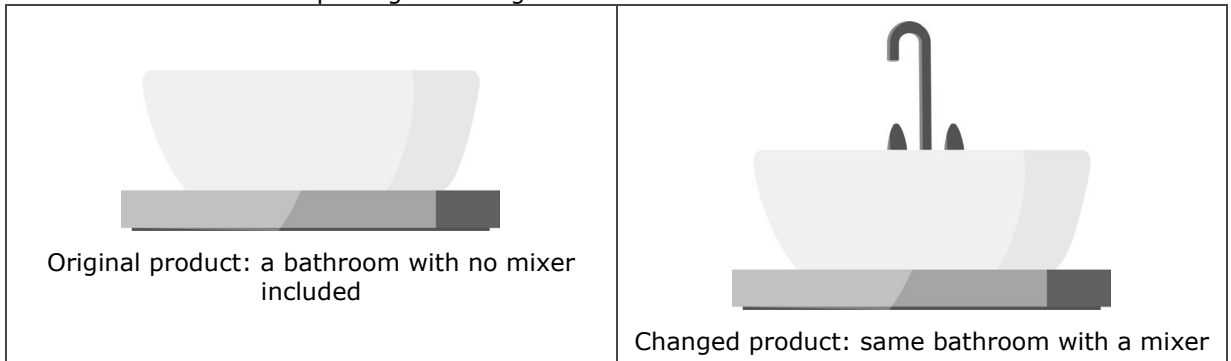
A change, addition, or replacement of one or more trade items included in a pre-defined assortment, requires assignment of a new GTIN.

Hierarchy level of GTIN assignment



Example business scenarios that require GTIN change

- A bathroom furniture package is changed so it now also includes a mixer



- A shower faucet set is changed to no longer contain a soap holder
- In a set of bits, two are replaced with other dimensions
- In an assortment of screws, one of the dimensions are changed

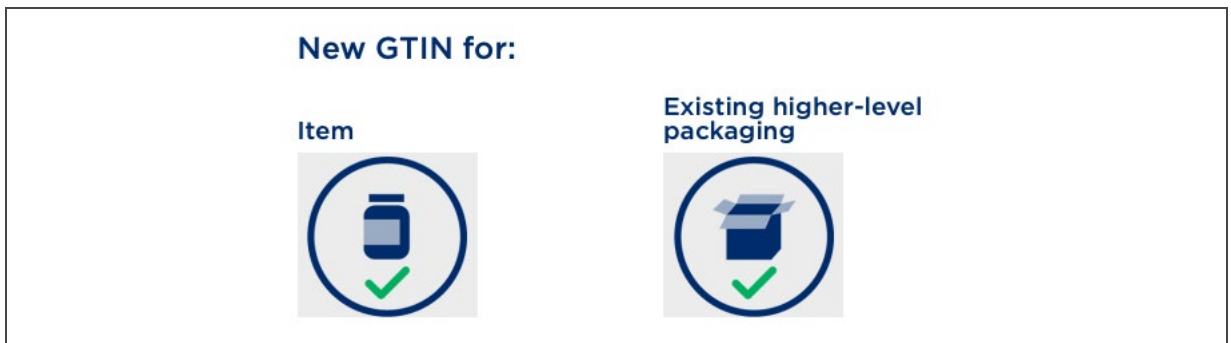
2.10 Price on pack

Please refer to [GTIN Management Standard section](#) devoted to price on pack.

‘Price on pack’ is defined as when the brand owner includes pre-pricing as part of the package graphics. This is not considered a price marked on a price ticket, sticker, hangtag or anything that could be removed from the package or product.

Any addition, change or removal of a price marked directly on the product package (not recommended), requires assignment of a new GTIN.

Hierarchy level of GTIN assignment



Example business scenarios that require GTIN change

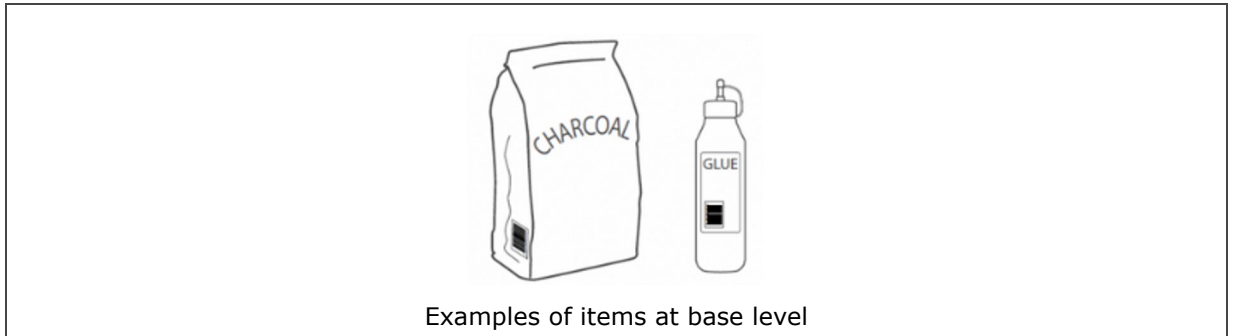
- The pre-printed price on a package changes from €3 to €2
- A selling price of €8 is added to a product’s packaging
- The Manufacturing Suggested Retail Price (MSRP) is set at €1.99 and is included in the packaging graphics



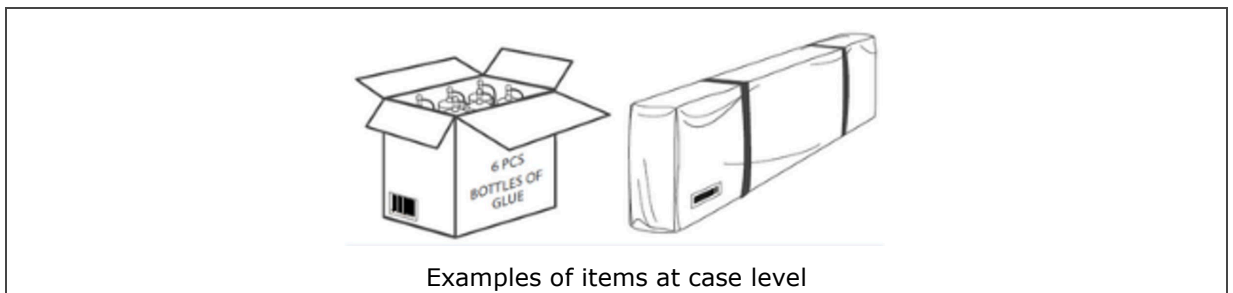
A Hierarchy levels

The base level is the lowest in hierarchy. An item at the base level is identified with a GTIN and does not contain items that are themselves identified with a GTIN within this hierarchy. A trade item at the base level can be contained in another item which can be a case or a pallet. Examples of an item at the base level are a bag of charcoal or a bottle of glue.

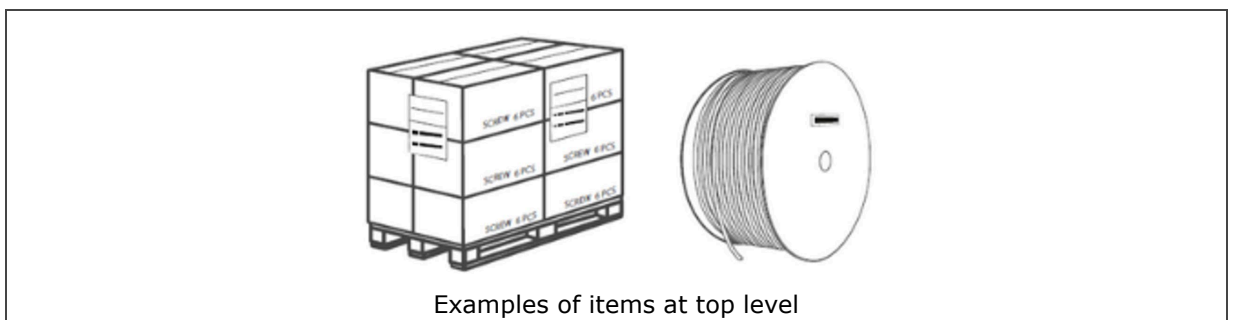
A trade item hierarchy can include several items at the base level, for example a multipack or co-packed items containing different products, or if the hierarchy describes a mixed display unit.



The case level is the middle level in a trade item hierarchy and is only used when there are more than two hierarchy levels. A trade item at case level contains other items that are identified by a GTIN and is itself contained in an item identified by its own GTIN. A trade item at case level can contain other items at case level. An example of an item at case level is a box of 6 bottles of glue or a package with 10 shrink-wrapped planks. There can be several case levels in a trade item hierarchy. Sometimes the case level is not used, for example if the base unit is large. An example is bags of charcoal, where the pallet is displayed directly in the store.

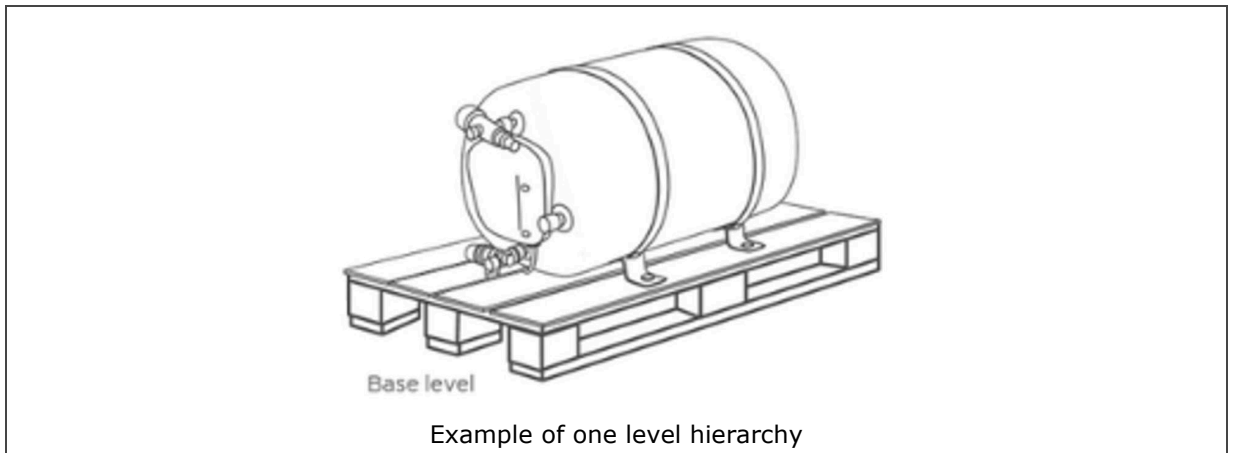


The top level is the highest level in a trade item hierarchy. A trade item at top level contains other items but is not itself contained in another item. Top level is only used when a top level is present in the hierarchy. Examples of a trade item at top level are a pallet with boxes of screws or a drum of electrical cable.



Example of a one level hierarchy

This example shows a hierarchy consisting of a base level water heater on a pallet. Note that this hierarchy has no case or top level, and that it consists only of base level.

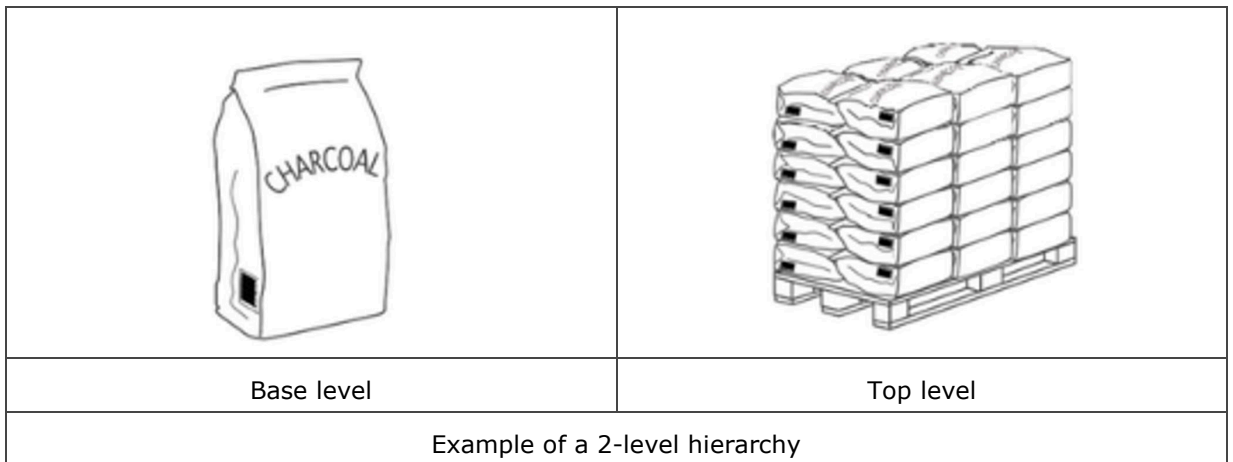


Example of a 2-level hierarchy

This example shows a hierarchy consisting of:

- Base level – bag of charcoal
- Top level – pallet with 36 bags of charcoal

Note that this hierarchy has no case level and that it consists only of the base level and top level.



Example of a 3-level hierarchy

This example shows a hierarchy consisting of:

- Base level – box of 100 screws
- Case level – case with 6 boxes of screws
- Top level – pallet with 12 cases of screws

Example of a 4-level hierarchy

This example shows a hierarchy consisting of:

- Base level – Bottle
- Case level 1 – Package containing 6 bottles, i.e. a “6-pack”
- Case level 2 – Case containing four “6-packs”

- Top level – pallet containing 24 cases

Note that this hierarchy has two case level items.

