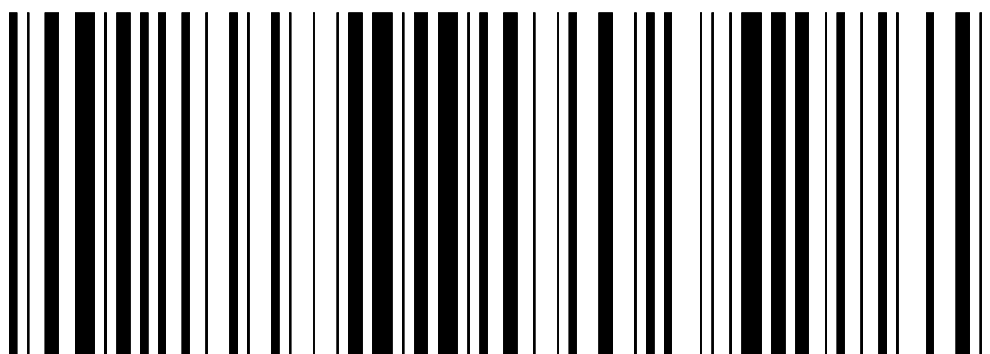




# STL

## STANDARD TRANSPORT LABEL



**Guidelines for design of a transport label  
when using bar-code-based data capture.  
Based on the European Standard for MITL.**

[www.ecomlogistics.se](http://www.ecomlogistics.se)

Note:

This edition is an English translation of the Swedish version, published by e-Com Logistics in co-operation with EAN Sweden. If there is any doubt about the correct meaning of the content of this document, reference should be made to the original document in Swedish.

Revision history:

Ver 2.0	April 2000	Changes from ver 1.0 described in the introduction (chapt 1.1)
Ver 2.01	Dec 2000	New weight symbols (chapt 5); New verification routine (chapt 6)
Ver 2.02	April 2001	New rules for EAN SSCC numbers (chapt 4.3.3)

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## Chapter 1. Introduction

### 1.1 Background and changes in Version 2.0

Edifact Transport AB, which changed name in March 2000 to e-Com Logistics (Swedish International Freight Association) AB, hereinafter called e-Com Logistics AB, is the transport industry's collaborative body for competitively neutral issues related to the use of EDI and bar codes. During 1996-97, a project was conducted within e-Com Logistics AB aimed at developing a transport label that could be common to all transport companies and be suitable for both domestic and international traffic. The document, called "Swedish Transport Label version 1.0 (STL)" was the main result of the project. It was published in spring 1997.

A review of STL took place in 1999 and this included a change in the name to STL – Standard Transport Label, to show that it was produced using the current standards that make it possible to also use STL for international transport.

This document, called "STL Version 2.0", is the result of the review. In the same way as the first version, it was produced by a project group with participants from ASG Sweden AB, DFDS Fraktarna AB, Frigoscandia Distribution AB, Posten Logistik AB and Schenker AB. e-Com Logistics AB led the project. The technical office of EAN Sweden was consulted concurrently. The document was then adopted by the board of the Swedish Transport Industry Association as a recommendation as a common industry standard.

Apart from editorial changes, changes have been included in Version 2.0 as follows:

- Change of name to STL – Standard Transport Label
- Chapter 1, new text in section 1.1 and an adjustment of standard numbers in section 1.2.
- Chapter 2, removal of reference to the PDF code in section 2.9.
- Chapter 3, change in the content of section 3.4, the transport instructions block.
- Chapter 4, text about the bar code block has been re-edited although no factual changes have been made.
- Chapter 5, completely new content about weight symbols.
- Chapter 6, verification rules have been introduced in section 6.1 and 6.2. These were available previously as a separate document.
- Appendix A, example amended
- Appendix B, the earlier example of data content in two-dimensional codes has been removed. What was previously Appendix C is now Appendix B.

Further information about the content is available from the e-Com Logistics office on +46-8 442 43 90, or EAN Sweden on +46 8-698 30 40.

The document can be downloaded from e-Com Logistics AB's website [www.ecomlogistics.se](http://www.ecomlogistics.se), which also includes supplementary information.

## 1.2 References to European Standards

The common standardisation work in Europe is administered by CEN, “Comité Européen de Normalisation”. During 1995 – 96, several standards that regulate the design of the Multi Industry Transport Label (MITL) and its content have been decided within CEN. The most important of these are listed below. The Standard Transport Label described in this document is designed according to and satisfies the demands for being a MITL.

EN 1573.....	Multi Industry Transport Label (“the MITL standard”)
EN 1572.....	Rules for unique package identity (Licence Plate)
EN 1571.....	Rules for data identifiers
EN 799.....	Symbology Code 128
EN 800.....	Symbology Code 39
EN 1635.....	Test specification for bar codes
EN 12646.....	Test specification for readers and decoders
EN 12648.....	Test specification for printers
EN 12647.....	Test specification for verifiers

Concurring standardisation is taking place within ISO.

### 1.3 Clarification of certain concepts

#### Unique package number

A package is a unit made ready for transporting, i.e. a pallet, carton, bag, etc. If the package is labelled with a number that makes it possible to access a database with all information about the package, this is called a unique package number. If this is the case, it must be guaranteed that only one such number exists in the whole world. EAN's data element SSCC, (Serial Shipping Container Code) is an example of a unique package number.

#### Consignment

Consignment is an administrative concept that is used to designate one or more packages that are to be transported at the same time from the same location to the same delivery address. A consignment number (often the same as the waybill number) is a central concept in the transport companies' system. Inherently, it does not contain information about which packages are included in the shipment. EAN's data element for this function is called the "consignment number".

#### Product Items

Product items consist of articles or products that are contained inside a package. Particulars about products are often intended for senders or receivers of the goods. Normally, a transport company only deals with the information on the package level.

#### Goods

The term Goods is a general concept used in many scenarios. It has no strict definition.

#### Label

The term label refers to the function of being a carrier of information. At present, the most common application is to have the information printed on a label master made of, for example, paper or plastic and which then is applied to a package. There are also cases where the information is applied directly to the package without any separate label. These cases are also covered by the specifications in this document.

#### Two-dimensional bar code (2D-code)

This bar code technique involves reading the symbol both vertically and horizontally in order to interpret all the data content. Standardization is taking place to define different two-dimensional bar codes. The most well known are PDF 417 and MaxiCode.

#### One-dimensional bar code

Traditional bar code technology is sometimes referred to as one-dimensional, or a linear bar code. In this document, these concepts are synonymous.

## Chapter 2. Principles and uses

### 2.1 Transport label compared with a goods label

The designation “transport label” is a direct translation of the concept MITL (Multi Industry Transport Label). It corresponds most closely to “address label”, although the new transport label includes more functions than simply providing an address. It should facilitate automatic data capture of package numbers when tracking packages and is also intended to be used for automatic sorting at transport terminals. Under certain conditions it should also be possible to use it as a complete set of instructions for a transport consignment, both for domestic and for international transport.

A closely-related concept is “goods label” (cf. EAN Unit Label). It can be used to provide item and product information about the contents of a parcel. The design of the goods label is not included in the scope of this document. It can be noted, however, that if there is sufficient space within the given maximum dimensions, it is possible to print both the goods and the transport label on the same physical label. Even if they must be separated into two physical parts, there are advantages in allowing the goods and the transport label to be designed so that they have the same label width. This then allows use of the same printer equipment.

### 2.2 The label is completed by the consignor

In this document, the description assumes that normally it is the consignor of the goods that produces the transport label and also applies it to the package. Responsibility for the correctness of all the information contained on the label is assumed to rest with the consignor, as is the marking of each package with a unique package number.

### 2.3 Priority set to requirements for performing the transport

In the chapters below, we describe in detail the content of the information blocks used (sender, receiver, transport instructions, etc.). We also estimate how much space may be required for each block.

Since the physical space on a label is limited, it is often necessary to set priorities among needs and wishes. In this document, emphasis is placed on the description of data necessary to complete the transport in a rational and secure manner.

### 2.4 Varying information needs for different transport scenarios

The transport label is designed to accommodate the information needs of all types of goods transported in open systems, where reloading can take place at one or more transport terminals. If the conditions are more specialized, certain data can be omitted and the label will accordingly be simpler and smaller. Examples of such cases are:

- Transport “door-to-door” without reloading at a terminal
- Palletized goods for which automatic sorting on a conveyor is not used
- Standing transport assignments according to special transport contracts with transport companies.

## 2.5 Article data on the transport label

In many cases it is necessary to mark packages with information about what is contained inside, i.e. item number, quantity, production date, batch number etc. This information can be written either in plain text or for automatic data capture. The information provided is not of interest to the transport company.

The product information is often so extensive that it needs a label of its own. In many cases, however, there is a wish to accommodate product information as well as information pertaining more to the transport task on the same label. According to the specification in this document, this is allowed provided that practical recommended lengths are not exceeded and that the rules for the other information blocks are adhered to.

## 2.6 The same package identity on the goods label as on the transport label

In certain cases, when product information is shown on a separate label, this has been produced in connection with the manufacturing and packaging of the product. A package has often been assigned a unique identity, such as SSCC according to EAN, which is used for a longer period of storage. When, some time later, a transport operation is about to start and the package is given an additional transport label, a practical handling problem arises with package identities.

On such occasions, the basic rule is that the SSCC on the goods label is also valid during transport. One way of ascertaining this is to have the transport label in such cases printed without any SSCC of its own. It is placed above the goods label in such a way that the package identity is clear.

It is not permissible in any situation to have a package labelled with two different SSCC:s.

### Note:

*What is mentioned above regarding SSCC is naturally also valid when applying other accepted principles for unique package unit identity.*

## 2.7 Labelling a package when handled through many transport stages.

Particularly for traffic abroad, (but also for storage assignments, for example), a package may have different destinations for the different stages in the transport chain. Apart from the final receiver, there may be a need to address the package for delivery to a certain transport terminal. This applies in particular when a transport task is assigned to several different operators for different stages of the transport chain, such as domestic / international / air freight etc.

The basic principle is that information about "From" and "To" on the transport label shall correspond to the transport assignment ordered. If the transport assignment only relates to a certain transport stage, e.g. "Schenker - terminal in Gothenburg", then this is the information that should be stated on the label. Information regarding the final receiver may be given as delivery advice, e.g. "forward to Kinsley & Co, Leeds, see instr."

It is assumed that the transport company has received all the information for the latter part of the transport assignment in a separate instruction (e.g. via EDI). In the example above, it is Schenker's responsibility to attach a label to the package, which includes complete address details to Leeds. In a case such as this, it is of utmost importance that the package is still identified using the original SSCC.

You can apply the same principle to imported goods when a package is addressed for delivery to a forwarder. At the forwarder's terminal, re-labelling takes place according to instructions from the receiver, e.g. after shipping advice has been sent. Here, too, the rule is to retain the original package number.

## **2.8 The need for intelligent printing programs**

Chapters 3 and 4 contain the total information that could appear on the transport label and which could therefore need to be handled by the computer program controlling the label print-out. As pointed out above, it may only be necessary to print a much smaller amount of data, depending on the consignor's conditions.

Certain details on the label may also vary depending on the transport company, e.g. the names of the transporter's products and additional services. Information about these variables, in text and possible code form, is available at each transport company. A general presentation of the terms is given in Chapter 3.4.

A print-out program for the transport label should include logic for automatic omission of unnecessary data, depending on the choices made by an operator when a print-out of a given label is requested. The label size and content will be thus adapted to the needs in the individual case.

## **2.9 The use of STL together with EDI**

The transport label is intended for use together with EDI, i.e. the transfer of the total information mass is done electronically. This should be regarded as the optimal way of transferring data between the parties concerned.

In practice, however, it has been proven that the necessary communication channels for EDI are not always available. There might therefore be a need for an independent means of transferring data, e.g. using bar codes, to enable automatic data capture. The methods for this vary from one transport company to another and are stated in the content specification, in the so-called transport instruction block.

## **2.10 Label format, practical limitations**

According to the MITL standard, two alternatives for label width are recommended –105 mm and 148 mm. The greater width should be the one chosen when a lot of information needs to be printed.

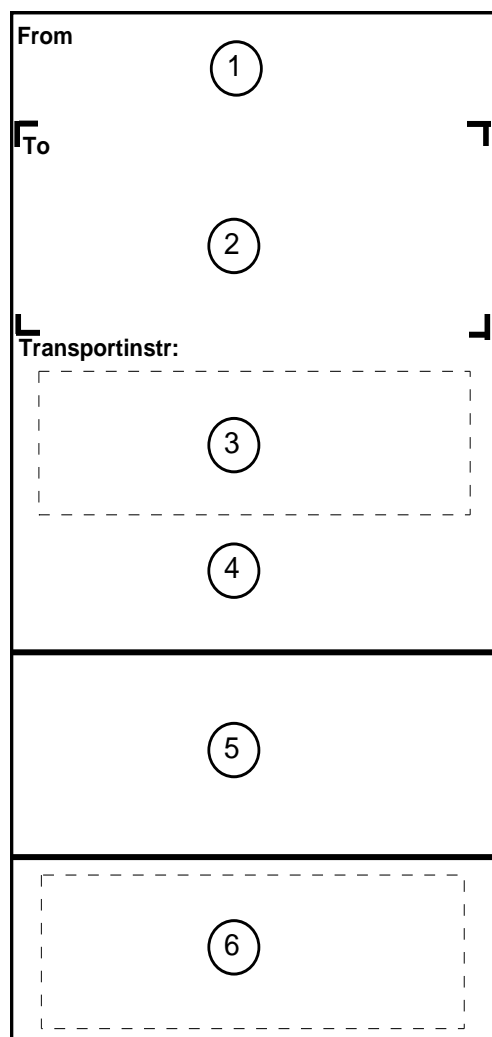
The label can vary in length, i.e. it can be cut when all information has been printed. In practice, there is a maximum length that should not be exceeded. This length is determined by, among other things, the size of the package, the application method, etc. Experience shows that the practical maximum length is between 200 mm and 250 mm.

The specification in this document is done so that the label can be produced using "plain paper", without perforations or other measures that may require conditioning of the base material. This will naturally not prevent the use of prepared label masters, if this is considered desirable.



## 2.11 Layout in principle – information blocks

The information content of the transport label may be described according to the six blocks below. The blocks should be in the stated order:



1. *The From - block (mandatory, see Chapter 3.2).*
2. *The To - block (mandatory, see Chapter 3.3).*
3. *Transport instructions for automatic data capture (conditional, see Chapter 3.4.1).*
4. *Transport instructions in "plain text" (conditional, see Chapter 3.4.2 ).*

*The line above block 5 is recommended.*

- 5 *Article data block (according to the issuer's choice, see Chapter 3.5)*

*There shall be a line above block 6.*

6. *Bar code block (mandatory, see Chapter 4)*

## Chapter 3. Information in the "Plain text" Blocks

### 3.1 General information regarding fonts and font size

- The examples are all based on the Arial font, but other fonts may be accepted if they provide the corresponding legibility. For "normal text", i.e. for text without special instructions, the font size should not be smaller than the size obtained using Arial 12.
- Within the respective information blocks, there may be instructions on how to denote a certain piece of information that it is important to highlight compared with the rest of the text. The method of attaining this may vary provided the intended result is obtained.
- Form texts should not be smaller than Arial 8 points or the equivalent.
- The designated space requirements for the respective blocks refer to the required height for the maximum information volume and the smallest recommended size. These items refer to a label width of 105 mm.

### 3.2 The From-block

a)	Från AB Elektronikimport, Stockholm c/o Tredjepartslogistik Industrigatan 35 291 54 HELSINGBORG Tel: 042-875618	Avs-dat: 1997-02-29
	b)	c)

The text should be smaller than the one used for the To-block. If necessary, the font size may be decreased to Arial 10 or the equivalent. The height requirement is about 25 mm.

#### a) The consignor's company name and physical address (mandatory)

- May include 1 - 4 lines.
- The consignor may choose to use a logotype for, for example, the company name, provided this doesn't impede the legibility of other relevant data.

#### b) Telephone number and c) Dispatch date (optional)

- To be used at the point of receipt but also for any returned goods or for questions arising in conjunction with faults.

#### Form texts (select Swedish or English)

*Från / From*  
*Tel / Phone*  
*Avs-dat / Disp. Date*

### 3.3 The To-block



- Select a font size at least two points larger than normal text, e.g. Arial 14 or equivalent. The space requirement is about 45 mm.
- Use only one form text for the whole block: “Till” or “To”, respectively.
- Insert angle symbols around the block to enhance the text. The recommended size is 4 x 4 mm and the line thickness is > 0.5 mm.

#### a) Name and delivery address (mandatory)

- A clear description of the address to which the goods are to be delivered.  
Note: not a postal address!
- 1 - 3 lines, with enough space for around 35 characters per line.

#### b) Postal code and delivery location (mandatory)

- The text should be such that it can be read by handling personnel at a considerable distance. The recommended font height should be at least 6 mm, supplemented by the use of bold type and capitals.
- For locations abroad, the postal code should be preceded by the country code (letter code with two characters according to ISO 3166).

#### c) Country of destination (conditional)

- The name of the country should be written on its own line, provided there is space within the maximum length of the label. This information is recommended when the country code does not provide sufficient information.

#### d) Delivery instructions (conditional)

- This information is compulsory if it is needed for completion of the delivery.
- As many as three lines with varying content, e.g. additional address particulars, notification details, etc.
- May also be used for forwarding instructions for so-called shared transport assignments.

#### e) Information to the receiver (optional)

- Order number or purchase order number details are often essential for the receiver. If there is no separate block for article data, this information may be added here under the To-block.

### 3.4 The Transport Instructions block

The transport instructions are unique to a company and are specified by each individual transport company. These instructions could include bar codes for automatic data capture (sometimes) and instructions in plain text (always).

Each transport company issues information about the applicable transport instructions and provides examples of transport labels on their websites. Links are available at e-Com Logistics AB's website under the menu item "Transport label", [www.ecomlogistics.se](http://www.ecomlogistics.se).


#### 3.4.1 Transport instructions – bar code section

This field can be used in those cases where EDI is not used at all for transferring information or as a back-up routine when EDI is not working. Examples of information include consignment number, customer number, supplementary service code etc. It is presumed the data content is governed by a bilateral agreement between the transport company and the customer.

As the need for codes is different, the space requirements for the coded information can vary, see example at each transport company's website.

#### 3.4.2 Transport instructions – plain text section

Instructions from the consignor to the transport company required for the execution of the transport assignment, e.g. supplementary services, handling information, weights etc. A specification of the information is provided by each transport company according to the above. The following is a general description of the information that can arise.

	Instructions:			
a)	Transport Company AB	Express Parcel	<b>S23</b>	h)
b)	Cash on Delivery			
c)	Dangerous goods			g)
	Consign.-ID: <b>476 733 249 9</b>	Kolli: <b>2 / 7</b>	Weight: <b>37/-</b>	
	d)	e)	f)	

- Form text: "Transportinstr:" or "Instructions", (may be omitted if space is limited).
- Space requirement: about 30 mm
- The number of packages, package weight and destination code should be printed in large letters to facilitate reading at a distance.

#### a) Company and product

- The name of the transport company and the product designation.  
This is required provided this information is not stated clearly in a transport agreement.

#### b) Supplementary service

- supplementary service according to the transport companies' designation, e.g. C.O.D., notification, carrying into building, cooling, heating, etc.
- Supplementary services required to perform the supplementary service, e.g. customer number, amount, postal giro account number etc.
- Several types of supplementary service may occur concurrently.
- This information is required if such a supplementary service is included.

#### **c) Handling instructions**

- May also be used for a general description of content, if this is essential for the handling method.

#### **d) Consignment number**

- Form text "Sändnings-ID" or "Consignment ID", respectively.
- Refers to a reference concept that both the consignor and the transport company are able to identify in their systems.

#### **e) Packages**

This information refers to the number of packages contained in the shipment in question and to the ongoing number count (running order). This information facilitates manual handling checks at the various transport stages.

Depending on the consignor's routines, this information is not always available when the label is being printed and the content may vary. Below, are three typical cases:

**Package: 2 / 7** Both the running order and the number of packages are known.

**Package: - / 7** Only the total number of packages is known

**Package: 2 / -** The running order of the package is known but not the total number.

The form text should be "Package".

Information should be written in large letters to allow it to be read at a distance

#### **f) Weight**

The information refers to the weight of the individual package and to the total weight of all the packages in the consignment. The package weight is very important information, especially in the 10 - 50 kg range, where it may be difficult to determine the weight "visually".

Depending on the consignor's routines, not all information is available when the label is printed out and the content can thus vary. The following are three typical cases:

**Weight: 50 / 300** Both the package weight and the total weight are known.

**Weight: 50 / -** Only the package weight is known

**Weight: - / 300** Only the total weight is known.

The form text should be "Vikt" and "Weight " respectively.

Information should be written in large letters to allow it to be read at a distance

**g) Weight symbol**

According to the expected instructions from the National Board of Occupational Safety and Health, the weight details should be reinforced with a weight symbol if the package weight exceeds 25 kg. See further information under Chapter 5. The symbol is placed in the shaded section of the figure.

**h) Destination code**

Denotes the transport company's code for the transfer terminal, route code or similar. Used for manual sorting.

Space is reserved for those cases when this is known at the point of printing, for example when the forwarder labels the goods. This information should, when it is provided, be printed in large letters to allow it to be read at a distance.

**3.5 The Article Data block**

As pointed out above, it may be possible to give limited information about item data, order data or other particulars, provided there is space within the label frame.

If a product block is present, it should be placed after the instruction block, immediately above the horizontal line that marks the border with the bar code part.

FRIGOCANDIA TRANSPORT FRYST		<b>14403</b>	
Sändnings-ID: 6108221		Vikt: 156 kg	
Artikeldata: Produktnr: Variant: Kvantitet: Benämning:		<b>3824:00 48 KINESISKA RÄKOR</b>	
SSCC:		<b>3 7393321 100000063 9</b>	
			
(00) 3 7393321 100000063 9			

## Chapter 4. Bar Code Block – contents and technical specification

### 4.1 Introduction and example



The bar code block may include two items of information,

- the delivery address postal code (sometimes)
- a unique package number, sometimes called the "Licence Plate" (always).

Below, the contents of the two information items is described first, followed by the technical specification of the bar code.

### 4.2 Postal code

This is used as a sorting concept in conjunction with automatic sorting at transport terminals and therefore needs to be included as a bar code, even if the information is already included in the plain text section or has been transferred by EDI.

- For Swedish postal code numbers, EAN's application identifier (AI) with value 420 is used. The bar code will then have eight characters, including the AI.
- For international postal codes, EAN's application identifier (AI) with a value of 421 is used, denoting a combination of postal numbers and a numeric, 3-character, country code according to ISO 3166. The bar code may have as many as 15 characters, including the AI.

Note:

*The bar code will be more compact with numbers instead of letters and that is why we have chosen to use a numeric country code here, despite the fact that it is shown as alpha in the plain text section.*

- Form texts should, when there is information, be "Postnr:" or "Postal Code"

The need for a postal code as a bar code is stated by each transport company on the website in the same way as described above for the transport instructions specification.

### **4.3 Unique Package Identity (Licence Plate)**

All transport units are handled by several parties in the transport chain – consignor, consignee and one or more transporters. All parties must be able to identify the unit and be able to collect and provide relevant information in the databases in question. As no mistakes are permitted regarding goods location information, it is vitally important that the package identity (package id) is unique and is only intended for one unit – the one it is applied to. How this takes place is governed by the CEN standard EN 1572. The term "Licence Plate" is synonymous with a unique package identity and also with a unique package number.

In the CEN standard 1572, space is provided for two typical cases in conjunction with the application of a Licence Plate. These are described briefly below.

#### **4.3.1 EAN's SSCC (Serial Shipping Container Code)**

- The introductory data identifier is an EAN application identifier (AI) with a value of 00
- Issuing agency code, IAC, (which starts a Licence Plate number) has a numerical value from 0 to 9. This clearly indicates EAN International.
- EAN 128 (Code 128 with FNC1) is used as bar code symbology
- SSCC is 18 numerical characters, including the control figure
- The control figure allows verification of the correct number (e.g. in conjunction with the keying in of information manually).

#### **4.3.2 Other types of Licence Plate**

- Introductory data identifiers can have the following values: "J" "1J", "2J", "3J", "4J". The content of these is according to a list from ANSI / FACT.
- The Issuing Agency Code (IAC) can consist of one, two or three alpha characters. Approved values are adopted by NNI in the Netherlands. At present, there are 17 approved IACs.
- Code 39 or Code 128 can be used as bar code symbology.
- The length of the Licence Plate can vary up to 35 alphanumeric characters, which are often shorter according to the rules issued by the respective issuing organisation.
- There is no standardised control figure.

#### **4.3.3 e-Com Logistics recommends use of EAN's SSCC**

e-Com Logistics has come to an agreement with EAN Sweden, which means that EAN's SSCC may be used also by an individual transport buyer not associated with EAN. This can be implemented by the company by using its own tax registration number together with a running serial number, without any further notice to EAN. In this way it is possible to create 10.000 unique package identities, which may be reused when they have disappeared from the systems at the parties involved. The need expressed from the transport industry is to keep SSCC unique during at least 18 months.

The company can get access to additional package numbers by paying a minor fee to EAN and apply for an "occasional EAN-number", which then can be used to create new series, each of them including 10.000 SSCC. Companies with large needs of package numbers may apply for full association to EAN, and thus get access to an almost unlimited number of SSCC.

Information on how to design SSCC in the individual cases, and how to get associated to EAN can be found on EAN's website: [www.ean.se](http://www.ean.se). Select "ansökan om EAN-nummer" in the menu and then click further on.



#### **4.3.4 Space requirements and location of a Licence Plate on STL**

According to instructions in the rules from CEN and EAN, the bar code with the unique package ID should be placed as the last item of information, i.e. down at the bottom of the label.

As can be seen in the technical specifications of the bar code (Chapter 4.4) a package ID should be designed in such a way that it can be read on the move and at a variable reading distance. The form text "Kolli-Id" and "Unique ID" should also be stated. The total space required is 35-40 mm.

#### **4.4 Technical specifications for the bar code block**

##### **a) Symbology**

Code 39 according to EN 800  
Code 128 according to EN 799

*Note: When Application Identifiers according to EAN are used, then EAN 128 should be used.*

##### **b) Symbol height**

At least 27 mm. (To be read at a distance of 0 - 90 cm and at a speed of 2 m/s).

##### **c) X-dimension**

The most narrow module (X) should be within the range 0.50 - 0.84 mm.

##### **d) Code ratio when using Code 39**

Code ratio should be within the range 1:2.5 - 1:3.0

##### **e) Quiet zones**

Empty spaces before and after the bar code should be at least 10 times the X-module's width.

##### **f) Quality**

The linear bar code quality should, as a minimum, conform to "Grade B", tested according to EN 1635, Test Specifications for Bar Code Symbols.

##### **g) Orientation**

The code should be of the fence type (standing).

##### **h) Translation of the Code Content**

To facilitate a back-up routine, if the bar code is not readable, the data content in the bar code symbol should be written in plain text immediately below the symbol.

## Chapter 5. Weight symbols

The Swedish National Board of Occupational Safety and Health and Labour Inspectorat have worked out uniformed regulations for marking packages with weight and symbols.

There is a legal demand for simplifying the information about the weight on the package with the goal to reduce the risk for manual handling disease and incorrect material handling in the package/goods transport chain.

The demand on manual material handling, information and marking is regulated in the following provisions from The Swedish National Board of Occupational Safety and Health Ergonomics for the prevention of musculo-skeletal disorders AFS 1998:1 – Manual handling, AFS 2000:1 – Manual handling and in EU:s directive 90/269/EEG (RTG no L 156, 21.6.90, p 9 and EGT no L 109, 26.4.83, p 8). The safety provisions apply to all employees, whatever their work. The Swedish provisions content even general recommendations for manual handling.

All packages should be marked with weight symbols. Package without weight symbols should be treated as not intended for manual handling (Heavy goods).

Responsible for marking of package/goods is the consignor.

### 5.1 Location

Weight symbols should be placed in the right part of the plain text section in the transport instructions, or alternatively in the consignors right part, look at figure in Chapter 3.4.

If a separate label with weight symbol is used, it should be placed on the same side as the transport label.

### 5.2 Weight ranges and symbols

The table is based on regulations for manual handling. The prevention ASF 1998:1 and ASF 2000:1 regulate the allowed weight depended on distance, frequency and lifting.

➤ Very light package	< 3 kg	Symbol 1
➤ Light package	3 - 7 kg	Symbol 1
➤ Heavy package	7 - 15 kg	Symbol 1
➤ Very heavy Package	15 - 25 kg	Symbol 2
➤ Heavy goods	> 25 kg	Symbol 3

The main goal with symbols is to prevent lifting of heavy packages. Therefore three symbols are sufficient for five weight ranges. For the prevention of musculo-skeletal disorders you even need to look at manual handling of light package and very light package.

### 5.3 Symbols

**Symbol 1** (0-15 kg)



**Symbol 2** (>15-25 kg)



**Symbol 3** (>25 kg)



The weight should be in plain text on all packages. Preferred on the right section on the transport label or written under the weight symbol. Minisize – Symbols 20 x 20 mm.

The symbols can be downloaded from [www.tya.se](http://www.tya.se) or [www.ecomlogistics.se](http://www.ecomlogistics.se).

## Chapter 6. Quality Requirements

### 6.1 Verification routine

e-Com Logistics has set up an autonomous control body to check labels from consignors and/or their equipment suppliers. Verification will be done against a test specification prepared using this manual (STL Ver. 2.01) as a starting point. Verification forms can be ordered from the website: [www.streckkodsspecialistenab.se](http://www.streckkodsspecialistenab.se).

After approved tests, a formal certificate regarding the technical quality will be issued, which means that they are resistant to the environmental strains stated and the transport companies affiliated to e-Com Logistics accept the use of this label. It is therefore important that the certificate clearly states which goods handling environment and combination of components for label production have been approved, i.e. software, label material, printer type, possible colour ribbons, etc.

Information about approved STL is published on the Streckkodsspecialisten AB's website [www.streckkodsspecialistenab.se](http://www.streckkodsspecialistenab.se).

### 6.2 Scope of quality tests

The test elements included in verification refer to checking the level of bar code quality of the test object and that the information content is correct according to the stated specifications.

As pointed out earlier (see Chapter 4.4), bar codes should, as a minimum, meet grade B requirements according to EN 1635. A check that this is the case should be performed according to the standards for test specifications and that the quality requirement applies during scanning both before and after the environmental influence.

The tests are performed for different goods handling environments:

- A. Normal goods handling, transport 1-5 days in a protected environment
- B. Goods handling outdoors, transport 1-5 days with outdoor handling
- C. Goods handling under difficult conditions

A and B are standardised test programmes with a control environment where the label is exposed to different environmental factors, such as wear, sunlight, moisture and aging. C means that the test is expanded to cover special handling situations and the test method is determined in consultation with the orderer. This could include, for example, long-term storage, expected chemical effect or other extreme situations.

The test stages included in all verification are

1. Check that the bar code has been put together correctly.
2. Bar code symbol test to examine the X-dimension, ratio and symbol height.
3. Quality test after simulated transport strains.
4. Visual control of the layout and information content against the specifications.

### 6.3 Label material

The labels should withstand the normal wear encountered in the goods handling environment.

The label material should be chosen so that the bar code quality is not affected negatively by the material itself. It is especially important to consider the label's thickness in order to avoid disturbing influences from the underlying packaging material during scanning. Other factors are the label's reflectivity and contrast rendering, which should not be altered by light or heat.

### 6.4 Placement of labels on packages

- Purchasers of transport services shall deal with labelling taking in consideration the requirements of the service purchased.
- For pallet containers and other palletized goods, the label should be placed in such a way that the distance from the surface on which the pallet is standing to the middle of the bar code that contains the package unit identity is approximately 450 mm ( $\pm$  50 mm). Furthermore, the label should not be placed closer than 50 mm from the nearest vertical edge.
- For smaller packages, which may be sorted automatically on a conveyor, the label should be placed on the largest surface that can serve as the package's topside.
- As a guide, Appendix B shows different examples of where a label can be appropriately placed on the package.

## Chapter 7. Acknowledgement at point of delivery

In the project directive for the development of the new transport label, it was stated among other things, that “in time, it should be possible to replace the use of a traditional waybill, provided such a waybill is not required by laws, regulations, etc....”. The specification in this document is designed to meet this objective. (Unique package number, EDI-transfer etc.)

There is, however, a function in the waybill routines currently being used that has not been transferred to the new transport label, i.e. acknowledgement of the transfer of goods between the parties in a transport chain. There are two cases:

### A) At the point of goods collection

The transport company's acknowledgement when collecting goods, which has traditionally been done on the sender's copy of the waybill, is in this specification assumed not to be connected to the transport label. Routines for this are designed by the consignor and should be regulated by transport agreements.

Note:

There is an option to solve the acknowledgement routine in connection with the data program that controls the printing of labels. It is possible, for example, to produce a “loading list” with relevant information about the shipment and the packages included, where the driver can acknowledge receipt of the shipment.

### B) At the point of delivery

The consignee's acknowledgement at the point of delivery has traditionally been done on the transport company's copy of the waybill. In its basic form, the transport label, according to this specification, does not contain an acknowledgement part. Instead, the acknowledgement function is presumed to have been handled in some other way.

One possible alternative could be the generation by the transport company of an acknowledgement list from its distribution system, which the driver brings from the terminal. This is an advantage, especially for large shipments with many packages.

Another alternative is to equip the driver with computer support, a bar code scanner connected to a printer for example, where a print-out of the acknowledgement receipt is done at the point of delivery.

Note:

During a transition period, there will be a need for an acknowledgement receipt attached to the transport label. This applies in particular to single package shipments.

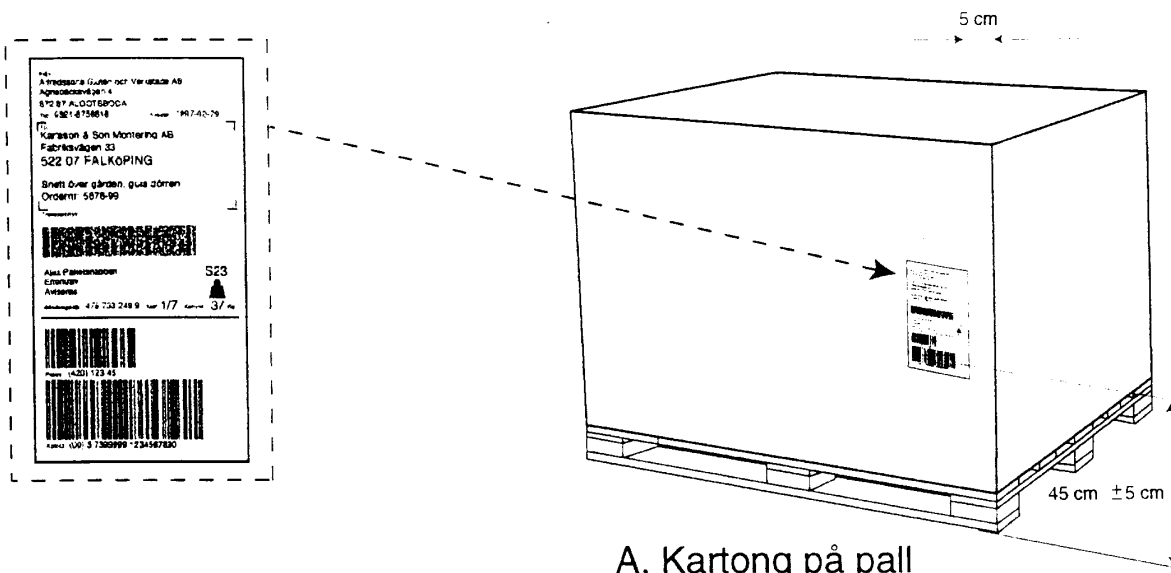
A variant of the transport label will therefore exist, which contains a detachable acknowledgement part (i.e. a receipt), with space for the receiver's signature and date. The package unit identity should be on the receipt section as a bar code.

**Appendix A. Layout example.**

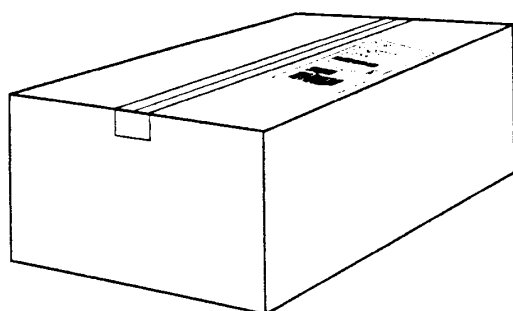
From	
Alfredssons Gjuteri och Verkstads AB	
Agnebäcksvägen 4	
872 87 ALGOTSBODA	
Phone: 0321-875618	Desp. Date: 1997-02-29
To	
Jensen Electronic	
A/S	
<b>DK-6330 PADBORG</b>	
Aviseras Arne Svendsen tfn 00945-74 66 66	
Beställningsnr: 96-5678	
Instructions	
Space reserved for barcodes according to rules from Transport Company	
Transportföretaget AB	<b>DK-AAR</b>
Express Aviseras	
Hanteras varsamt	
Consignment ID: <b>123 456 789 0</b> Packages: <b>7 pcs</b> Weight: <b>15/-</b>	
Unique Id: <b>(00) 3 7 3 9 9 9 9 1 2 3 4 5 6 7 8 9 9</b>	

## Appendix B. Examples of how to place the label on a package.

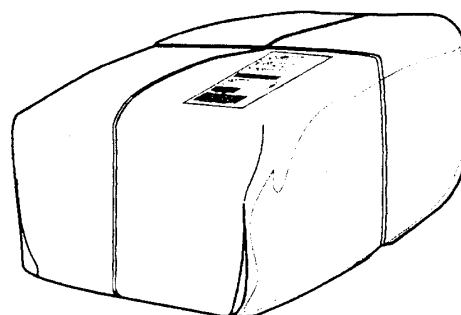
Exempel på etikettplacering.



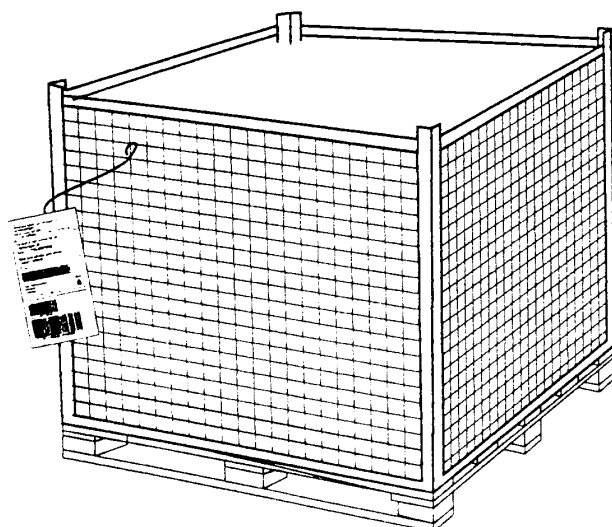
A. Kartong på pall



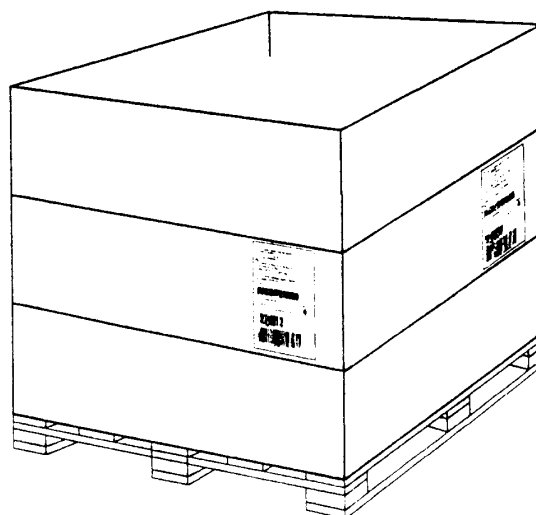
B. Paket



C. Oregelbundet paket



D. Pallbur



E. Lastpall med kragar