S GROUPS GUIDELINES FOR SALES UNIT PACKAGING, SHELF READY PACKAGING AND PALLET DISPLAYS

Supplier guidelines

S Group Retail Business
Inex Partners
PACKAGING GUIDELINES

Supplier guidelines

1.3.2016

Inex Partners Oy

Packaging specialists / Development of logistics
# Update history

<table>
<thead>
<tr>
<th>Version</th>
<th>Page</th>
<th>Updates</th>
</tr>
</thead>
</table>
| 1.1     | 4    | Additions to the palleting requirements:  
• attaching the pallet label |
|         | 7    | Recommendations for slipsheet boards. |
|         | 11   | Additions for open sales unite packages:  
• holes in the bottom of the tray unit |
1 Introduction

Use of automation in the logistical handling of products is set to increase substantially in the near future. These revised packaging guidelines pay particular attention to the ease of handling packages and pallets in modern automated logistics.

2 Identifying tags and standards

Only good quality pallets and sales unit packages may be handled in an automated logistics centre. Pallets and sales unit packages must be correctly labelled (GS1 standards), as product identification relies on accurate and legible labelling. Plastic is the preferred material for pallet labels. Besides packaging and labels, attention should be paid to the accuracy of dimensioning information (Synkka product database).

The requirements of S-Group are based on standards, subject to certain exceptions. Deficient packaging and labelling results in more logistical errors and a need to handle packages by hand. This manual handling is slower and less cost-effective than automated handling.

Standardised requirements for pallets and sales units:
- Recommendation of the Finnish Packaging Association (SPY) for fruit and vegetable packages
- GS1 labelling guidelines
- Finnish standard SFS 5352
3 Palleting requirements

- We recommend the use of EUR-sized (800 x 1200 mm) standard loading pallets.
- The standard height of a loading pallet in Finland is 1110 mm.
- Inex Partners recommends a maximum net weight of 720 kg for a EUR pallet and 950 kg for a FIN pallet.
- Exceptional cases must be separately agreed.
- Products must remain within the boundaries of the pallet. Protrusions are not acceptable.
- Use of stretch film is preferred. **Stretch film must be properly tensioned with no loose ends.**
- No adhesion may occur between pallet levels or between packages on the same level.
- Packages must be packed with optimal tightness.
  - Empty space between packages may not be filled with paper, plastic or other substitute materials.
- Overlapped stacking of various pallet levels is recommended except for fresh foods and vegetables.
- **Use of slipsheet board is not recommended.**
  - If slipsheet board must nevertheless be used, then it must not exceed the dimensions of the pallet, nor may there be any holes in the board.
  - The slipsheet board must be on the same intermediate layer in every pallet containing the same product.
  - Material should be stiff cardboard or corrugated cardboard.
- Full pallets must always contain the same number of sales units.
- Sales unit may not be held together with film.
- A loading pallet may only contain full pallet layers.
- Instructions for attaching pallet labels:
  - Material should be self-adhesive(sticker) or attached to the pallet so that it doesn’t hang loose from any corner.
  - Pallets without stretch film: labels should be attached so that it doesn’t glue together several sale units.
4 General recommendations for sales units

- A sales unit must always contain the same number of primary packages.
- The minimum dimensions of a package base are 100*150 mm and the maximum dimensions are 400 x 600 mm.
- The minimum height of a package is 50 mm and the maximum height is 400 mm.
- The height-width ratio may not exceed 1.7.
- The maximum weight is 25 kg, with a weight of less than 16 kg recommended.
- Package shapes should be orthogonal.
- Packages must not deform in handling.
- Packages must be firmly bound or fastened.
- Packages must be stackable.
- Top covers must be sufficiently robust, and **must not open when lifting from above**.
- There must be no empty space within packages.
- The height of locking tabs must be less than 16 mm.
5 Further requirements for fruit and vegetable packaging

- Sales unit packages must be of modular dimension
  - 600 x 400 mm
  - 400 x 300 mm
- The long side of larger boxes and the short side of smaller boxes will have locking tabs of height not exceeding 16 mm.
- Stacking panels will be fitted on the long side of larger boxes and on the short side of smaller boxes (see illustration below).
- Boxes must be securely stackable.

Stackable fresh produce boxes as recommended.
6 Recommendations for slipsheet boards

- If possible avoid use of slipsheet boards on top of pallet loads.
- Material recommendations for slipsheet boards:
  - stiff cardboard, thickness >1mm
  - stiff corrugated cardboard>2mm
  - one sided corrugated board, paper and friction paper are forbidden.
- One solid sheet (no tray or lid shaped slipsheet boards).
- If slipsheet boards have holes, their coverage of the sheets area shall not exceed 1%.
- Slipsheet boards should be easily removable.
- Testing if the slipsheet board is stiff enough: look at picture below.

Slipsheet board can only bend 40mm over the table from the halfway.
7 Examples of inadequacies to be addressed

7.1 Poor gluing

The quality and quantity of gluing must suffice to prevent packages from opening.

7.2 Locking tabs

The height of any locking tabs in use may not exceed 16 mm.
7.3 Package shape

The height-width ratio of a sales unit may not exceed 1.7. A high centre of gravity can cause packages to fall over on conveyors.

7.4 Package structure

The material used must withstand logistic handling. The package must not deform during logistic handling. Pallets may be stacked for transportation. Empty space remaining within packages should be minimised.
7.5 Stackability/modularity

A sales unit must be stackable with packages of varying size.

7.6 Plastic wrapped primary packages

The plastic must be strong enough to ensure that the package can withstand logistic handling and lifting of the product by the plastic (or by the cardboard top cover).
7.7 Open sales unit packages

An open sales unit package must include a sufficiently sturdy cardboard collar or plastic shrink wrapping that prevents the product from falling.

The edges of a tray may not be higher than the primary packages within. The edges of the trays minimum height is 40 mm.

If the tray unit has holes in the bottom: consumer units should cover the holes.

Examples of good trays.
7.8 Loose covers

Cover should be attached to the sales unit with e.g. glue, tape or pin.

7.9 Products of varying weight

Sales units of products of varying weight must include a sales unit label with a bar code specifying the weight of the product. The sales unit labelling must comply with the GS1 standards.
SHELF READY PACKAGING AND PALLET DISPLAYS

Supplier guidelines

1 October 2015
S Group Food and Consumer Goods
Guidelines for Space and Supply Chain Management
1 Introduction

1.1 Purpose of document

This document describes the criteria of S Group Retail Business Goods for shelf ready packages. The criteria are used for assessing the shelvability of sales unit packages as part of the sourcing and selection process.

A shelf ready package is one criterion when deciding the selection.

The pallet section specifies the criteria for pallets.

This document deals only with the shelf ready packaging criteria for sales unit packages and pallet serviceability in shops. The requirements for transporting and storing sales unit packages and pallets are described in the packaging guidelines of Inex Partners.

1.2 Benefits of shelf ready package

Considerable costs can be saved in shelving work when products can be shelved in their sales unit packaging instead of individually.

A well designed sales unit package also helps in product displays by providing a tidier presentation of products that are easier for customers to identify and purchase from the shelf. The uniform and tidy appearance of a sales unit package can also convey a favourable impression of the product family to the customer and boost the brand.

Besides shelvability, the sales unit package will protect the product in transportation, storage, and facilitate its handling at various points in the supply chain. This document nevertheless deals only with the shelvability of sales unit packages.

2 Assessment criteria for sales unit package shelvability

2.1 Purpose of the criteria

The purpose of the criteria in this document is to assist in assessing the shelvability of sales unit packages. The criteria are divided into absolute and added value criteria.

The absolute criteria determine whether a sales unit package is shelvable or not. A sales unit package that meets all of the absolute criteria will be shelvable, but if some absolute criterion is not met, then the sales unit package cannot be shelved.

The added value criteria are important features for the serviceability and saleability of a sales unit package. A sales unit package may remain shelvable, even when the added value criteria are not satisfied.
2.2 Absolute criteria

The absolute criteria are set out in the following table:

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Requirement</th>
<th>Satisfied (Yes/No)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Opening the sales unit package leaves a tray or underlay enabling shelving</td>
<td>Ability to shelve as a complete sales unit</td>
<td></td>
</tr>
<tr>
<td>2. Front edge of product on the facing side is low enough or completely removable</td>
<td>Consumer can identify the consumer package in both full and partly emptied packaging at any shelf height</td>
<td></td>
</tr>
<tr>
<td>3. Consumer can easily pick and return the product</td>
<td>Ease of purchasing from both full and partly emptied packaging at all heights and all shelf height intervals</td>
<td></td>
</tr>
<tr>
<td>4. Sales unit package weighs no more than 10 kg (less than 7 kg recommended) and is strong enough for shelving even after opening.</td>
<td>Shop staff must be able to lift the packages, which must not break when shelved. Safety in shelving</td>
<td></td>
</tr>
<tr>
<td>5. Sales unit packages depth not exceeding 600 mm</td>
<td>Sales unit fits on a 600 mm deep shelf. Shelving depths vary by product categories and store chains. See table at section 2.4. Packages suitable for several shelving depths can be used widely.</td>
<td></td>
</tr>
</tbody>
</table>
### 2.3 Added value criteria

The added value criteria are set out in the following table:

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Requirement</th>
<th>Satisfied (Yes/No)</th>
</tr>
</thead>
</table>
| **1. Ease opening:**  
  • without tearing  
  • tidy and even package surfaces remain when tearing required to open  
  • simple manner of opening ➔ no tools required  
  • packaging must nevertheless be sufficiently durable | • savings in working time  
  • a tidy store appearance  
  • safety in shelving and purchasing  
  • ease of shelving (tearing ribbons rarely effective at present)  
  • minimised waste | |
| **2. Efficient use of space:**  
  • shorter side of sales unit package facing consumer  
  • no empty space in a full package  
  • modular dimensioned packaging  
  • sales unit package depth 250-300 mm  
  • package stackability on shelves even when opened when product allows stacking | • optimally efficient use of space and precision in product sales  
  • logistical efficiency  
  • suitability of sales unit package for all shelf depths. | |
| **3. Collapsibility and recyclability of packaging material** | • avoidance of waste  
  • ease of recycling and environmental friendliness | |
| **4. Identifiability of packaging** | • identifiability on transportation device (pallets, roll cages etc.) | |
2.4 Shelf depths

<table>
<thead>
<tr>
<th>Exception</th>
<th>Prisma</th>
<th>S-Market</th>
<th>Corner Stores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exceptions</td>
<td>600</td>
<td>500</td>
<td>400</td>
</tr>
<tr>
<td>Browneres</td>
<td>600</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>WC paper (toilet paper) and kitchen towels</td>
<td>800</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td>Diapers</td>
<td>800</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td>Chips</td>
<td>800</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hygiene products</td>
<td>500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cosmetics and accessories</td>
<td>400</td>
<td>400</td>
<td></td>
</tr>
</tbody>
</table>

3 Examples of applying the criteria

3.1 Absolute criteria

**Opening the sales unit package leaves a tray or underlay enabling shelving**

- Robust, effective tray
- Products remain tidily in place in their own compartments

- Expedient, straightforward tray
- Products remain tidily in place in their own compartments

- Straightforward, effective tray
- Added value information on rim
Front edge of product on the facing side is low enough or completely removable

- Consumer has clear view of product that facilitates purchasing

- Consumer has clear view of product
- Sides support product and provide additional product information

- Consumer has full view of product
- Edges at front support product display

- Robust, effective tray
- Front edge sufficiently low
- Effective stackability
Consumer can easily pick and return product

- Front and side edges support the product and make it easy to recognise
- Easy to access and purchase

- The package keeps the products upright and clearly displayed even when nearly empty
- An easy and inspiring purchase
- The sales unit package is part of the product

- Robust, effective base
- Products remain tidily in place in their own compartments, even when the package is not full
- Front edge sufficiently low
- Effective stackability

- Robust, effective tray
- Front edge sufficiently shallow
- The product is easy to pick and return to the shelf

Sales unit package weighs no more than 10 kg (less than 7 kg recommended) and is strong enough for shelving even after opening

- Easily lifted
- Product also visible from the side
- Sales batches stack up firmly
3.2 Added value criteria

Ease opening

- Easily opened
- Easily purchased
- Straightforward, effective base

- Quick and easy to open
- No tools required for opening
- Easily purchased

Efficient use of space

- Sales unit packages fit together efficiently in shelf depth
- Also allows shelving on narrower shelves

- Efficient use of sales unit package space
Package stackability on shelves even when opened

- Effective stackability regardless of filling level
- Good product visibility and easy to take from above

- Effective stackability regardless of filling level
- Good product visibility and easy to take from above

- Effective stackability regardless of filling level

- The product is easy to pick and return to the shelf
- Package also stackable after opening
- Products remain upright in opened package

- Front edge low but supports the product
- Tidy package surfaces after opening
- The product is easy to pick and return to the shelf
Collapsibility and recyclability of packaging material

- The package is easy to collapse (dispose) and uses minimal space in the shop
- Only one type of material is used for the entire package
- The package is easy to open with no taping

Identifiability of packaging

- The package can be identified in transportation device (pallets, roll cages etc.).
4 Pallet sizes for market trading displays

Quarter pallet: 600 x 400 x 1110 (depth x width x height)
- short side must face the consumer
- suitable for both basic furnishing frame and mass storage area
- recommended height 1000mm enables broader shop coverage

EUR 6 pallet (sales pallet): 600 x 800 x 1110 (depth x width x height)
- long side must face the consumer
- suitable for both basic furnishing frame and mass storage area
- recommended height 1000mm enables broader shop coverage.

Other pallets for handling in shop:
- EUR pallet (EUR 1 Pallet): 800 x 1200 x 1800 (for primary use)
- FIN pallet (EUR 3 Pallet): 1000 x 1200 x 1800
- Brewery 800 x 1200 x 1800

→ suitable for mass storage area, not basic furnishing frame

The principal rule: 1 product per pallet or sales pallet, no mixed pallets or mixed sales pallets (EUR 6 pallet).
Quarter pallet in shop

- The front of the pallet or product must be on the narrow side of the pallet, so that two quarter pallets will fit side by side in the pallet location of basic shelving.
- The facing side in basic furnishing must be the narrow side of the pallet.

Detailed specifications for quarter pallet

- Maximum dimensions: 600 X 400 mm.
- Minimum leg height (entry height): 100 mm.
- Pallets must have four-way entry.
- Maximum load for quarter pallet: 180 kg.
- Maximum height for quarter pallet load: 1110 mm (including height of quarter pallet). Recommended height for sales pallet load (EUR 6 Pallet): 1000 mm (enables broader shop coverage).
- Reusable quarter pallets primarily preferred (e.g. leasable quarter pallets).
Sales pallet (EUR 6 Pallet) in shop

- The face of the product or pallet must be on the long side of the pallet, so that one half pallet will fit in the pallet location.

Detailed specifications for shop pallet (EUR 6 Pallet)

- Maximum dimensions: 800 X 600 mm.
- Minimum leg height (entry height): 100 mm.
- Sales pallets (EUR 6 Pallet) are handled from the long side.
- Maximum load for sales pallet (EUR 6 Pallet): 360kg.
- Maximum height for sales pallet load (EUR 6 Pallet): 1110 mm (including height of shop pallet). Recommended height for sales pallet load (EUR 6 Pallet): 1000 mm (enables broader shop coverage)
- Reusable shop pallets primarily preferred (e.g. leasable shop pallets).
Pallets in the shop

- Pallets must be easy and swift to handle, with no unnecessary removable protective layers
- Protective cardboard should be easily and tidily removable (without tools) as the pallet level falls
- Marketing materials may be placed on the lower edges
- We do not use marketing materials that rise above the stocking level

- Ideally no tools should be required to set up in saleable condition
- Robust, and not prone to sway or wobble
- Saleable product displayed and not packaging materials

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Attachments:

1 Recommendation for fruit and vegetable packages
2 Quarter pallet guide
3 Contents of ELL-standard label for Fresh Fruits and Vegetables
4 Contents of European Logistic Label (ELL) standard
Recommendation for fruit and vegetable packages

7.10.2014 V2

Finnish Packaging Association
Finnish Grocery Trade Association
Recommendation for fruit and vegetable packages

Guarantees safe and efficient stacking of all fruit and vegetable packages

Recommendation is based on Fefco Common Footprint with following exceptions:

Only two sizes (footprints) are allowed: 600 x 400 and 400 x 300 mm. Height of the package is determined by the product.

Stacking panels are placed on the long side on 600 X 400 mm box and on the short side on 400 x 300 mm box.
Recommendation for fruit and vegetable packages

External dimensions must be (mm):

<table>
<thead>
<tr>
<th>Theoretic</th>
<th>Real - Tolerances</th>
</tr>
</thead>
<tbody>
<tr>
<td>600 x 400</td>
<td>588-597 x 392-398</td>
</tr>
<tr>
<td>400 x 300</td>
<td>392-398 x 294-298</td>
</tr>
</tbody>
</table>

Both footprints are inter-stackable on 800 x 1200 and 100 x 1200 pallets.

Height of the package is determined by the product.

Tabs are placed along the long side for 600 x 400 box. Tab is placed on the short side on 400 x 300 box.

Receptables are placed on long and short sides for both box sizes.

Dimensions for tabs and receptables.
Recommendation for fruit and vegetable packages

Position and dimensions for tabs and receptacles for 600 x 400 box.

Stacking panels are placed on the long side on 600 x 400 mm box.
Recommendation for fruit and vegetable packages

Position and dimensions for tabs and receptacles for 400 x 300 box

Stacking panels are placed on the long side on 400 x 300 mm box
## RECOMMENDATION OF PACKAGING MATERIALS FOR FRESH FOODS BOXES (600 x 400)

### BOX UNDER 15 kg

<table>
<thead>
<tr>
<th>FEATURES</th>
<th>UNIT</th>
<th>FIBRE</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight of inner liner</td>
<td>g/m²</td>
<td>Kraftliner</td>
<td>250</td>
</tr>
<tr>
<td>Fluting weight</td>
<td>g/m²</td>
<td>Wellenstoff</td>
<td>200</td>
</tr>
<tr>
<td>Middle liner weight</td>
<td>g/m²</td>
<td>Wellenstoff</td>
<td>135</td>
</tr>
<tr>
<td>Fluting weight</td>
<td>g/m²</td>
<td>SC-Fluting</td>
<td>175</td>
</tr>
<tr>
<td>Weight of outer liner</td>
<td>g/m²</td>
<td>Kraftliner</td>
<td>175</td>
</tr>
</tbody>
</table>

### TEST VALUES

<table>
<thead>
<tr>
<th>Test</th>
<th>Unit</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edge Crush Test (ECT)</td>
<td>kN/m</td>
<td>15,5</td>
</tr>
<tr>
<td>Box Crash Test (BCT)</td>
<td>kg</td>
<td>800</td>
</tr>
<tr>
<td>Bending stiffness</td>
<td>N</td>
<td>40</td>
</tr>
</tbody>
</table>

### BOX 15 - 20 kg

<table>
<thead>
<tr>
<th>FEATURES</th>
<th>UNIT</th>
<th>FIBRE</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight of inner liner</td>
<td>g/m²</td>
<td>Kraftliner</td>
<td>250</td>
</tr>
<tr>
<td>Fluting weight</td>
<td>g/m²</td>
<td>SC-Fluting</td>
<td>200</td>
</tr>
<tr>
<td>Middle liner weight</td>
<td>g/m²</td>
<td>Wellenstoff</td>
<td>140</td>
</tr>
<tr>
<td>Fluting weight</td>
<td>g/m²</td>
<td>SC-Fluting</td>
<td>180</td>
</tr>
<tr>
<td>Weight of outer liner</td>
<td>g/m²</td>
<td>Kraftliner</td>
<td>180</td>
</tr>
</tbody>
</table>

### TEST VALUES

<table>
<thead>
<tr>
<th>Test</th>
<th>Unit</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edge Crush Test (ECT)</td>
<td>kN/m</td>
<td>16,5</td>
</tr>
<tr>
<td>Box Crash Test (BCT)</td>
<td>kg</td>
<td>1000</td>
</tr>
<tr>
<td>Bending stiffness</td>
<td>N</td>
<td>45</td>
</tr>
</tbody>
</table>
Quarter pallet guide

- Maximum dimensions: 600 X 400 mm.
- Pallet entry height 100 mm.
- Quarter pallet is handled from the long side, but pallet should be 4-way entry.
- Maximum weight for quarter pallet is 180 kg.
- Quarter pallets loads maximum height is 1110 mm (including the quarter pallet).
- It is recommended that the quarter pallet is reusable (e.g. pallet pool).
- Quarter pallet should always be on top of EUR-pallet.
Contents of ELL-standard label for Fresh Fruits and Vegetables

This part of the label has a free format, which can be used to describe fresh fruits or vegetables grower’s, packer’s and/or distributor’s information and product information. ELL-labels for fresh fruits and vegetables should include also country of origin, size and quality class of the products.

This part of the label includes pallet information in text format. Titles should be presented in English as specified in GS1 standards. In addition, if necessary titles can be provided also in the other language. Information contains e.g. pallet’s SSCC-code, GTIN of outer package, batch/lot number, count of packages on pallet, the packaging date, the packer’s GLN-number (if available) and gross weight.

Notice that each logistic unit must be assigned its own unique SSCC-code!

AI (02) signifies the GTIN of outer package and AI (37) count of outer packages on the pallet. AI (02) and (37) are used always together and are recommended to be presented in the same GS1-128 barcode. AI (37) can contain maximum of 8 numbers information.

AI (02) is always presented in format of 14 numbers. If GTIN-13 is used, the number 0 has to be added in the front of GTIN-13.

SSCC (Serial Shipping Container Code) is the unique and global identification key for logistic units. SSCC contains a running number for individualizing every pallet. The extension (first) digit in SSCC may vary from 0 to 9 – in this example has been used digit 3. Notice that SSCC is the mandatory element on the GS1 Logistic label. Every pallet has to have a unique SSCC-code, which is assigned for the life time of the pallet item.

AI (00) is the Application Identifier for the SSCC. Barcode which includes the SSCC-code is placed in the lowest in the label. SSCC is also recommended to present alone in the barcode. In addition, all barcodes in the label should be centered.

AI = Application Identifier

Standardized prefix (2-4 numbers) in front of the data to tell what the data means. E.g. AI (00) n2 + n18

More detailed information about Application Identifiers can be found from GS1 Global web pages: http://www.gs1.org/barcodes/technical/application_identifiers

In this example label, the grower is RFID Lab Finland, which grows Finnish tomatoes to the vegetable packer GS1 Finland. The GS1 Finland has branded GS1 Tomatoes, which are sold to the distributor named ABC Distributor. The example GS1 Tomatoes are 1. Class and their size are between 30-40mm.

The purchase from point of fresh fruits and vegetables could be described with the packer’s GLN number AI (412). Alternatively could be used the Global G.A.P number (GGN).

AI (330n) describes gross weight of the pallet in kilograms. The last number of AI defines amount of decimals.

AI (10) describes batch/lot number. Batch number can include maximum of 20 characters information in alphanumeric form.

AI (13) describes the packaging date. The form is always YYMMDD (Year, Month, Day) in GS1-128 barcode.

AI (02) and (37) are used always together and are recommended to be presented in the same GS1-128 barcode. AI (37) can contain maximum of 8 numbers information.

AI (02) is always presented in format of 14 numbers. If GTIN-13 is used, the number 0 has to be added in the front of GTIN-13.

Technical properties of GS1-128 barcode:

- GS1-128 barcode represents data in the widths (lines) and the spacings of parallel lines. In addition, GS1-128 includes Quiet Zones on left and right side of the barcode.
- The maximum physical length is 165mm including Quiet Zones.
- The minimum height of all GS1-128 barcodes in pallet label is 32mm.
- The minimum space of GS1-128 Quiet Zone is 5.75 mm from edge of the label.
- The recommended X-dimension of GS1-128 barcode is 0.495 mm.
- The maximum number of data characters in a GS1-128 is 48.

Pallet label location:

- Two identical labels on sides next to each other, one on the short side and one on the long side to the right.
- Labels should be located minimum 50mm from side edge of the pallet.
- Labels should be located as high as possible, but inside the standard limits, which are 400 – 800 mm from the bottom of the pallet.

The purchase from point of fresh fruits and vegetables could be described with the packer’s GLN number AI (412). Alternatively could be used the Global G.A.P number (GGN).
Contents of European Logistic Label (ELL) standard
Fixed measure products (pallet is not a product)

This part of the label has a free format, which can be used to describe e.g. company and product information.

This part of the label includes pallet information in text format. Titles should be presented in English as specified in GS1 standards. In addition, titles can be provided also in the other language if necessary. Information contains pallet's SSCC-code, GTIN of outer package, batch/lot number, count of packages on pallet, e.g. the best before date and gross weight. Same information is presented in barcodes in the lower part of the label.

Notice that each logistic unit must be assigned its own unique SSCC-code!

Al (02) signifies the GTIN of outer package and Al (37) count of outer packages on the pallet. Al (02) and (37) are used always together and are recommended to be presented in the same GS1-128 barcode. Al (37) can contain maximum of 8 numbers information.

Al (02) is always presented in format of 14 numbers. If GTIN-13 is used, the number 0 has to be added in the front of GTIN-13.

SSCC (Serial Shipping Container Code) is the unique and global identification key for logistic units. SSCC contains a running number for individualizing every pallet. Notice that SSCC is the mandatory element on the GS1 Logistic label. Every pallet must have a unique SSCC, which is assigned for the lifetime of the pallet item.

AI (00) is the Application Identifier for the SSCC. Barcode which includes the SSCC-code is placed in the lowest in the label. SSCC is also recommended to present alone in the barcode. In addition, all barcodes in the label should be centered.

Al = Application Identifier

Standardized prefix (2-4 numbers) in front of the data to tell what the data means. E.g. Al (00) n2 + n18

More detailed information about Application Identifiers can be found from GS1 Global web pages: http://www.gs1.org/barcodes/technical/application_identifiers

Technical properties of GS1-128 barcode:

- GS1-128 barcode represents data in the widths (lines) and the spacings of parallel lines. In addition, GS1-128 includes Quiet Zones on left and right side of the barcode.
- The maximum physical length is 165mm including Quiet Zones.
- The minimum height of all GS1-128 barcodes in pallet label is 32mm.
- The minimum space of GS1-128 Quiet Zone is 5,75 mm from edge of the label.
- The recommended X-dimension of GS1-128 barcode is 0,495 mm.
- The maximum number of data characters in a GS1-128 is 48.

Pallet label location:

- Two identical labels on sides next to each other, one on the short side and one on the long side to the right.
- Labels should be located minimum 50mm from side edge of the pallet.
- Labels should be located as high as possible, but inside the standard limits, which are 400 – 800 mm from the bottom of the pallet.