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Changes

Points marked with [01] has changed

Previous Editions

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1 SCOPE

This document defines the requirements for the MAT-Label, 2D-Label (synonym PDF417-Label) and VDA-Label for plants within the Continental Automotive Group.

2 REFERENCES

SML	Supplier Manual Logistics
TST N 098 00.01	Packaging. Definition, Process, Requirements
TST N 098 00.02	Transportation, Customs/Foreign Trade and Export Control
(Without number)	Requirements on marking goods, MAT-Label, Version 2.6
VDA 4902	Warenanhänger (Master, Mix and Single Label)
VDA 4913	Lieferschein und Transport Daten (Delivery note and transport data)
ISO/IEC 15438	PDF417 bar code symbology specification
ISO/IEC 15434	AIDC, Syntax for high capacity ADC media
IEC 61340-5-3	Protection of electronic devices (packaging)

3 REQUIREMENTS ON MARKING OF GOODS

The correct identification of goods in accordance with standard procedures helps to avoid unnecessary additional cost. The main requirements of Continental Automotive concerning the identification of goods by suppliers are laid down in the following paragraphs.

In the event of a failure to comply with TST N 098 00.03, Continental Automotive reserves the right to charge the cost of handling and printing of new labels to the supplier.

Continental Automotive request different types of labels on plant specific level. Following main label standards must be supported by supplier. Other plant specific label requirement as noted in this document is a subject to mutual agreement between the supplier and the requestor.

Any shipped material must always be marked with previously approved labels. Using wire for fixing labels, stickers, papers, etc. is prohibited.

4 MAT-LABEL

The MAT-Label becomes a new common standard at Continental Automotive worldwide in middle and long term. The implementation occur plant specific.

4.1 Approval process

The request for implementation as well as the approval process is plant specific. Only upon specific request and agreement, the MAT-Label shall be used for the plant concerned.

If the MAT-Label of a supplier was approved by a plant within Continental Automotive as general release and the approval is based on the requirements that are listed in the following, then basically the approval is valid for all other plants which request this type of label.

An approval refers to the layout, code, data fields, data syntax, print quality and label material. The confirmed correctness of data and data formats in customer given fields refers to one purchase order, only.

The approval is not meant to imply, that the customer given data and data formats are the same to other orders and plants. Customer given data (such as customer part number, index (material revision), vendor number (supplier-id), purchase order number) remains plant specific.

4.2 Basic specification [01]

Requirements on marking goods, MAT-Label, Version 2.6

This cross company specification is the basis to the requested MAT-Label and must be considered at first. It is the basic to develop and implement the MAT-Label, because main topics are specified in this document.

This cross-company specification is available via download at:

https://www.continental-automotive.com/en-gl/Passenger-Cars/Company/Supplier-Logistics

Continental Automotive has additional requests to the basic MAT-Label. Following supplements must be taken into account.

4.3 MAT-Label as single label for each smallest packaging unit

The MAT-Label is basically to understand as single label which must be attached on each smallest packaging unit in a way, that the label and code is easy reachable. The smallest packing unit is usually the one, which does not contain any sub-packaging, see chapter 6.

4.4 Additional Barcode (Code 128)

An additional barcode (Code 128) might be requested by other companies and was requested in prior MAT-Label supplements by Continental Automotive. Since April 2013 an additional barcode is no longer requested.

New and updated layouts shall be developed without additional barcodes. Continental Automotive request and use the data matrix code, only.

(Sample of a prior requested label with code 128)

4.5 Code symbology for MAT-Label

The DATA MATRIX symbology (according to ISO/IEC 16022) with ECC 200 is requested as the standard code for MAT-Label.

4.6 Data syntax

- ISO conform syntax according ISO/IEC 15434
  Continental Automotive prefers the original data syntax according to ISO/IEC 15434 including its hidden character $^{R}_{S}$, $^{G}_{S}$ and $^{E}O_{T}$ (Hex: 1E, 1D and 04) in the message header, format envelope, data element separator and message trailer.

  Regarding to the data syntax, new or separate developed MAT-Label for Continental Automotive shall strictly based on ISO/IEC 15434.

- Alternative syntax based on ISO/IEC15434 but using @-character as data element separator
  In case of from other company already approved MAT-Label by using alternative character (@ instead of any $^{R}_{S}$, $^{G}_{S}$ and $^{E}O_{T}$) Continental Automotive accept this syntax, too.

  Continental Automotive reserves the right to withdraw the acceptance of using alternative character @ in the syntax with the consequence that already approved MAT-Label with alternative syntax must be adjusted to original ISO/IEC 15434 syntax structure at the supplier's expense.

Independent of the data field and ISO conform syntax as well as alternative syntax, a @-character as data content (character in data field itself) is prohibited.

A hyperlink in syntax is prohibited (e.g. in field Supplier Data) if not expressly requested (e.g. in field Additional Part Information).

4.7 Ordering Code

General procedure
If the supplier has a specific Ordering Code beside its own part number for the accounted part/component then this Ordering Code shall be stated in this field. If the supplier has no separate Ordering Code, then the manufacturer's part number shall be repeated in field Ordering Code.

Plant and part specific requirements
Plant and part specific request are possible and shall be supported after mutual agreement.

4.8 Supplier-ID

The Supplier-ID is the individual vendor number assigned by Continental Automotive plant.

The Supplier-ID may be variable per plant and between plants. The Supplier-ID on MAT-Label shall reflect the vendor number used in the respective order (schedule agreement or single order).

4.9 Manufacturer Number

The Manufacturer Number is basically the CVM-Number (Continental Vendor Master Number) to the manufacturing (not supplying) company.

The CVM is a unique identification within Continental Automotive for a company. The manufacturer number is not part of the order data sent by Continental Automotive.

The CVM Number (as manufacturer number) will be stated by Continental Automotive to supplier during the MAT-Label development and approval process.

The manufacturer number on MAT-Label refers to the manufacturer and not to the supplier; even both refer to the same company.

The manufacturer number is independent of Continental's consignee and remains always the same; as long as all shipped parts are made by the declared manufacturer. An unauthorized change of the manufacturer number is prohibited.

In order to use the correct manufacturer number, following supplier ← → manufacturer relationships needs to be considered for the whole Continental Automotive Group:

- Supplier is also the manufacturer to all shipped parts or components, ever:
  In this case, the manufacturer number is always fixed.

- Supplier is not (!) the manufacturer partly or to all shipped parts, or components:
  The manufacturer number depends on the individual company which has manufactured the supplied part or component.

  In order to know and to match all the mandatory manufacturer numbers, the supplier has to state each possible manufacturer for all parts shipped to the entire Continental Automotive Group latest before sending the final draft of MAT-Label, during the MAT-Label approval process. Afterwards, the supplier gets the expected manufacturer number for each noted manufacturer.

  In any case of a new manufacturer situation, the supplier has unrequested to ask for the corresponding manufacturer number.

  Independent of the supplier ← → manufacturer constellation, it is in the supplier's responsibility to specify the correct manufacturer number on MAT-Label to each supplied part.

4.10 Package-ID

The Package-ID is created by manufacturer/supplier and shall be a unique number (or number/letter combination) as stated in the specification "Requirements on marking goods, MAT-Label, Version 2.6".

The uniqueness of Package-ID refers to the data field "Supplier-ID". That means, referring to the Supplier-ID, the Package-ID shall never repeat.

In case of letters, only upper case is allowed.

For numbers and letters, only ASCII characters from 1 to 0 and A to Z are permitted. A consecutively numbering scheme is not mandatory, but permissible.

Not permitted are for example:

- blanks within the Package-ID, in front or at the end
- special characters (for example: ?, !, ^, #, ", $, _, µ, *, ~, ', >, <, |, etc.)
- non printable (hidden) characters (like ASCII control characters)
- minus, plus or hyphens

4.11 Expiration Date

For each part/component an expiry date must be defined. The expiry date is basically regulated in the GQA (general quality agreement) or category quality requirements (CQR) or in the individual part specification.

It is in the supplier's responsibility to set a correct date of expiration based on quality regulations.

4.12 Returned shipments

To avoid receiving returns with same Package-ID (as used at first shipment), returned shipments must be relabeled at supplier with new Package-ID. Other fields on MAT-Label may need an update, too (e.g., new batch number, new shipping note number, new quantity).

4.13 MAT-Label and other supplier own labels

Supplier own labels are permitted and shall not be removed. The MAT-Label shall not cover other labels or markings. Also supplier labels shall not cover MAT-Label.

4.14 Labels or other markings on returnable packaging units

Permanent adhesive labels (also MAT-Labels) on a returnable packaging unit are prohibited.

4.15 MAT-Label and hazardous components

Covering R/S phrases as well as warning symbols with MAT-Label is prohibited (also partially). All security information and warning symbols remains untouched and must be unrestricted readable resp. visible.

4.16 Size and layout of MAT-Label

The dimension of MAT-Label depends on the size of the smallest packaging unit which needs to be marked with MAT-Label.

It is in the supplier's responsibility to choose the best label material which fits to the dimension and condition on the packaging unit.

In case of different packaging dimensions and/or packaging types, it might be necessary to use MAT-Labels in various sizes. It is in the supplier's responsibility to consider this.

In case of MAT-Label for KLT (single label on small load carrier) the label must fit to the dimension of the label holder (label pocket) on KLT. In Europe, such label holders are prepared for a label with dimension of 210 x 74 mm (width x height).

For MAT-Label in master version (per pallet or other loading unit, see chapter 4.17.3), a size of 210 x 148 mm (6 x4 inch, width x height) is preferred.

4.17 Preferred layouts

In addition to the layouts in the basic specification "Requirements on marking goods, MAT-Label, Version 2.6", below samples shall help to adjust and organize an expected layout during development of MAT-Label.

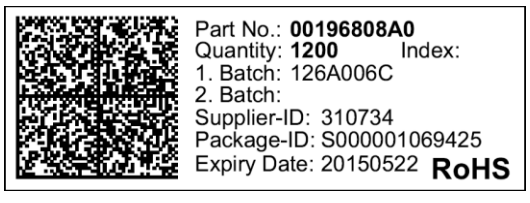
As mentioned, the size of label depends on the dimension and condition on the packaging unit. Nevertheless the layout shall be organized based on following references.

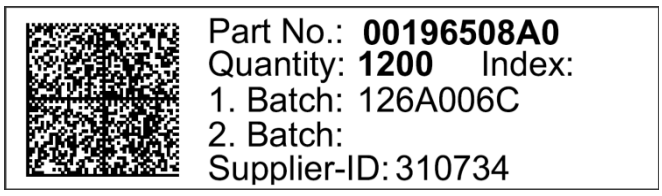
The borderline around is not requested. On below sample the lines are for illustration, only.

All data fields shall be printed, except the following three fields:

Label Version …… shall not be printed,
Manufacturer Number ….. shall not be printed,
Batch-Counter …….. can be printed (must not).

4.17.1 Samples of MAT-Label without all printed data fields, valid for small packaging units only





The code contains always all data fields and is independent of the amount on printed data. On small labels the code might be smaller, but the scan ability must be ensured. Smaller codes request higher quality and accuracy on print process.

The field "expiry date" is not mandatory on small MAT-Label, if the expiration date on supplier's own label is visible. Of course, the expiry date on supplier's own label must be the same day as encoded on MAT-Label.

If it is surely excluded, that a second batch will exist, then the field "2.Batch" can be deleted on layouts for small MAT-Label.

4.17.2 Layout KLT-Label (single label for small load carrier) with size of 210 x 74 mm

Conditions on the packaging unit must always be considered. Label holders, brackets or other fixing tools may impair printed information or codes on top, down, left or right. Basically a covered code is not readable.

(1) Receiver **Continental Automotive Hungary KFT. 1106 Budapest**	(2) Dock / Gate	(3) Shipping Note (16K): 50329943 Purchase Order Number (K): 56038700
	(8) Part Number (P): **2858923501100**	Add.Info (20P): Expiry Date (14D): 20150520 MS-Level (Z): N
	(9) Quantity (Q) **6000**	(10) Part Name: CONTACT MINIMAB
		(11) Man. Part No.: (1P): 33401005X Ordering Code (31P): 33401005X Man. Loc.: (10V): CHN-SHENZHEN
(12) Packaging Unit - Reference: Supplier-ID (V): **340549** Package-ID (3S): **S414014425701** **Single Label**		(13) Date Code (6D): 20140520 (14) Index (2P):
(15) Supplier: Supplier Sample & Co. Supplier-Data (1Z):		(16) Batch Number: 1. Batch (1T): 866000045 2. Batch (2T):
		(Special mark) **RoHS**

4.17.3 Layout Master Label (size 210 x 148 mm, 6 x 4 inch)

Receiver: Continental Automotive Hungary KFT. 1106 Budapest		Dock / Gate / Point of Usage Master Label
Shipping Note (16K): **50329943** Purchase Order Nr.: (K): 56038700		Supplier: Supplier Sample & Co.
	Net WT (KG): 5	Gross WT (KG): 7 / No of boxes: 004
Part Number (P): **2858923501100** Index (2P): Add.Info (20P): MS-Level (Z): N		
Quantity (Q) **24000**		Part Name: CONTACT MINIMAB
Packaging Unit - Reference: Supplier-ID (V): 340549 Package-ID (3S): M414014410001		Man. Part No.: (1P): 33401005X Ordering Code (31P): 33401005X Man. Loc.: (10V): CHN-SHENZHEN Date Code (6D): 20140520 Expiry Date (14D): 20150520
Supplier-Data (1Z): Supplier Name: Supplier Sample & Co. MAT-Label as Masterlabel		1. Batch (1T): 866000045 2. Batch (2T): **RoHS**

4.18 MAT-Label already approved by other companies

MAT-Labels approved by other companies, but based on "Requirements on marking goods, MAT-Label, Version 2.6" are basically applicable for Continental Automotive, too.

Additional Barcodes requested and approved by other companies have to be removed. From other companies' prior approved labels, needs a separate general release by Continental Automotive (see chapter 4.1)

To use MAT-Labels without general release issued by Continental Automotive is prohibited in general. Using MAT-Label is permitted only after prior request.

4.19 Using Master Label

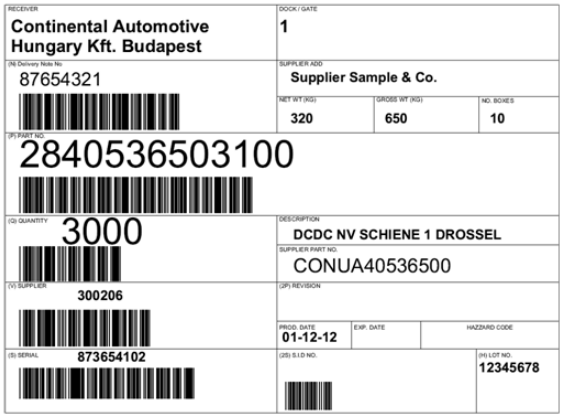
A master label is intended for the marking of a loading unit (such as pallet or container). A master label alone (without single labels) is not permitted. A master label on the loading unit must always be completed with MAT-Label in single version per defined smallest packaging unit on or within the loading unit.

4.19.1 Master Label on expendable packaging

In case of expendable packaging, the standard type of master label is according to automotive standard specifications, like VDA, ODETTE, AIAG or GALIA.

The master label refers to the whole number of parts in the loading unit.

The loading unit with standard Automotive Master Label contains multiple sub units which are marked with a MAT-Label in single version.



4.19.2 Master Label on returnable packaging

A MAT-Label in master version is necessary per loading unit in case of using returnable boxes (bin) or other returnable packaging units (e.g. trays).

The loading unit with MAT-Label in master version contains multiple sub units which are marked with a MAT-Label in single version.

The layout of a MAT-Label in master version is shown in chapter 4.17.3 on page 10.

Package-ID on master label starts with M.

4.19.3 Master Label Location

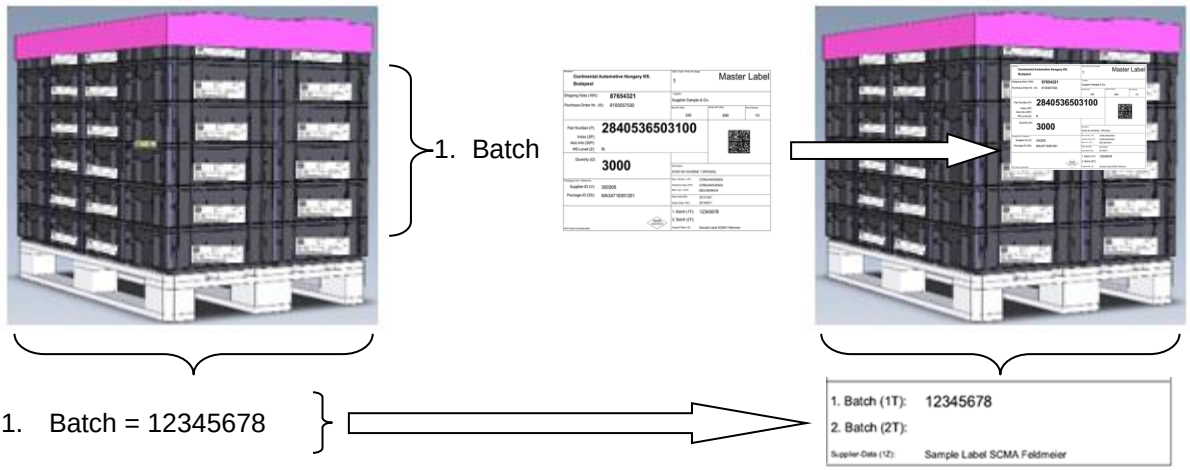
The standard location for Master Label (standard VDA or ODETTE, as well as MAT-Label in master version) is the short side of the loading unit.

4.19.4 Batch mapping on MAT-Label as master label

Maximal two batches can be considered per loading unit (pallet or container) marked with a MAT-Label in master version.

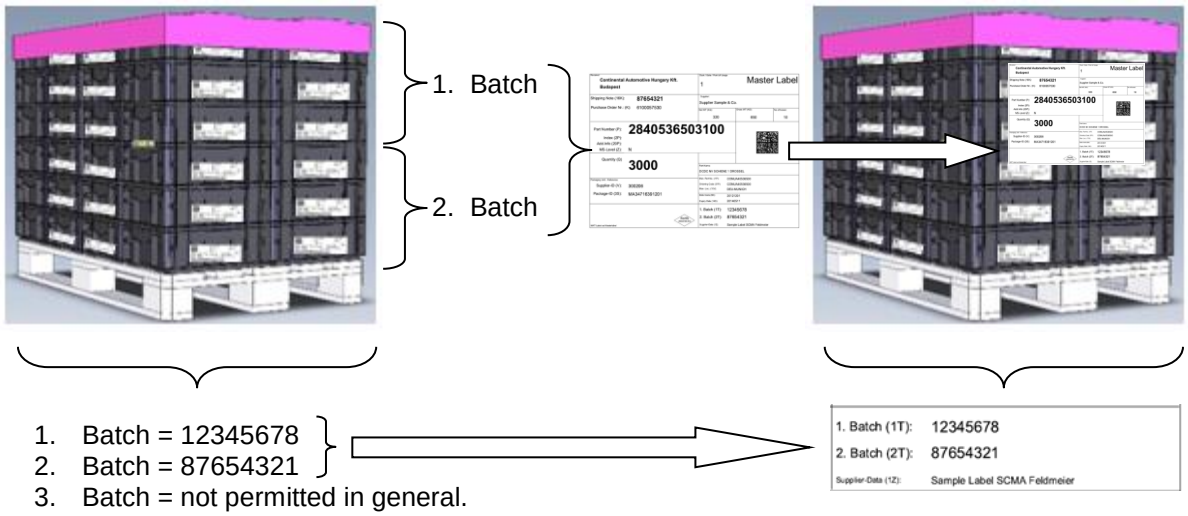
The master label consolidates the data on each single label on or in the with master label marked loading unit. Therefore it is not permitted, that a batch number on single label exist, which is not stated on the master label. Sample:

All single labels on pallet refer to one batch:



1. Batch = 12345678
2. Batch = not exists in this pallet. All single labels have the same batch number.

Single labels on pallet refer to different batches:



1. Batch = 12345678
2. Batch = 87654321
3. Batch = not permitted in general.

4.19.5 Master Label on loading unit (pallet, container) which shall be understood as single unit

This is basically not a “master unit”. It might be a large single unit. Therefore the definition “Master Label” is not correct and the packaging unit has to be marked with a MAT-Label in single version. Package-ID on this single label starts with “S”.

4.19.6 MAT-Label as mixed label

A MAT-Label in mixed version (different part numbers in one loading unit) is undefined. A MAT-Label refers to one specific packaging unit and part number, therefore a MAT-Label in mixed version is not provided.

In case of using a mixed load (if permitted by goods receiver) a “Mixed Load Label” can be used, according to VDA, ODETTE, AIAG or GALIA specification, see sample in chapter 7.1 on page 28).

5 2D-LABEL (PDF417-LABEL)

The 2D-Label (synonym is PDF417-Label) is still requested by some plants worldwide.

The request for implementation as well as the approval process is plant specific. Only upon general or plant specific approval to the 2D-Label, it shall be used for the plant concerned.

5.1 Approval process

If the 2D label of a supplier was approved (general released) by a plant within Continental Automotive and the approval is based on the requirements that are listed in the following, then basically the approval is also valid for all other plants which request this type of label.

The approval is not meant to imply, that the customer given data and data formats are the same to other orders and plants. Customer given data (such as customer part number, index (material revision), vendor number (supplier-id)) remains plant specific.

5.2 2D-Label (PDF417-Label) for the smallest packaging unit

The part packaging (smallest packing unit) is usually the packing unit which does not contain any sub-packaging. The 2D-Label is basically designated for this type of packaging. See chapter 6.

Other definitions related to part packaging have to be coordinated with the particular receiving plant per concerned part number. Any smallest packaging unit must be marked with a 2D-Label (PDF471-Label) in a way, that the label and code is easy reachable.

5.3 Size and Layout

Size and layout depends on the packaging unit. Initially, the supplier can specify and suggest a size and a layout of the 2D-Label under consideration of all the requirements in the following.

Continental Automotive reserves the right to disagree with the size and layout of the 2D-Label.

5.4 Label position

- Expendable Material:
  In general, the package label has to be permanently attached (exception, removable label for Dry Pack, see chapter 6 and 8).

- Returnable boxes or packaging solutions:
  In general, the 2D-Label shall not be attached permanently and over the entire surface. The attachment of labels with bonding dots is permitted. The label and its attachment (bonding dot) has to be removable without residue.

The label shall not cover any other supplier created data and labels on the packaging, if possible. It must be placed on smooth surface and shall be easily reachable to scan the code.

In order to get a readable code, the label shall not be attached on concave or convex surfaces. A placement “around a corner” is not permitted.

It must be ensured that the label will not be damaged during opening of the packaging and the code should remain readable.

5.5 Package label as Single or Master Label

The data field “Package-ID” defines whether the label is standing for a single unit (smallest packaging unit with single label) or refers to a pallet or container (loading unit with master label).

If the label is a **single label** for each part smallest packaging, then the Package-ID has to start with an “**S**“.

If the label is a **master label** referring to a loading unit (possible in exceptions) then the Package-ID has to start with an “**M**“.

5.6 Description and requirements on the printed data fields on 2D-Label

Within the code (PDF417) all the data fields are mandatory. Whether and how to print the individual data fields on label is described in detail referred to below requests.

5.6.1 Revision Level

This piece of information is part in the code (PDF417); however, it **shall not be printed** on the label. The version number is a fixed entry in the code and is predefined by the customer. The current number is 0001.

5.6.2 Supplier Part No.

The part number assigned by supplier can be printed up to a length of 35 characters (alphanumeric), if the supplier needs it for own processes. It is not necessary to designate this field via field header.

5.6.3 Customer Part No.

The part number assigned by customer **has to be printed**. The maximum field length is **18 characters** (alphanumeric). The format and design of the customer part number has to be analog to the order.

It is necessary to designate this field with field header. The customer part number **has to be highlighted** (e.g., by using bold font).

5.6.4 Ordering Code

The Ordering Code **has to be printed**. The maximum field length is **35 characters** (alphanumeric). It is not necessary to designate this field via field header.

The content in field Ordering Code refers to plant specific requests. It can be the mutual agreed Ordering Code to the individual part or it can be the supplier part number with, or without adaption’s. It can also repeat the customer part number or differ from this number (e.g., by adding an index).

5.6.5 Part Name

The part name **has to be** printed. The part name describes the type of the part. The maximum field length is 35 characters. In case of no requirement from the orderer, the part name assigned by supplier has to be used or in exception a triple X (XXX) has to be printed.

The part name is requested to print and is not requested as content in the code (PDF417). Dimensions and position of letters have to be adjusted to the label layout. The part name must be easy to read. It is not necessary to designate this field via field header.

5.6.6 Additional Part Information

If an additional part information is required by the goods receiver, this information has to be printed and encoded (PDF417). The maximum field length is **18 characters** (alphanumeric). It is necessary to designate this field via field header. The headline also can be abbreviated as “Add.Info”.

It is necessary to reserve place for this field and to print the field header, even if no data are defined or exists.

5.6.7 Index (material revision)

The index (material revision) **has to be** printed, if an index is required. The **field length is fixed to 3 characters (in code) and 2 characters (printed)** (alphanumeric). It is necessary to designate this field via field header, even if no index was defined or exists.

The index standing for material revision is always identified with a leading character “E“ as content in the code (E is standing for the German word: Erzeugnisstand). It is prohibited to print this only in code existing leading character “E”.

Samples of contents:

No index	→	in code: E<blank><blank>	printed:
Index is A	→	in code: EA<blank>	printed: A
Index is 01	→	in code: E01	printed: 01
Index is E	→	in code: EE<blank>	printed: E

5.6.8 Quantity

The quantity **has to be** printed. The maximum field length is **12 numeric characters** with optional **3 digits after the comma**. Separating decimals are only permitted when using a comma and up to three digits afterwards. Avoid leading zeros.

The quantity has to be **highlighted** (e.g., by using bold font). It is necessary to designate this field via field header.

Thousand separators (dots) can be added to recognize thousands places. However, these separators are not permitted in the code (PDF417).

If a distinction between encoded and printed format is not possible, then the quantity has to be printed without separators, too.

In case of two batches in one packaging unit, two 2D-Labels with the identical Package-ID are necessary (see chapter: 5.6.25). The quantity on both labels is the same and refers to the total quantity and not (!) to the differing quantity per batch in the packaging unit.

5.6.9 Shipping Note Number

The shipping note number (dispatch reference number) has to be printed. The maximum field length is 12 characters (alphanumeric). It is necessary to designate this field via field header.

The length and format of the shipping note number has to match the used shipping note number and format on the shipping note.

There shall not be any differences between the shipping note number on the 2D-Label and on the shipping note. Both numbers must be equal, also in the format (e.g. leading zeros).

5.6.10 Supplier-ID (Vendor Number)

The Supplier-ID (vendor number) **has to be** printed. The maximum field length is **10 characters** (alphanumeric). It is necessary to designate this field via field header.

The vendor number has to be taken from the individual order and the same format and length has to be used on the 2D-Label.

The field Supplier-ID has to be located on left in one line together with the Package-ID (in the middle) and the Batch-ID (on right).

5.6.11 Package-ID

The Package-ID **has to be** printed. It is necessary to designate this field via field header.

The mandatory field length is fixed to **17 characters** (alphanumeric), whereas 12 characters are available for the variable Package-ID. The others are pre defined.

The Package-ID must be unique for each vendor number and marked packaging unit.

The first leading character identifies the type of label (see chapter 5.5). A single label (on smallest packaging unit, which is usually the case), is identified with a leading “S” (without quotes) in the Package-ID.

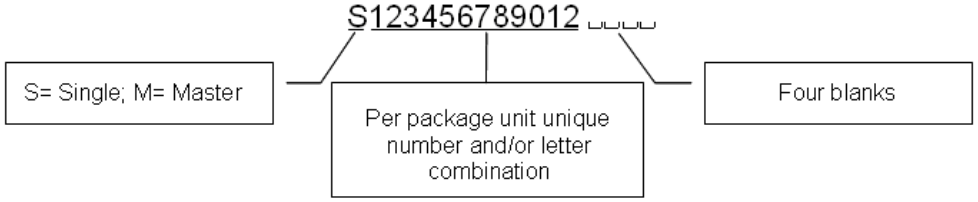
A master label (label on loading unit, used in exception), is identified with a leading “M” (without quotes) in the Package-ID.

The next 12 alphanumeric characters can be freely assigned by the supplier. The only request is that the combinations of these 12 characters never repeat in relation to the vendor number and the packaging unit.

The last four digits have to be filled with blanks to reach the requested 17 characters. Other characters as four blanks are not permitted to fill the field.
If a packaging unit contains two batches, then two labels have to be print based on the different batches. Due to the fact, that both labels identify the same package, the Package-ID remains the same on both labels. Only the Batch-ID and the batch number on both labels are different (see: 5.6.25)

The field Package-ID has to be located in one line with and in the middle of vendor number and Batch-ID.

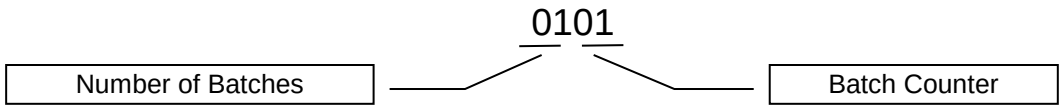
Example for a Package-ID:



5.6.12 Batch-ID

The Batch-ID **has to be** printed. The mandatory length of fields is fixed to **4 characters** (numeric). It is necessary to designate this field via field header.

Example for a Batch-ID:



The Batch-ID is not to be confused with the Batch Number. The Batch-ID helps to determine the number (quantity) of batches in the packaging unit and to match the individual batch to the dedicated label. Maximum two batches are permitted in a smallest packaging unit.

The first two digits in the Batch-ID show the quantity of batches (how many batches are inside?). The third and fourth digit identifies the label on package unit (first or second label).

Example: Packaging unit contains only one batch (which is the standard request)

0101	This Batch-ID shows that the packaging unit contains only one batch. 0101 give the information: There is one batch inside and I currently read the first label on packaging unit to that batch.

Example: Packaging unit contains two batches:

In this case two labels are necessary on the packaging unit. Only the Batch-ID and the Batch Number differs on both labels; other data remains untouched.

0201	This Batch-ID shows that the packaging unit contains two batches. 0201 give the information: There are two batches inside and I currently read the first label of the requested two. Reading of a label with the same Package-ID, Quantity and with Batch-ID 0202 is mandatory which must have a different Batch Number.
0202	This Batch-ID shows that the packaging unit contains two batches. 0202 give the information: There are two batches inside and I currently read the second label of the requested two. Reading of a label with the same Package-ID, Quantity and with Batch-ID 0201 is mandatory which must have a different Batch Number if not done so far.

The field Batch-ID has to be located in one line with Supplier-ID and Package-ID and to the right of the Package-ID.

5.6.13 Expiry Date

The field Expiry Date **has to be** printed. The mandatory field length is **10 characters** (numeric) **printed** and **8 characters encoded**. It is necessary to designate this field via field header.

For each part/component an expiry date must be defined. The expiry date is basically regulated in the GQA (general quality agreement) or category quality requirements (CQR) or in the individual part specification.

It is in the supplier's responsibility to set a correct date of expiration based on quality regulations.

The expiry date has to be printed in the format DD.MM.YYYY. D=day, M=month, Y=year. The expiry date as content in code shall be formatted without dots.

Example:
Expiry Date is 22 May 2015. → Printed: 22.05.2015 → Encoded: 22052015

If a distinction between encoded and printed format is not possible, then the Expiry Date has to be printed without separators, too.

5.6.14 Date Code / Date of Manufacture or Dispatch

The field Date Code **has to be** printed. The maximum field length is **9 characters** (alphanumeric). It is necessary to designate this field via field header.

The date of manufacture or dispatch can be formatted in different ways. Separating dots such as in the expiry date are not permitted. Depending on the chosen format, which can be in day, week or month format, the first (leading) character must be D, W or M.

Definition of date format:

D (Day)	=	YYYYMMDD	(Example: D20021125)
W (Week)	=	YYWW	(Example: W0248)
M (Month)	=	YYYYMM	(Example: M200211)

If the supplier trace the batch based on date code (date of manufacturing), then the date code has to be repeated in field "Batch Number" in a from supplier chosen format.

5.6.15 Batch-No. (LOT-No., Suppliers Traceability)

The Batch Number **has to be** printed. The maximum field length is **17 characters** (alphanumeric). It is necessary to designate this field via field header.

This field contains the traceability reference assigned by supplier. The supplier must be able to retroactively provide information about the batch (e.g., volume, production, inspection results and delivery) with the help of this combination of numbers / characters in field Batch-No.

The general or part-specific requirements (if latest exists) pertaining to traceability have to be considered. Please contact the responsible buyer if you have any questions regarding this matter.

5.6.16 Moisture-Level

The field moisture level **has to be** printed. The field length is fixed to **2 characters** (alphanumeric). It is necessary to designate this field via field header.

If the part is moisture sensitive, then the MS-Level (Moisture-Level) has to be printed based on industrial standard IPC/JEDEC J-STD-020. This usually applies to electronic components.

If the part is not moisture-sensitive and the standard PIC/JEDEC J-STD-020 is not applicable (mainly at mechanic parts), then the letter "N" has to be printed (for not moisture sensitive).

In case of a one digit content (like 1, 2, 3, 4, 5, 6 and N), the field has to be filled with a blank as second character.

5.6.17 Supplier Data

If the supplier wants (or have to) store own information on label, this field with maximum length of 35 characters can be used as optional field. It is necessary to reserve place for this field and to specify the field, even if no data are defined or exists.

5.6.18 Location of PDF417-Code on label

The 2D code has to be placed either horizontally or vertically considering of minimum mandatory quite zone around the code.

5.6.19 Size of PDF417-Code

In consideration of print parameters and code specifications, the size of the code depends on the prevailing data content. Therefore it is mandatory to reserve enough free area around the code.

5.6.20 Print Parameters

- Code type ..... PDF417 (based on ISO/IEC15438)
- Printer resolution ..... min. 300 dpi
- Error correction level ..... Level 5
- Module width X ..... min. 0.25 mm (= 10 mil)
  At optimal print parameters (paper, ink, temperature etc.), the module width can be reduced up to 0.17 mm (=7 mil).
- Module height ..... min. 3 X
- Row space left and right ..... min. 10 X
- Row space above and below the code ..... min. 4 X
- Code width ..... max. 70 mm
- Code height ..... max. 35 mm

5.6.21 Data Syntax

Data syntax: based on ISO/IEC 15434
Data format indicator: 06 (usage of data identifiers)

5.6.22 Data Contents and Data Syntax based on ISO/IEC 15434

The required data syntax is described in the specification ISO/IEC 15434.

Blanks are sometimes requested in pre defined data fields to reach the necessary fixed field length. Filling blanks are always located behind characters. Blanks are permitted, if they are part of the data format.

5.6.23 Data Content and Data Identifier

The following table lists the data fields, data length, data format and data identifiers which are mandatory in the data syntax. **All fields are mandatory fields**.

If a field is indicated as optional, then this refers to the data content and not to the data field. That means that the associated data identifier must be available also in as optional marked data fields.

List of data fields and its conditions:

Data Field	***Data Identifier*** *Always mandatory*	*Length*	*Fixed Data*	*Mandatory / Optional*	*Format*
Revision level	**12S**	4	0001	**Mandatory**	N
Part number of the supplier	**1P**	Max. 35		**Mandatory**	A/N
Customer part number	**P**	Max. 18		**Mandatory**	A/N
Ordering code	**31P**	Max. 35		**Mandatory**	A/N
Additional part information	**20P**	Max. 18		*Optional*	A/N
Index ***)**	**2P**	3	E ***)**	**Mandatory**	A/N
Content, quantity	**Q**	Max.12,3		**Mandatory**	N
Shipping note number	**16K**	Max. 12		**Mandatory**	A/N
Vendor number	**V**	Max. 10		**Mandatory**	A/N
Package-ID	**3S**	17		**Mandatory**	A/N
Batch-ID	**20T**	4		**Mandatory**	N
Expiry date	**15D**	8		**Mandatory**	DDMMYYYY
Date of manufacture or dispatch	**9D**	9 5 7		**Mandatory**	Day = DYYYYMMDD Week = WYYWW Month = MYYYYMM
Batch-No.	**1T**	Max. 17		**Mandatory**	A/N
MS-Level	**Z**	2		**Mandatory**	A/N
Supplier Data	**1Z**	Max. 35		*Optional*	A/N

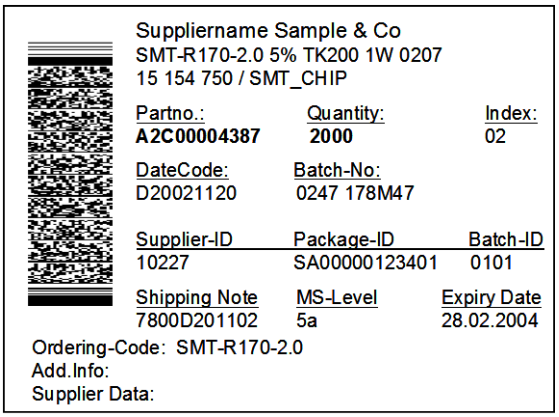
N = Numeric, A/N = Alphanumeric, D =day, M = month, Y = year

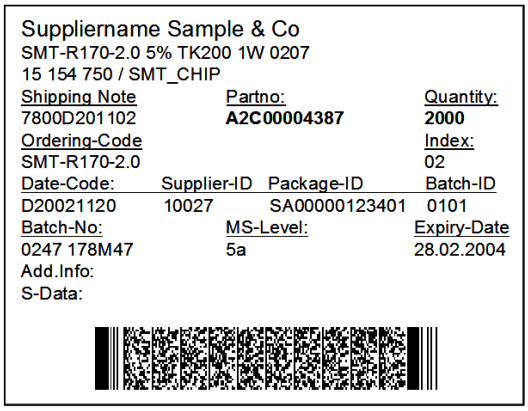
Max = the minimum length of characters is one; the maximum is the specified number of characters.
The maximum number of characters does not mean that leading zeros or blanks have to be used for instance to fill the remaining places in order to reach this number.

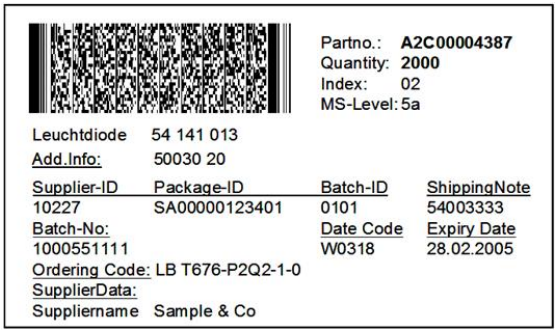
The revision level is a fixed entry and serves the recognition of the label or its version.

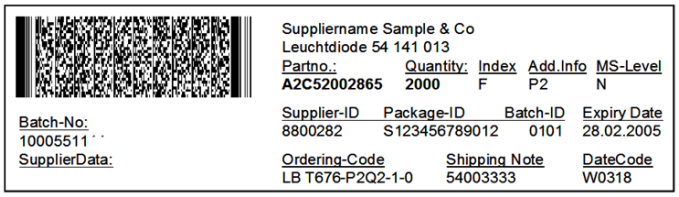
*) The index starts with a fixed “E“ (for product index). Next, the index has to be added with a maximum number of two characters.
If no index was planned or defined, two blanks have to be added after the pre defined “E“.

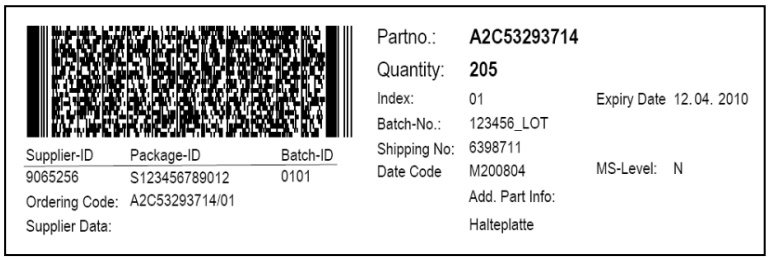
5.6.24 Samples of 2D-Label layouts (size not to scale)

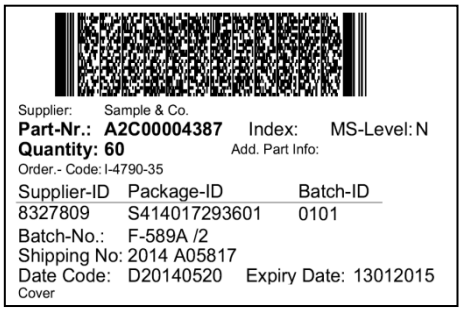






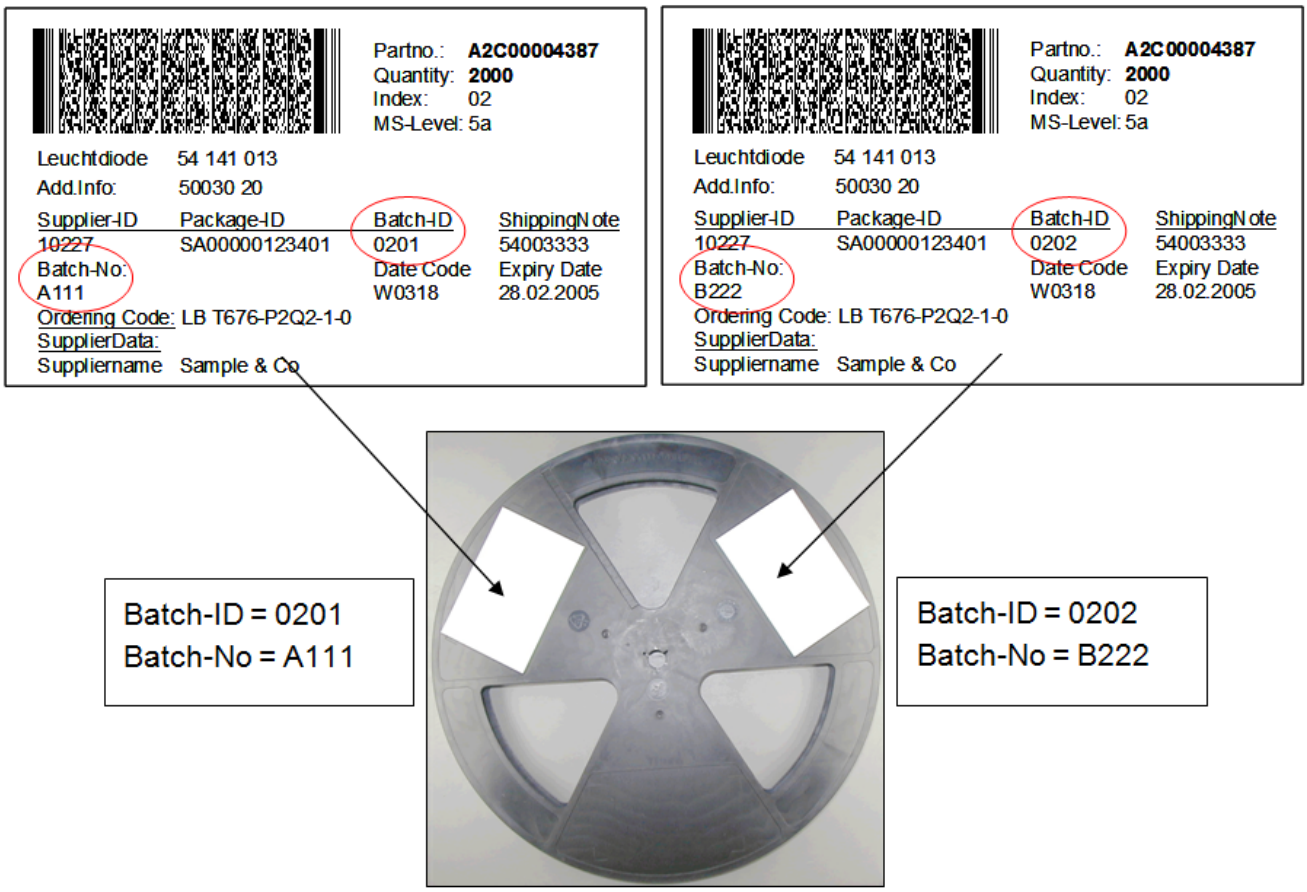






5.6.25 Example to a packaging unit which contains two batches

Data to packaging which contains two batches:
Quantity: 2000 pieces
First Batch: A111
Second Batch: B222



If a packaging unit contains two batches, two 2D-Labels are mandatory on this unit as shown above. The most data contents are equal (also the quantity and package-id).

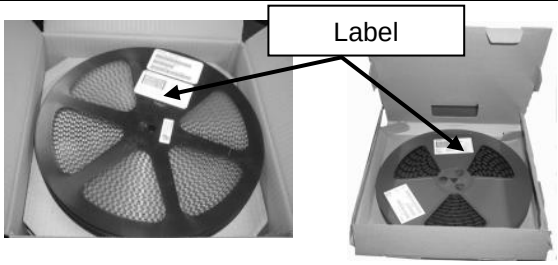
Only the Batch-ID and of course the value in field Batch-Number differs.

The value in field “Batch-ID” is pre defined in this case, see “definition of Batch-ID” on page 18.

6 DEFINITION OF THE SMALLEST PACKAGING UNIT (FOR 2D- AND MAT-LABEL)

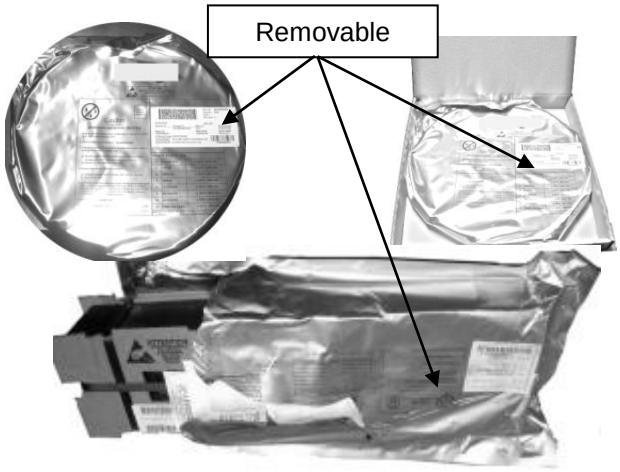
Regarding marking of goods with 2D- or MAT-Label, the smallest packaging unit is basically the one, which covers the parts inside directly. It usually contains no further sub packaging.

In general, following packaging units are defined as the smallest one for marking of goods with 2D- or MAT-Label (samples):



- Each separate and unprotected reel needs its own single label.

- Not the packaging outside.
- Not the so called “Pizza box”.



- In case of **moisture sensitive parts**, the protection bag is defined as smallest packaging unit with a single label.

- Not the packaging outside.
- Not the reel or other package unit inside.
- Not the so called “Pizza box”

- **The label must be removable (peel-off or sandwich label)**”, see chapter 8)

- It must be easy and intact removable from the protection bag.

- Only one sub unit (e.g. reel) per protection bag is allowed.

Inside:

- Multiple sub packages inside returnable boxes needs an individual single label, if the units are:
  - bundled or in
  - single closed packaging and are
  - prepared to take out separately.

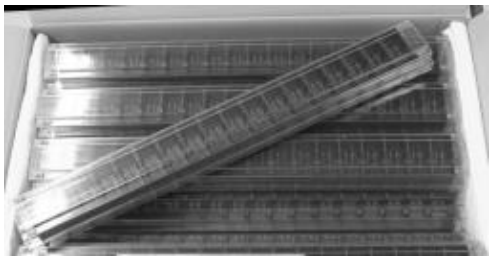
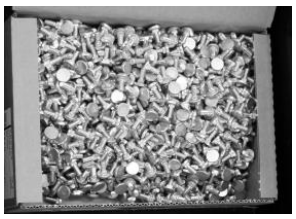
- Each sub package (multiple or not) inside expendable packaging needs an individual single label, if it is:
  - bundled or in
  - single closed packaging and is
  - prepared to take out separately.

- **PCB:**

  - Using expendable packaging:
    → Single label per brick in general.

  - Using returnable packaging:
    → Single label per brick in general and
    → MAT-Label in master version per pallet.

Inside: 	- Each jar with soldering paste needs an individual single label. That is independent of the outside packaging. The preferred place for the label is the lid on top of the jar. - The layout of MAT-Label is reduced. Printed data fields are: - Customer Part number and Quantity - Supplier-ID and Package-ID - Expiry Date and Batch Number (LOT) - The Batch-Number and the Expiry Date on the MAT-Label must be exactly the same as on the supplier production label at the circumference of the jar.
Inside if possible: 	- Chemical products in cartridges, syringes or jars need a single label on the smallest packaging unit wherever possible. - Risk and safety phrases as well as symbols may not be covered. If it is no sufficient free place directly on the cartridge, than the next packaging unit with a small number of cartridges inside needs to be labeled. - By jars, the preferred place for the label is the lid on top of the jar, see above.
Outside: 	- In case of returnable boxes, the label can be attached outside on the box, if: - only one sub packaging exist, which - fill-out the packaging completely and - in case of no otherwise request.
Outside: 	- <u>Multiple</u> sub packaging units (e.g. trays) are basically labeled outside on the next packaging unit, if the units are: - not bundled or - not separately closed - not wrapped in protection packs - not self-supporting In this case the label outside (the next packaging unit) refers to the whole number of parts inside.

Outside: 	- Independent of returnable or expendable boxes, small multiple tubes are basically labeled outside on the next packaging unit, if they are: - not bundled or - not wrapped in protection packs In this case, the label outside (the next packaging unit) refers to the whole number of parts inside. - If tubes are bundled or wrapped, than the bundle or protection bag needs a single label. - Each single tube needs its individual single label, if the tube dimension fits to a small MAT-Label.
Outside: *(Pallet with returnable boxes and single labels)*  *(cardboard box as smallest packaging unit)*	- Returnable boxes or expendable packaging units are defined basically as the smallest one, if the box or cardboard box contains no separate sub units, as described above. - Returnable boxes or other as smallest packaging defined units must be labeled with a single label in such a way, that the label and code on label is easy reachable. - It is not permitted to cover other labels or codes like box or container identification codes on returnable packaging units. - An exception is possible after detailed description and agreement in the part specific packaging data sheet (see N 098 00 01.000)
Outside: 	- Fix volume containers or pallets (loading units) must be marked with a <u>single label,</u> only if: - This unit is defined as the smallest packaging unit. This regulation (loading unit marked with single label) is part and plant specific.

7 VDA-LABEL (ACCORDING TO VDA 4902 STANDARD)

This type of label is based on a recommendation of the German Association of the Automotive Industry (VDA), called VDA 4902 Version 4.

It is available for free at www.vda.de. Search for “4902” in German, because it is published in German, only. You will find the basic requirements to it.

Sample of VDA-Label (not to scale, original 210 x 148 mm on master, 210 x 74 mm on single label):

(1) Warenempfänger
Continental Teves AG & Co.
DE-60488 Frankfurt am Main

(2) Abladestelle - Lagerort - Verwendungsschlüssel
W0001 S

(3) Lieferschein-Nr (N) **23267620**

(4) Lieferantenanschrift (Kurzname, Werk, PLZ, Ort)
Supplier Sample & Co.

(5) Gewicht netto **157** | (6) Gewicht brutto **250** | (7) Anzahl Packstücke **48**

(8) Sach-Nr Kunde (P)
1005070106100

(9) Füllmenge (Q) **4800**

(10) Bezeichnung Lieferung, Leistung
Ventilschraube

(11.1) Sach-Nr. Lieferant:
PIA-SA

(12) Lieferanten-Nr (V) **47111**

(11.2) Packmittel Kunde:
9810000000000

(13) Datum **D080311** | (14) Änderungsstand Konstruktion **21-00000000**

(15) Packstück-Nr (M) **123456789**

(16) Chargen-Nr (H) **2008031101**

(17) Supplier Sample & Co. DE-69999 Sample City

Warenanhänger VDA 4902, Version 4

(1) Warenempfänger-Kurzadresse
Continental Teves AG & Co.
DE-60488 Frankfurt am Main

(2) Abladestelle - Lagerort - Verwendungsschlüssel
W0001 S

(3) Lieferschein-Nr. (N) **23267620**

(8) Sach-Nr. Kunde (P) **1005070106100**

(9) Füllmenge (Q) **100**

(10) Bezeichnung Lieferung, Leistung
Ventilschraube

(11.1) Sach-Nr. Lieferant (30S) **PIA-SA**

(12) Lieferanten-Nr. (V) **47111**

(11.2) Packmittel Kunde:
9800000000000

(13) Datum **D080311** | (14) Änderungsstand Konstruktion **21-00000000**

(15) Packstück-Nr. (S) **987654321**

(16) Chargen-Nr. (H) **2008031101**

If a plant request this type of label (VDA 4902 label), than following instructions are valid:

Each handling unit (box, bin, carton) delivered to Continental Automotive shall be marked with a VDA 4902 Single Label. Loading units (pallets, containers) shall be marked with VDA 4902 Master Label. Any old labels or internal markings of suppliers shall be removed prior to shipment. Any deviations from these requirements shall be subject to mutual agreement between the supplier and the purchaser.

In the event of any modifications to parts, the additional data specified in the order documents shall be entered in field 14. The first three deliveries of parts with a new revision status shall also be marked with a part change notification sheet.

The objective is to record the data of incoming goods automatically using bar codes when the SAP R/3 system is introduced. For this purpose, it will be essential for suppliers to comply with the requirements stated in this document.

7.1 Mixed Load Unit

Only one part number is allowed in one smallest packaging unit (box, carton). Mixed part numbers in one manual handled unit (e.g. KLT) is not allowed. But mixed part numbers in one loading unit may occur.

If it is not possible to make up a complete loading unit with only one article number (because an insufficient number of packaging units has been ordered), boxes with different article numbers may be made up into a mixed load unit (pallet, shipping container) if the concerning plant accept mixed load units.

In such cases, each individual box (or carton) shall be marked with a single label and the loading unit shall be clearly marked as a mixed loading unit, using a VDA master label with the text "mixed load" in field (8) part number (German = Sach-Nr. Kunde).

Sample of a mixed load label in VDA 4902 format (not to scale):

(1) Warenempfänger **Continental Teves AG & Co.** **DE-60488 Frankfurt am Main**	(2) Abladestelle - Lagerort - Verwendungsschlüssel **W0001 S**
(3) Lieferschein-Nr (N) **23267620**	(4) Lieferantenanschrift (Kurzname, Werk, PLZ, Ort) **Supplier Sample & Co.**
(5) Gewicht netto **157**	(6) Gewicht brutto **250**
(7) Anzahl Packstücke **48**	
Mixed Load	
(9) Füllmenge (Q) **4800**	(10) Bezeichnung Lieferung, Leistung
	(11.1) Sach-Nr. Lieferant:
(12) Lieferanten-Nr (V) **47111**	(11.2) Packmittel Kunde: **9810000000000**
	(13) Datum **D080311**
	(14) Änderungsstand Konstruktion
(15) Packstück-Nr (G) **123456790**	(16) Chargen-Nr (H)
(17) Supplier Sample & Co. DE-69999 Sample City	Warenanhänger VDA 4902, Version 4

7.2 Positioning of Label

All labels shall be clearly visible from the outside. Tags shall not be glued on returnable packages. All labels shall be sufficiently robust to ensure that they can be read both manually and automatically (by barcode readers) when the material is delivered. Tags shall remain legible for at least three months (no ageing caused by exposure to light).

In order to ensure that barcodes are readable both manually and by barcode readers, labels shall be positioned horizontally. Any fasteners used for a label shall not impair its legibility (the blank space required around barcodes shall be taken into account).

7.3 Particular rules for placing labels at GLT

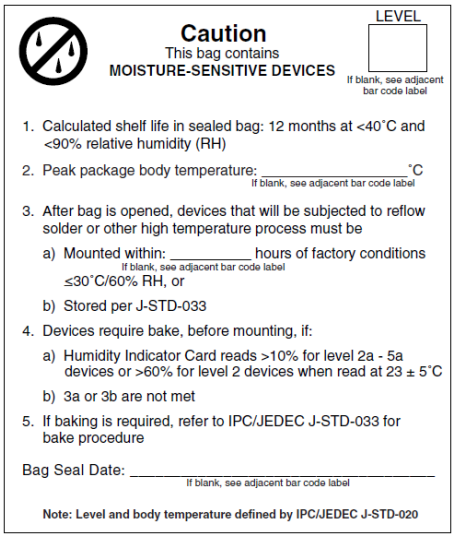
If a label holder is available, it shall be used. If not, the requested location for label is the shorter side at the left, upper corner at the packaging unit.

8 MARKING OF DRY PACK PACKAGING

IPC-033c-3-3

Moisture sensitive components (in “Dry Pack“) have to be marked with appropriate stickers based on industrial standard IPC/JEDEC J-STD-020 resp. IPC/JEDEC J-STD-033 in addition.

See sample on right (moisture sensitive identification label):



In case of DryPack the 2D- or MAT-Label itself must be undestroyed removable from the protection bag.

Peel able label material such as so called “sandwich labels” are requested for 2D- or MAT-Label.

Only one packaging unit inside (e.g. reel) is allowed per Dry Pack Package.

9 ADDITIONAL REQUIREMENTS

The following marking can also become necessary according to circumstances in addition to the above requirements.

9.1 Special marking for time critical goods

This type of marking has to be coordinated with the particular receiving plant before delivery, or it is generally regulated in the additional plant specific requirements.

9.2 Special marking based on specific request

Pre defined markings shall be supported, after mutual agreement.

9.3 Marking of packaging for electronic parts and components

Each ESD protection unit must be marked with the appropriate ESD-Symbol based on IEC 61340-5-3.

10 ADDITIONAL 2D-CODE ON DELIVERY NOTE

The delivery note (synonym dispatch note, packing slip, shipping note) must contain a Data Matrix Code (DMC ECC200) with following information:

Data field:	Data Identifier
Shipping Note Number	16K
Purchase Order Number	K

In exception, the code type PDF417 is permitted after mutual agreement. The data syntax has to be created based on ISO /IEC 15434 with format indicator 06.

Basic requirement is: One purchase order number per shipping note.

The syntax in code looks like following.

[)>$^{R}_{S}$06$^{G}_{S}$16K**Shipping-Note-Number**$^{G}_{S}$K**Purchase-Order-Number**$^{R}_{S}{}^{E}$O$_{T}$

In exception, several purchase order numbers per shipping note are permitted such as if the length of the shipping note does not exceed one page.

The following shows the data syntax for three purchase order numbers:

Abbreviations: Shipping Note Number = SN-No.
Purchase Order Number = P.O.-No.

[)>$^{R}_{S}$06$^{G}_{S}$**16KSN-No.**$^{G}_{S}$**KP.O.-No.1**$^{R}_{S}$06$^{G}_{S}$**16KSN-No.**$^{G}_{S}$**KP.O.-No.2**$^{R}_{S}$06$^{G}_{S}$**16KSN-No.**$^{G}_{S}$**KP.O.-No.3**$^{R}_{S}{}^{E}$O$_{T}$

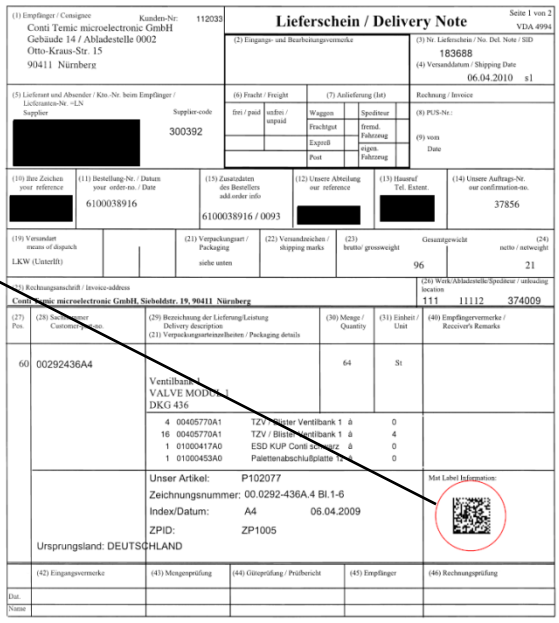
First purchase order | Second purchase order | Third purchase order

The shipping note number (SN-No.) remains the same for all three data records, only the purchase order number (P.O.-No.) changes depending on the referring order.

The code on shipping note must be implemented and provided for approval during the development and implementation of the 2D- or MAT-Label.

Sample of 2D-Code on delivery note:

Code (red circled) contains:

[)>$^{R}_{S}$06$^{G}_{S}$16K183688$^{G}_{S}$K6100038916$^{R}_{S}{}^{E}$O$_{T}$

Shipping Note Number = 183688
Purchase Order Number = 6100038916