



# Barcode & Label Layout Specification

*V. 6.0 30/10/2024*

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# 1. INTRODUCTION

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The parcel label with its bar-coded information forms the logistical basis of the Geopost system. For all parties involved these specifications define the standard. It is essential to the production and use of the DPD parcel label. The Geopost system can only be operated at a high-quality level if these specifications are complied with.

The logistic process in the Geopost system and the parcel tracking are based on regular parcel scanning using stationary or mobile scanners. The necessary information is contained in a Barcode that must be present on every shipment label.

The document details the rules for the production of Labels and Barcodes used within the Geopost network including Geopost Business Units (BU) and partners.

This includes the Labels used for:

Shipments

Linehaul handling

Cross- Business Unit Operations

This document refers to two of Geopost interoperability Standards:

- GeoRouting: Routing Rules & Database to calculate the sortation information on the shipment label
- GeoData: Data Exchange Format in the guideline to link the printed information to our data exchange format.

## **IMPORTANT NOTE:**

**This document is for internal use only by Geopost.**

**Not for distribution to external organizations.**

## 2. LABELS FOR SHIPPING

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### 2.1. GEOLABEL STANDARD DEFINITION

Geolabel is the standard label for shipments within the Geopost network including Geopost Business Units (BU) and partners.

The specification includes a specification for Parcels standard GeoLabel, Digital Labels, Container labels.

The standard Geolabel is the printed label format for parcels.

The Digital Label is a 2D Barcode for paperless handover to Geopost Network.

The container label is a label used for the shipping of a container (food and other).

Each shipment label (except Digital Labels) contains 128 Barcodes (primary Barcode) to identify and route parcels within the Geopost network.

It is recommended to place the Aztec 2D Barcode on Standard Geopost Labels to provide additional parcel information to support a successful delivery and avoid errors in data entry.

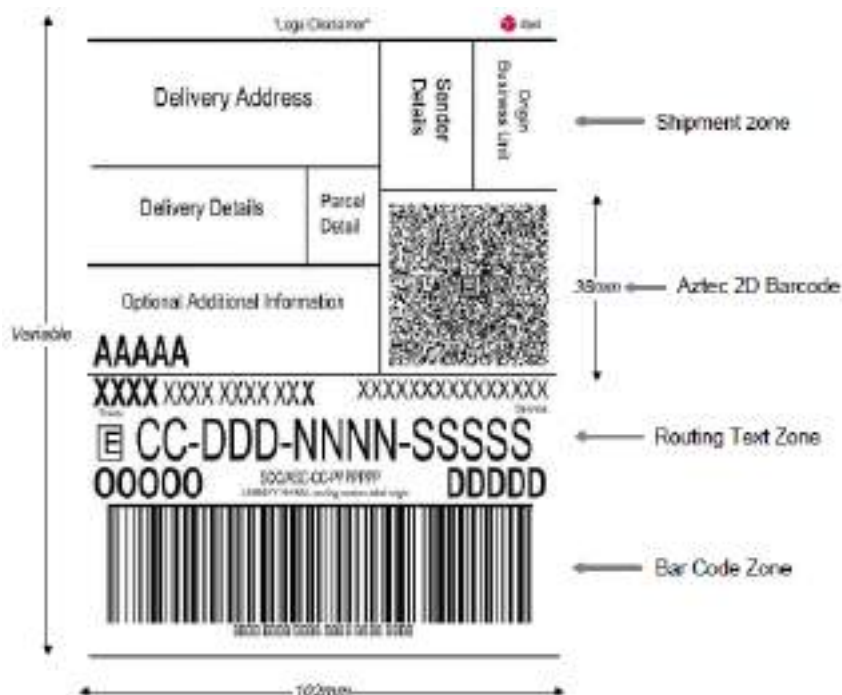
Due to GDPR regulations, label should only contain personal data mandatory for handling and delivery processes only.

# Geolabel example

Example of delivery label



## 2.2. LABEL ZONES



### 2.2.1. Legal Disclaimer

This zone is made to display the following disclaimer: « Terms & Conditions of Services on [www.dpd.com](http://www.dpd.com) ». This text can be doubled with a translation of it in the language of the origin Business Unit if there is enough space on the label. If not, only the English one should be printed on the label. BU-specific modification of legal disclaimer can be applied after acceptance by the GeoLabel Team.

In this part of the label, DPD logo should be applied. For Shipper's return service (service code 332) parcels that will be picked up in PostNord countries, an additional PostNord logo should be applied. No other logos are allowed on GeoLabel without confirmation from the GeoLabel Team.

### 2.2.2. Delivery Address Zone

Delivery address zone contains maximum 6 lines, each line should have maximum 30 characters. BU can decide which information is printed in this zone, but minimum requirements are:

- Destination company name or receiver name in case of B2C parcel,
- Destination street name and property number,
- Destination zip code, and destination city,
- Destination country code and a full name of the country in English for cross-border parcel.

### 2.2.3. Sender Details Zone

This zone should contain details about Sender. It can contain maximum 7 lines; each line can have maximum 35 characters.

#### 2.2.4. Origin Business Unit Zone

This zone helps to identify the Origin Business Unit and Origin Depot. It should contain its contact details and the Origin Depot Number. In special cases, this zone may contain the details of the consolidation depot for undeliverable parcels to be returned ("system return").

#### 2.2.5. Shipment Reference Field

This zone may contain the shipment reference if the parcel is part of a larger shipment. It indicates the number of the shipment to which the parcel belongs.

#### 2.2.6. Parcel Details Field Zone

This zone must contain number of parcels in the Shipment and declared weight of the parcel.

Due to the Heavy Parcel Regulation, parcels delivered to Germany weighting over 10kg or 20 kg must be specially marked by two different pictograms on the label:

- More than 10 kg:



- More than 20 kg



#### 2.2.7. Optional Additional Information

This zone may contain information from the BU partner or the customer. It may include, for example:

- Details of the goods contained in the parcel,
- The customer's or partner's logo.
- The Barcode of the customer/partner/shipper



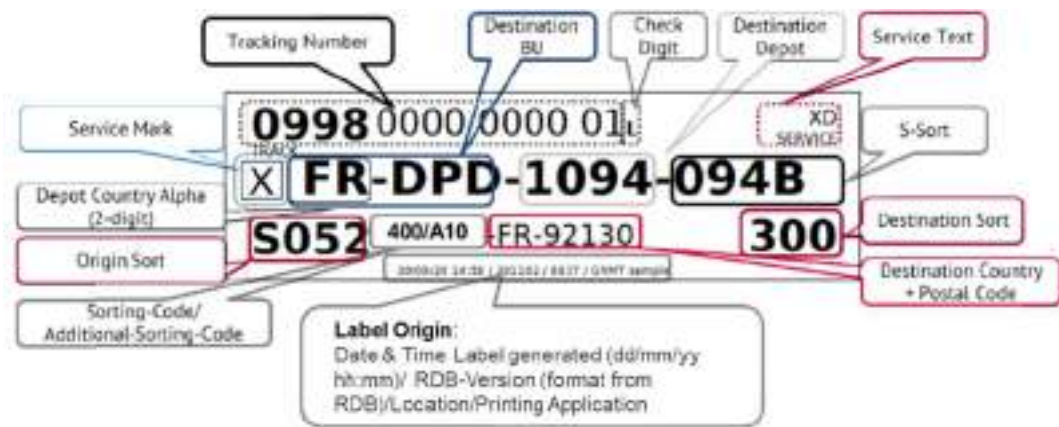
Use of customer / sender codes with the following symbols should be avoided, as these are the code types used in the Geopost system.

- Code 128 (17-, 27- and 28-digit)
- Type 2/5 interlaced (any length)
- Aztec
- UPU (Universal Postal Union)

If their use is necessary, it must be agreed with the responsible depot.

The 128 Barcode must never start with "%" (percentage) or "!" (exclamation mark).

## 2.2.8. Routing Text Zone



## 2.2.9. Destination Text (D-Text)

Information from Geopost reference files to enable manual sortation throughout delivery process. See **Routing Rules & Database (reference: GeoRouting Functional Specification)**.

Format: CC-DDD-NNNN-SSSSS

CC = Destination Country Code of delivery depot (ISO 2 digit alpha code)

DDD = Destination Business unit alpha code

NNNN = Destination Location in the destination Business unit (Field Depot Str from Depot Table – Numeric Representation)

SSSSS = Destination business unit Sorting code (S-Sort)

## 2.2.10. Origin Customer sorting Text (C-Sort)

Information from GeoPost reference files to enable manual sortation at customer location. To be filled out following the origin Business Unit's rules, in accordance with a specific agreement with the customer.

CCCCC = Customer Location sort identification

Information from Geopost reference files to enable Customer sortation at origin.

See **Routing Rules & Database (reference: GeoRouting Functional Specification)**.

## 2.2.11. Origin sorting Text (O-Sort)

Information from Geopost reference files to enable manual sortation at the origin Business Unit.

See **Routing Rules & Database (reference: GeoRouting Functional Specification)**.

Format: Up to 5 characters alphanumeric.  
OOOOO = Origin Location sort identification

### 2.2.12. Destination location sorting Text (D-Sort)

Information from Geopost reference files to enable manual sortation at destination location.  
See **Routing Rules & Database (reference: GeoRouting Functional Specification)**.

Format: Up to 5 characters alphanumeric.  
DDDDD Destination Location sort identification

### 2.2.13. Destination location Micro-zoning sorting Text (M-Sort)

Information from specific BU tools to enable manual sorting at the destination location.  
It could be in place of D-Sort on the sticker according to the destination Business unit's rules.  
**This information will be printed by the origin Business Unit only if there is a bilateral agreement with the destination Business Unit. It is provided by specific Business unit tools, provided by the destination Business unit.**

Format Up to 5 characters alphanumeric.  
MMMM Destination Location micro-zoning sort identification

### 2.2.14. Service Mark Identification

Information to enable manual sorting of the specific services. This is only required for certain services.  
See **Routing Rules & Database (reference: GeoRouting Functional Specification)**.

Format: E E [Enclosed in a box]  
E = Service Identification (X = Small Parcel, E = Express)

### 2.2.15. Parcel Tracking Number

The parcel tracking number in cross border services contains 14 numeric digits + 1 alpha-numeric digit as a check digit to provide number integrity on entry validation. 14 digits number is used within the Barcode and data interfaces across the Geopost.

Format: **XXXX** XXXX XXXX XXX (15 Characters)

14-digit Parcel Identification number followed by a check digit.

The parcel Range Code (first 4 digits) must be highlighted in bold.

The Range Code is a 4-digit numeric code which identifies the sending entity of the parcel. The Range Code is inside the 14-digit parcel id and is centrally managed, associated to a BU.

The reference for the Range Codes is the table RCODE in the GeoRDB.

**A tracking number is unique for a period of 6 months before re-use.**

The numeric Tracking Number has exceptions for domestic shipments in some BUs, for example for intra-France shipments (the UPU number) with the prefix containing an alphanumeric code. For intra-France UPU number structure is:

prefix (2AN format), origin parcel number (9N format), suffix (3N format).

### 2.2.16. Service Text

Information from Geopost reference files to enable visual identification of service.

**See Routing Rules & Database (reference: GeoRouting Functional Specification).**

Format: XXXXXXXXXXXXXXXXXXXX (18 Characters)

**Service Name - See Routing Rules & Database (reference: GeoRouting Functional Specification).**

### 2.2.17. Service Code / Destination Postal Code

Information to enable Barcode reconstruction by manual re-input.

Format: SOC/ASC-CC-PPPPPP

SOC = Sorting Code

ASC = Additional Service Code

CC = Country Code (ISO 2 digit numeric)

PPPPPP = Postal Code

### 2.2.18. Label Origin

Information to identify the origin location of the label, the text must include the following details:

Format: up to 60 Characters

DD/MM/YY HH:MM / YYMMDD / NNNNN / CCCC

DD/MM/YY HH:MM = Date/Time the label was produced

YYMMDD = GeoRouting Data Base (GeoRDB) Version Number

NNNNN = Origin Identifier: Customer, Depot, Workstation...

CCCC = Software used to produce the label  
The NNNN and CCCC combined cannot contain more than 53 characters

### 2.2.19. Barcode Text Representation

The Barcode text printed under the Barcode includes the last 27 digits of 28 digits printed in the Barcode plus a check digit. (i.e. exclude the identification character "%").

Format: BBBB BBB BBBB BBBB BBBB BB BBB BBB B (28 Character)

BBBB BBB = Postal code

BBBB BBBB BBBB BB = Parcel number

BBB = Service code

BBB = Network code

B = Check digit



## 2.2.20. Zone Overview

<b>Zone</b>	<b>Routing Label</b>	<b>Complete Label</b>	<b>Description</b>
Barcode Zone	Mandatory	Mandatory	The Primary CODE 128 Barcode to identify the parcel
DPD Logo		Mandatory	
Delivery Address	-	Mandatory	Parcel Receiver Address
Delivery Details	-	Mandatory	Parcel Receiver Details
Origin Business Unit	-	Mandatory	Origin Business Unit/Depot Details
Sender Details	-	Mandatory	Parcel Sender Details
Parcel Details	-	Mandatory	Additional information describing parcel for operational handling – parcel count and parcel weight.
Routing Text Zone	Mandatory	Mandatory	Text for parcel routing, the text will be retrieved from the Geopost Routing reference tables - determined by origin, destination, service hour of producing label
Legal Disclaimer	-	Mandatory	Standard legal disclaimer text for intra Geopost shipments.
Optional additional information	-	Optional	Zone that can contain Customer reference numbers or additional Customer Barcode.
Aztec 2D Barcode		Conditional	The Aztec Barcode is a scannable matrix Barcode and is encoded to store parcel data directly on it. It is a backup solution in case of missing or loss of data.

Routing text is printed on the label to enable operators to sort using this readable data. The following section illustrates the format and text with an example.

**Note:** Text sizes may vary depending on printer and available fonts, the text proportions must be used to accommodate the mandatory text.

## 2.2.21. Label Field Sizes

<b>Field Name</b>	<b>Mandatory /Optional</b>	<b>Number of Characters</b>	<b>Text Height (20% Tolerance)</b>	<b>Comment</b>
<b>HEADER ZONE</b>				
Legal disclaimer	M	Variable	1.5mm	
<b>DELIVERY ADDRESS ZONE</b>				
Destination Company or name	M	30	2.5mm <b>bold</b>	
Destination address		30 (4 Lines)	2.5mm	
Destination country code	M	2	2.5mm <b>bold</b>	2-alpha ISO code
Destination country	M	30	2.5mm <b>bold</b>	
Destination zip code	M	30	2.5mm <b>bold</b>	
Destination city	M	30	2.5mm <b>bold</b>	
PUDO ID	M	7	2.5mm <b>bold</b>	Only for 2Shop services, in first line then
Final receiver name or company name	M	30	2.5mm <b>bold</b>	Only for 2Shop services
<b>DELIVERY DETAILS ZONE</b>				
Destination Contact	O	20	2mm	
Destination Phone No	O	20	2mm	
Destination Info	O	20 (2 Lines)	2mm	
Shipment Number	O	16	2mm	
<b>SENDER DETAILS ZONE</b>				
Sender Account	M	10	1.5mm	
Sender Company or name	M	30	1.5mm <b>bold</b>	
Sender address		30 (4 Lines)	1.5mm	
Sender country code	M	2	1.5mm <b>bold</b>	2-alpha ISO code
Sender country	M	25	1.5mm <b>bold</b>	
Sender Phone No	O	20	1.5mm	
Sender Reference	O	20	1.5mm	
<b>ORIGIN BUSINESS UNIT ZONE</b>				
Origin Business Unit	M	Variable	-	BU dependent
<b>PARCEL DETAIL ZONE</b>				
Parcels	M	5	2.5mm	X of Y
Weight	M	6	2.5mm	
Weight pictograms	M	1	8.5mm	Only mandatory for parcels to Germany when parcels are over 10 and 20 kg  
<b>OPTIONAL ADDITIONAL INFORMATION ZONE</b>				
CSORT	O	6	2.5mm	BU dependent
Product detail	O	Variable	2.5mm	BU dependent
Customer barcode	O	Variable	Variable	
Reference numbers	O	Variable	2.5mm	
<b>ROUTING TEXT ZONE</b>				
Destination Text (D-Text)	M	17	11mm <b>bold</b>	

<b>Field Name</b>	<b>Mandatory /Optional</b>	<b>Number of Characters</b>	<b>Text Height (20% Tolerance)</b>	<b>Comment</b>
Origin Routing Text (O-Sort)	M	5	7mm bold	In case of return thru PUDO, fix value "RET"
Destination Routing Text (D-Sort)	M	5	7mm <b>bold</b>	
Parcel Tracking No	M	15	6mm <b>bold</b> 4mm 4mm <b>bold</b>	The first 4 digits The next 10 digits The last digit
Service Mark Indicator	M	1	4mm	Character must appear in a box
Service Text	M	18	4mm	
Service Code / Country / Destination Postal Code	M	14	2mm	
Label Origin	M	35	1.5mm	
<b>BARCODE ZONE</b>				
Barcode Printer Line (Visual quality verification)	M	-	-	Appear above and for the length of the Barcode
Code 128 Bar Code	M	-	25mm	
Barcode Text	M	28	2mm	

The text size is dependent on the font capabilities of the label printer, so a 20% tolerance is allowed. The label text size proportions must be maintained to ensure visual compatibility. The specification label examples use "Arial" font.

### 2.2.22. Data source – Geodata interoperability

<b>Field name</b>	<b>GeoData</b>	<b>JSON</b>
<b>Legal disclaimer</b>	-	-
<b>DPD Logo</b>	-	-
<b>ORIGIN BUSINESS UNIT ZONE</b>		
<b>Depot number</b>	SDEPOT	sendingDepot
<b>Company Name</b>	-	-
<b>Address</b>	-	-
<b>Country code, Postal code, City</b>	-	-
<b>Telephone number</b>	-	-
<b>SENDER DETAILS ZONE</b>		
<b>Sender account</b>	SCUSTACCNUMBER	sender.customerInfos.custAccNumber
<b>Sender company / sender name</b>	SCOMPNAME SNAME1	sender.senderAddress.compName sender.senderAddress.name
<b>Destination company name / receiver name</b>	RCOMPNAME RNAME1 RPUDOID	receiver.receiverAddress.compName receiver.receiverAddress.name receiver.receiverPudold
<b>Horizontal bar above Barcode</b>	-	-

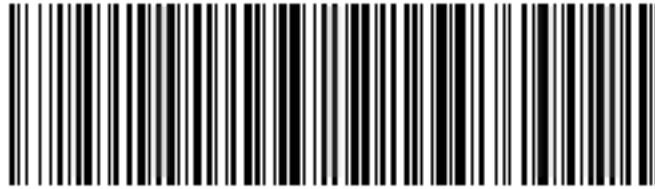
<b>Destination address</b>	RNAME1 (optionally) RNAME2 (optionally) RSTREET RPROPNUM (optionally) RADD2 (optionally) RADD3 (optionally) PERSNAME*	receiver.receiverAddress.name receiver.receiverAddress.name2 receiver.receiverAddress.street receiver.receiverAddress.propertyNumber receiver.receiverAddress.addressLine2 receiver.receiverAddress.addressLine3
<b>Destination country code, postal code, city</b>	RCOUNTRYCODE RZIPCODE RTOWN	receiver.receiverAddress.countryCode receiver.receiverAddress.zipCode receiver.receiverAddress.city
<b>DELIVERY DETAILS</b>		
<b>Contact</b>	RCONTACT	receiver.receiverContact.contactPerson
<b>Telephone number</b>	RCONTACTPHO1	receiver.receiverContact.phone
<b>Info (delivery instructions)</b>	RCOMMENT	receiver.receiverComment
<b>Consignment</b>	MPSID	shipmentInfos.mpsId
<b>PARCEL DETAILS</b>		
<b>Shipment consist of:</b>	MPSCOUNT	mpsCount
<b>Weight</b>	DECLAREDWEIGHT	parcel.parcelInfos.declaredWeight.value parcel.parcelInfos.declaredWeight.qualif
	<b>CUSTWEIGHTICON</b>  Defined in Geodata Spec. ver.4.1.2 in GDMT	<b>Field name in OpenAPI to be confirmed</b>
<b>Optional Additional Information</b>		
<b>Customer Reference Number 1</b>	MPSCREF1	mpsCRefs
<b>Customer Reference Number 2</b>	MPSCREF2	mpsCRefs
<b>Customer Barcode</b>	-	-
<b>ROUTING TEXT ZONE</b>		
<b>Tracking number</b>	PARCELNUMBER	parcel.parcelInfos.parcelNumber
<b>Check digit</b>	PARCELNUMBERCCKEY	parcel.parcelInfos.parcelNumberCcKey
<b>Service Mark</b>	-	-
<b>Destination Text (D-Text)</b>	-	-
<b>Outbound Route Sort (O-Sort)</b>	-	-
<b>Inbound Route Sort (D-Sort)</b>	-	-
<b>Service text</b>	-	-
<b>Service Code / Destination Postal Code</b>	SOCODE ASCODE DCOUNTRYCODE DZIPCODE	parcel.serviceCodes.soCode parcel.serviceCodes.asCode receiver.receiverAddress.countryCode receiver.receiverAddress.zipCode
<b>Label Origin</b>	-	-
<b>BARCODE FIELD</b>		
<b>Barcode plain text</b>	-	-

Code 128 barcode	-	-
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### 2.2.23. CODE 128 Barcode

The primary Barcode used as part of the Geopost Barcode strategy is the 128 Barcode



Code 128 is a variable-length, high-density alphanumeric symbology. Three different subsets tell the Barcode reader which character set to use initially. Three shift codes permit changing character sets inside a symbol. Geopost requires subset C for the numeric portion of the Barcode. The alphanumeric portion of the Barcode uses subset B.

<b><i>Subset</i></b>	<b><i>Description</i></b>
Code 128 A	The first sub-set encodes all uppercase and ASCII control characters
Code 128 B	The second sub-set encodes all upper-case characters.
Code 128 C	The third sub-set encodes numeric digit pairs 00 through 99.

Each subset has its advantages. For example, if no alpha data is to be encoded the data density within the code can be doubled by using subset C. Code 128 has 106 different bar and space patterns. Each pattern can have different meanings depending upon which subset is used.

### 2.2.23.1. Barcode Data Content



The data content of the Geopost Code 128 Barcode is 28 characters as specified below:

Character	Subset	Field	Description	
1	1	B	Identification Tag = “%”	Geopost Barcode identification
2-8	7	B - Alpha C - Numeric	Destination Postal Code	Postal Code for the destination country
9-12	4	B – Alpha * C - Numeric	Origin Identification	Fixed code to identify the Geopost entity parcel owner. The parcel range code referential is stored in GRMT. This is the 4 for digits of the 14 digit parcel number.
13-22	10	C	Origin Parcel Number	Last 10 digits of the 14 digits parcel number.
23-25	3	C	Service Code or Sorting Code	Intra- Geopost Service Code or Sorting Code
26-28	3	C	Destination Country/Network Code	For country code use the ISO 3-digit Numeric Unicode of destination country. For network code used GeoRouting referential ( <a href="http://Network.dpdgroup.com">Network (dpdgroup.com)</a> )

The numeric Tracking number has an exception for intra-France shipments (the UPU number) with the prefix containing an alphanumeric code.

The Geopost tracking number has 14 digits; this number is used within the Barcode and data interfaces across the group. When displaying the parcel number on a physical medium, the tracking number must have 15 digits, the extra digit being the check digit which ensures the integrity of the number when validating the entry.

### 2.2.23.2. Structure of the 28-digit Barcode

Digit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
A/N	A	A	A	A	A	A	A	A	N*	N*	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Field	%	P	P	P	P	P	P	P	T	T	T	T	T	T	T	T	T	T	T	T	T	T	S	S	S	C	C	C

#### Character Type (A/N)

A = Alphanumeric

N = Numeric

\* = An exception to standard rule within France only (see below)

#### Character Contents (Field)

% = Geopost identification Tag

P = Destination Postal Code (7AN or 7N format).

If the Postal Code is shorter the 7 digits, then the field is padded with "0" to the left.

**Examples:** for **56349** postal code it will be displayed as **0056349**

for **B61AA** postal code it will be displayed as **00B61AA**

T = Tracking Number (Geopost)

BU range code (4N format)

Parcel Number (10N format)

T= Tracking Number (Intra-France UPU Number)

Prefix (2AN format)

Parcel Number (9N format)

Suffix (3N format)

**Note:** A tracking number is unique for a period of 6 months before re-use.

S = Service Code (SO code)

C = Destination Country Code (ISO 3-digit Numeric) / Network code

### 2.2.23.3. Check Digit of the 128 Barcode Calculation Algorithms

Check Digit needs to be readable by operators. It is written down on the label and is part of the Geopost 128 Barcode, it is designed to prevent errors for manual data entry.

Check Digits will be generated using ISO/IEC 7064 mod 37/36 standard, the following table indicates the value to be used within the algorithm for each alphanumeric character of the field to calculate the check digit.

*Character Table for ISO 7064 mod 37/36*

Char	Value	Char	Value	Char	Value
0	0	A	10	N	23
1	1	B	11	O	24
2	2	C	12	P	25
3	3	D	13	Q	26
4	4	E	14	R	27
5	5	F	15	S	28
6	6	G	16	T	29
7	7	H	17	U	30
8	8	I	18	V	31
9	9	J	19	W	32
		K	20	X	33
		L	21	Y	34
		M	22	Z	35

#### Physical Properties

The specified physical properties of the Geopost Barcode have been developed to ensure accurate readability with all Barcode scanning systems in use and in the foreseeable future.

The individual components of the specification were determined as follows:

#### Bar / Space Width

Determined by the scanner type, depth of field and presentation speed.

#### X-Dimension

The width of the minimum narrow element (bar or space) is a dimensional parameter, which can be used to calculate the symbol's actual width.

#### Bar / Space Tolerance

This is the amount the bars and/or spaces can vary from symbol to symbol without changing the overall print quality grade or significantly altering the size of the symbol. The tolerance is roughly equivalent to 20% of the X-dimension

### Horizontal Label Registration Tolerance

How much the different colours of ink used to print the Barcode label can be out of alignment with one another. This is primarily related to multi-colour offset printing.

### Width

The overall width of the Barcode is a result of the X-dimension and wide to narrow ratio. The width usually cannot be set independently.

### Height

The overall height of the Barcode was established to ensure that Barcodes were not so small that they could pass between two scanners without being read. Maximum height is significant as increased height improves scan capability

### Quiet Zone

The specified Quiet Zone is a requirement taken from the Code 128 symbology specification and is equivalent to 10 times the maximum X-dimension. A 1mm quiet zone shall also be applied above and below the symbol.

### Human Readable Text

The human readable text is required by Geopost. It is used to enable an operator to manually enter the data encoded in the Barcode in case of scanner failure or label damage. Extra human readable information is also included to enable the operator to determine the delivery service and origin postal code (required for returns).

### Barcode Metrics

The important physical properties evaluated on the Geopost Code 128 Barcode are:



#### THERMAL PRINTED

##### **Bar Size:** X-Dimension (Narrow Bar Width)

Minimum: 0.375mm  
Maximum: 0.4mm

##### **Overall Barcode Size:** Dimensions of thermally printed Barcode

Min 80mm x 25mm height (Numeric Business Unit)  
Max 91.5mm x 25mm height (Alpha Business Unit)

##### **Label Stock:**

Use only white label stock. (Direct thermal printing preferred)



#### LASER PRINTED

##### **Bar Size:** X-Dimension (Narrow Bar Width)

Minimum: 0.375mm  
Maximum: 0.5mm

##### **Barcode Size:** Dimensions of laser printed Barcode

Min 80mm x 25mm height (Numeric Business Unit)  
Max 115mm x 25mm height (Alpha Business Unit)

**Barcode Quiet Zones**

10.0 times the X-Dimension on each side (5mm)

5mm on start and end of Barcode extending at 45 degrees from the corners (see below)  
1mm on top and bottom of bars



### Barcode Size (Intra Geopost shipments)

The following Table indicates the printed 28-digit Barcode size between countries assuming the minimum narrow bar width (0.375mm):

From\To	GB	FR	DE	Other
GB	91.5mm	80mm	80mm	80-91.5mm
FR	91.5mm	*93mm	80mm	80-91.5mm
DE	91.5mm	80mm	80mm	80-91.5mm
Other	91.5mm	80mm	80mm	80-91.5mm

The Barcode size is dependent on printers capability to print Code 128 with differing subsets B & C.

\* Larger size for intra France shipments exceeds maximum size to accommodate an alphanumeric tracking number

#### 2.2.23.4. Print Quality

The print quality specifications were developed to ensure all scanners could read the Barcodes. The major print quality criteria are:

##### Print Contrast Signal (PCS)

The Print Contrast Signal values were established to ensure the Barcodes would be readable at the conveyor speeds used on the Geopost automated package sorters. The scanners cannot consistently read Barcodes with low PCS values on the sorters, although they may read well with a hand scanner.

##### Decode Margin

Decode margin is a graded measure of decodability; or how close a given scan comes to a reference decode failure. Lower margins indicate an increased susceptibility to decoding failure due to scanning errors.

##### Average Bar Error

The average bar growth in the symbol relative to its X-dimension.

##### Reflectance

Given in two parts, reflectance is a measure of the reflected laser light from the bars (dark) and spaces (light).

##### Defects

This is a graded measure of the maximum element reflectance non-uniformity due to any noise within the element due to voids, spots, or fuzzy edges

##### Overall Print Quality

###### Print Contrast Signal:

Minimum Print Contrast: 90%

Desirable Contrast Range: 95 - 100%

**Symbol Contrast (min):** 65%

**Decode Margin (min):** "A" grade

<b>Average Bar Error (max):</b>	$\pm 0.10X$
<b>Defects (max):</b>	15%
<b>Reflectance:</b>	
Light:	$\geq 80\%$
Dark:	$\leq 15\%$

### 2.2.24. Aztec 2D Barcode

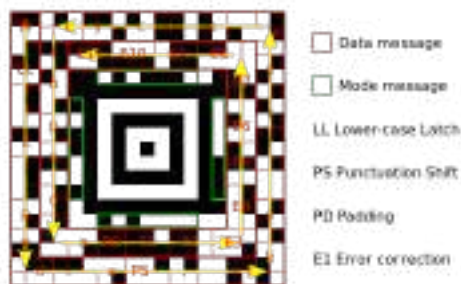
The usage of AZTEC Two Dimensional Symbol enable Geopost Customer to encode large amounts of data into the symbol, which will travel with the parcel.

The symbology is capable of encoding the entire 255-character ASCII data set. The symbology can encode up to 3067 characters in a single symbol, however this is reduced by the error correction level and the application. Geopost has set a limit of 1000 characters. For a maximum square size of 3,4cm.

This symbology uses square modules with a unique finder pattern in the middle of the symbol.



The symbol is built on a square grid with a bulls-eye pattern at its centre for locating the code. Data is encoded in concentric square rings around the bulls-eye pattern. Because of that, a quiet zone is not required.



Message data is placed in a spiral pattern around the core. The mode message begins "01011100", indicating  $01_2+1$  2 layers, and  $011100_2+1 = 29$  data codewords (of 6 bits each).

The selected encoding characters set is the ISO/IEC 8859-1 Latin alphabet No. 1

According to ISO 24778 (AZTEC Barcode), the error correction is set to 23%.

#### Data Content

To ensure compatibility with the market, and facilitate exchange with external providers, custom and security, the content of the barcode will respect the ISO 15434 norm.



This International Standard defines how data is transferred to high-capacity automatic data capture (ADC) media from a supplier's information system and how data is transferred to the recipient's information system. This International Standard does not define the internal data storage format for specific high-capacity ADC media. This International Standard does not specify the application of data structures provided by a specific data syntax format. The application of the data structure is specified by industry conventions.

Users of ADC technologies benefit from being able to receive data in a standard form and from being able to provide data in a standard form. Static ADC technologies such as Barcode symbologies, magnetic stripe, optical character recognition, surface acoustical wave (SAW) and Weigand effect typically encode a single field of data. Most applications of these technologies involve the encoding of a single field of data by the supplier of the medium and the subsequent decoding of the data field by the recipient. Encoding single fields of data permits the supplier to perform encoding from a single field within the supplier's information system. Decoding single fields of data permits the recipient to input this data into a single field in the recipient's information system, instead of keying in data.

High-capacity ADC technologies, such as two-dimensional symbols, RFID transponders, contact memories and smart cards, encode multiple fields of data. These multiple fields are usually parsed by the recipient's information system and then mapped to specific fields of data in the recipient's information system. This International Standard defines the syntax for high-capacity ADC media, to enable ADC users to utilize a single mapping utility, regardless of which high-capacity ADC medium is employed.

*Special characters used by ISO 15434*

"R<sub>S</sub>", "G<sub>S</sub>", "U<sub>S</sub>", "E<sub>OT</sub>" are non-printable characters"

<b>Description</b>	<b>Tag</b>	<b>ASCII Value</b>	
		<b>decimal</b>	<b>Hexadecimal</b>
Format Envelope trailer	R <sub>S</sub>	30	0x1E
Field separator	G <sub>S</sub>	29	0x1D
Sub field separator	U <sub>S</sub>	31	0x1F
Message trailer	E <sub>OT</sub>	04	0x04

## ISO message structure

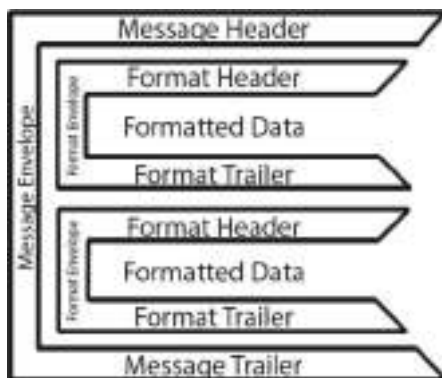
To allow multiple data Formats to be contained within a data stream, a two-level structure of enveloping is employed. The outermost layer of the message is a Message Envelope that defines the beginning and end of the message. Within the Message Envelope are one or more Format Envelopes that contain the data (see Figure 1). Multiple formats in a single message should only be employed with bilateral agreements of the trading partners.

The Message Envelope shall consist of

- a Message Header,
- one or more Format Envelope(s), and
- a Message Trailer (when required).

Each Format Envelope within the Message Envelope shall consist of

- a Format Header,
- data, formatted according to the rules defined for that Format, and
- Has a Format Trailer (when required).



<b>Description</b>	<b>Value</b>	<b>Comment</b>
Message header	[> <sup>R</sup> <sub>S</sub>	Beginning of the barcode
Format header	01 <sup>G</sup> <sub>S</sub> 02	“01” for transportation and “02” the version
ISO Fields	Variable	Fields specified by the ISO norm
Format trailer	<sup>R</sup> <sub>S</sub>	
Format header	07	“07” for free definition of format (Geopost definition)
Geopost Header	GNN	To identify the type of Geopost format (from 02)
Geopost Fields	Variable	Fields depending on the Geopost type format
Format trailer	<sup>R</sup> <sub>S</sub>	
Format header	07	“07” for free definition of format (Geopost definition)
Geopost Header	Variable	To identify the type of Geopost format
Geopost Fields	Variable	Fields depending on the Geopost type format
Format trailer	<sup>R</sup> <sub>S</sub>	
....		
Message trailer	<sup>E</sup> <sub>OT</sub>	

### Geopost message structure

Four class of Geopost format has been defined.

For each of those different classes, different format could be defined.

<b>Description</b>	<b>Value</b>	<b>Comment</b>
ISO format	01 <sup>G</sup> <sub>S</sub> 02	ISO 35434 fixe format. “01” for transportation block and “02” the version of this block.
Geopost basic format	07 <sup>G</sup> <sub>S</sub> <b>G</b> NN	Where “NN” is the version. Set to “03” in this version. It is a mandatory block that has to be just after the ISO format block.
Standard Geopost format	07 <sup>G</sup> <sub>S</sub> <b>S</b> NNX	Where: <ul style="list-style-type: none"> <li>• “NN” defines the type of the format block.</li> <li>• “X” defines its versions.</li> </ul> Those blocks are optional. Those blocks are defined by Geopost Those blocks have to be placed behind the Geopost Basic format block. No order is defined between Standard Geopost blocks.
Intra-Business unit format	07 <sup>G</sup> <sub>S</sub> <b>D</b> YYYNNX	Where: <ul style="list-style-type: none"> <li>• “YYY” defines the Business Unit</li> <li>• “NN” defines the type of the format block for the BU.</li> <li>• “X” defines the version of this block.</li> </ul> Those blocks are optional. Those blocks are defined per each business unit but this definition has to be given to Geopost for information. Those blocks have to be placed behind the Standard Geopost blocks if there is some. If not, those blocks have to be placed behind the Geopost Basic format block.
Customer format	07 <sup>G</sup> <sub>S</sub> <b>CA</b> ...A	Where “A...A” has to be defined with Geopost. Those blocks are reserved for potential customer need.

*Standard Geopost format*

<b>Description</b>	<b>Value</b>	<b>Comment</b>
Sender format block	S01	To carry sender information (name, company, address, phone numbers...)
COD format block	S02	To carry cash on delivery information (amount, currency, ...)
Custom format block	S03	To carry information mandatory for custom process (parcel description, value, custom classification, VAT/EORI, commercial invoice information, ...)
Return format block	S04	To carry information mandatory for the parcel return.
Fresh/Food	S06	To carry information necessary for food and fresh
Fixed time delivery	S07	To carry information necessary for fixed time delivery service
GPS localization	S08	To carry customer GPS localization

Column description for format block description

<b>Column name</b>	<b>Description</b>
<i>Field No</i>	Field or sub-field number. For field identification.
<i>Description</i>	Field description.
<i>Max Size</i>	Field maximum size. For sender, receiver and article information, this is the medium size of all its subfields.
<i>Subfield Max Size</i>	Subfield maximum size
<i>Priority</i>	Priority is between 1 and 10. Only fields of priority one are mandatory. This priority is also used to build the 2D barcode. If the total of the real size of all fields and subfields is more than 1000 characters. Then fields of priority 10 are suppressed (emptied). If the total of the real size of all remaining fields is still more than 1000 characters. Then fields of priority 9 are suppressed (emptied). ... When the total of the real size of all remaining fields is less than 1000 characters barcode is printed. Priority is set to "X" when the field priority is driven by a management rule.
<i>Field / Sub Filed</i>	"F" for field, "S" for subfield. See management rules 21 and 22.
<i>Mgt Rul</i>	Number of management rule(s) that apply to this field (describe in "Mgt Rules" table)

Management Rules for feeding of fields into format block description

<b>Mgt Rul</b>	<b>Description</b>
2	The maximum size of the field is not equal to the sum of the maximum size of each sub-field. It is a medium value of the total of each sub-field' medium size. If the maximum size of the field is reached when all subfield real size are added, we have to suppress subfield per order of priority or trunk subfields in the "best way". If there is some available space, the total size of the field can be up to the total of each sub-field' max size.
3	The sender block is mandatory into 2D barcode if the parcel is a non-EU parcel.
4	At least one of the field "Receiver contact name" (2DSTD_RecContact) and "Receiver company name1" (2DISO_RecCompName1) is required (mandatory)
5	At least one of those fields is required (mandatory) for Predict. If one of those fields is set and if it is valid for this service code, the Consignee will have to receive a predict notification whatever is the value of "Notification type" (2DSTD_NotifType).
6	Most of the time, the field will be included into "Receiver street" (2DISO_RecStreet)
7	Mandatory for some countries (US/CA/ES...)
8	Mandatory if the parcel is coming from EU to a non-EU country, from a non-EU country to EU country or non-EU to non-EU country. Empty for intra EU parcel.
9	Mandatory for limited quantity parcel, empty in the other case.
10	At least one of those two fields is mandatory
11	Mandatory if Consignee process
12	The type of the information will depend on the destination country
13	The type of the information will depend on the sender country
14	Mandatory only if different to receivers detail in "Geopost basic format block"
15	Mandatory only if different to "Destination Country Code" (2DISO_DestCountryCode)
16	If it is a MPS shipment, the custom block will be only set for the "Master parcel" ("2DISO_RanglnNumber" = 001/NNN). Custom block is forbidden for the other piece of the MPS shipment ("2DISO_RanglnNumber" <> 001/NNN).
17	Sender, receiver and shipment information (Shipment-ID, number of parcels) has to be already available in the 2D barcode. If it is a MPS shipment all piece must be shipped.
18	An article is described only if all field of the article description can be put into the barcode.
19	Total weight of consignment in case of MPS. The field is set only for the master piece of MPS. Empty in the other cases.
20	By default, fields are of variable length up to the maximum length defined. As well for numeric field than for alphabetic field, no padding has to be added to the data. There is some exception for which format is described into column "additional description".
21	If the field is of the type "F" (field) it has to be followed by the character ASCII 29 : < <sup>G</sup> <sub>s</sub> >
22	If the field is of the type "S" (subfield) it has to be followed by the character ASCII 31 : < <sup>U</sup> <sub>s</sub> >
23	The data in the barcode has to be closed by the character < <sup>E</sup> <sub>O</sub> T> ASCII 04
24	Filed content has to be ISO 646 compliant
25	When possible, the phone number has to be set if the parcel is shipped to Ireland (or other country without zip code)
26	This field is mandatory if it's a predict parcel
27	Can be used to personalize the notification sent to the receiver
28	If the country has no zip code system, the zip code is set to one "0"
29	Mandatory if it is a "COD" parcel
30	If all subfields of a field are empty, subfield separators are not mandatory.
31	If a field or a subfield is empty, it mustn't be padded. The field or subfield separator has to be there and followed immediately by the previous one.
32	The field contain the Sorting code(SOCode)

<b>Mgt Rul</b>	<b>Description</b>
	Some SOCode requires ASCode this is defined in the GeoRouting specification.
33	A specific service element will be set ASCode description in GeoRouting reference table when there will be an ASCode associated to the SOCode.
34	If the field "2DDLA_Paid" is set to "B" (to be bill). In this case, the filed "Customer Account Number" of the "ISO block" has to be set with an existing account number.
35	Only set if the collecting BU accept this billing method
36	Numeric field of variable length. Mustn't be padded
37	Date format DDMMYYYY DayMonthYear
38	Hour format HH:MM, Hour:Minute
39	Mandatory if Sending BU request to send notification when collecting parcel in PUDO Point

Block description

ISO Format Block

Field No	Name	Description	Max Size	Subfield Max Size	Type	Priority	Field / Sub Field	Mgt Rul	Additional Description
		Message Header	4		A	1			]> <sup>RS</sup>
1	2DISO_Header	Format Envelope Header	2		N	1	F		"01" = Transportation
2	2DISO_Version	Format Version	2		N	1			"03" = Version
3	2DISO_DestZipCode	Destination Postal Code	9		AN	1	F	28	
4	2DISO_DestCountryCode	Destination Country / Network Code	3		N	1	F		ISO 3166 (eg. 826) or Network Code (900 range)
5	2DISO_SOCode	Service code / Sorting Code	3		AN	1	F	32	Geopost Group Service Code / Geopost Group Sorting Code
6	2DISO_ParcelNumber	Parcel Number	14		AN	1	F		Digit 1-4 = Business Unit Origin (or Depot) / Tracking number
7	2DISO_SCAC	Origin Carrier SCAC	4		AN	1	F		Standard Carrier Alpha Code ("GEO")
8	2DISO_CustAccNumber	Customer Account Number	17		AN	10	F		Recognized Account number within the Origin Business Unit / Carrier assigned shipper ID
9	2DISO_JDPickup	Julian day of pickup	3		N	1	F		Numeric (padded on the left with zero). Julian day is presenting the interval of time in days and fractions of a day since January the 1st. Example: The julian day of 12.03.2012 is (31+29+12) = 72
10	2DISO_ConsCustRef1	1. Consignment customer reference number 1	35		AN	5	F		Consignment reference could be different from parcel reference / Shipment ID Number (assign by shipper)
11	2DISO_RangInNumber	Parcel X / in consignment Y (MPS)	7		AN	1	F		3N/3N (Padded on the left with zero) Default 001/001
12	2DISO_DeclaredWeight	Declared weight	7		AN	1	F		"nn.nnKG"
13	2DISO_CrossMatch	Cross match	1		A	1	F		"Y"/"N" Default "N"
14	2DISO_RecStreet	Receiver Street	35		AN	1	F		Could include the receiver Property Number. In this case Property number will be empty
15	2DISO_RecTown	Receiver Town/City	35		AN	1	F		
16	2DISO_RecState	Receiver State	2		AN	X	F	7	"CA" for California
17	2DISO_RecCompName1	Receiver Company Name1	35		AN	X	F	4	
		Format Envelope trailer	1		A	1			<sup>RS</sup>



Geopost Basic Format Block

Field No	Name	Description	Max Size	Subfield Max Size	Type	Priority	Field / Sub Field	Mgt Rul	Additional Description
1	2DSTD_Header2	Format Envelope Header	2		N	1	F		"07"
2	2DSTD_FormatID	2D Format Identification	3		AN	1	F		Standard block Version "G03"
3	2DSTD_BarcodeOF	Barcode overflow	1		N	1	F		Flag (1 = yes / 0 = no) if limit of barcode size is exceeded
4	2DSTD_NoHandWoutData	No handling without data	1		N	2	F		Flag (1 = yes / 0 = no)
5	2DSTD_RoutingNec	Routing necessary	1		N	1	F		Flag (1 = yes / 0 = no)
		Receiver Information	150	343		1		2 30	Note: The receiver Postal Code/Country is contained within the primary bar code
6	2DSTD_RecComment	- Receiver comment		70	AN	5	S		Additional text to support delivery process. Any comment to help the delivery of the parcel. (receiver comment)
7	2DSTD_RecCompName2	- Receiver Company Name2		35	AN	10	S		Could be the company department (Communication department, finance...)
8	2DSTD_RecContact	- Receiver contact name		35	AN	X	S	4	(receiver/consignee)
9	2DSTD_RecContactPho1	- Receiver Contact Phone Number1		25	AN	X	S	25	The only acceptable alphabetic character is "+" before country code. Country code can be preceded of "00" or "+"
10	2DSTD_RecContactPho2	- Receiver Contact Phone Number2		25	AN	10	S		The only acceptable alphabetic character is "+" before country code. Country code can be preceded of "00" or "+"
11	2DSTD_RecNotifMob	- Receiver Notification Mobile Phone number		25	AN	X	S	5	The only acceptable alphabetic character is "+" before country code. Country code can be preceded of "00" or "+"
12	2DSTD_RecNotifEMail	- Receiver Notification email		50	AN	X	S	5	
13	2DSTD_RecPropNum	- Receiver Property Number / House No		8	AN	2	S	6	
14	2DSTD_RecAdd2	- Receiver Address Line 2		35	AN	2	S		
15	2DSTD_RecAdd3	- Receiver Address Line 3		35	AN	2	F		
16	2DSTD_NotifType	Notification type	1		A	X	F	26	Notification could be driven by this field or by the presence of the field notification phone/email (see rule number 5). "B" : Email+SMS, "E" : Email, "S" : SMS, "C" : Call, Empty : No notification.
17	2DSTD_TotalWeight	Total weight of shipment (MPS)	8		AN	1	F	19	"nnn.nnKG","nnnn.nKG","nnnnnnKG"
18	2DSTD_NotifSenderComp	Notification Sender Company Name1	35		AN	X	F	27	Refer to the friendly name of the company
19	2DSTD_NotifSenderContact	Notification Sender contact person	35		AN	X	F	27	

<b>Field No</b>	<b>Name</b>	<b>Description</b>	<b>Max Size</b>	<b>Subfield Max Size</b>	<b>Type</b>	<b>Priority</b>	<b>Field / Sub Field</b>	<b>Mgt Rul</b>	<b>Additional Description</b>
20	2DSTD_SendParcelRef	Sender parcel reference	35		AN	5	F		
21	2DSTD_RecParcelRef	Receiver parcel reference	35		AN	5	F		
22	2DSTD_ConsType	Consignment Type	1		AN	X	F	8	("D"/"N")Documents (no value) or Non-Documents (with value)
23	2DSTD_ContDescr	Contents Description	50		AN	X	F	8	
24	2DSTD_ConsCustRef2	Consignment customer reference number 2	35		AN	5	F		
25	2DSTD_LimitedQtyHaz	limited quantities hazardous	1		N	X	F	9	limited quantities hazardous goods parcel value (1 = yes / 0 = no), default: 0
26	2DSTD_ASCode	Additional service code	6		AN	1	F	33	Three characters to start then up to 6 characters (RFU)
		Format Envelope trailer	1		A	1			R <sub>S</sub>

Sender Format Block

Field No	Name	Description	Max Size	Subfield Max Size	Type	Priority	Field / Sub Field	Mgt Rul	Additional Description
1	2DS01_Header	Format Envelope Header	2		N	1	F		"07"
2	2DS01_FormatID	BLOCL-ID = "S01X"	4		AN	X	F	3	X (AN) is the version of the record: "1".
		Sender Information	140	270		1		2 30	
3	2DS01_SendCompName	- Sender Company Name		35	AN	X	S	10	
4	2DS01_SendPhone	- Sender Phone Number		25	AN	2	S		The only acceptable alphabetic character is "+" before country code. Country code can be preceded of "00" or "+"
5	2DS01_SendNotifEMail	- Sender Notification email		50	AN	X	S	39	
6	2DS01_Contact	- Sender Contact Name		35	AN	X	S	10	
7	2DS01_SendPropNum	- Sender Property Number / House No		8	AN	2	S	6 11	
8	2DS01_SendStreet	- Sender Street		35	AN	1	S	11	
9	2DS01_SendAddr2	- Sender Address Line 2		35	AN	2	S	11	
10	2DS01_SendTown	- Sender Town/City		35	AN	1	S	11	
11	2DS01_SendZipCode	- Sender Zip code		9	AN	2	S	28 11	
12	2DS01_SendCountryCode	- Sender Country code		3	N	1	F	11	ISO 3166 (eg. 826 for GB)
		Format Envelope trailer	1		A	1			R <sub>S</sub>

COD Format Block

Field No	Name	Description	Max Size	Subfield Max Size	Type	Priority	Field / Sub Field	Mgt Rul	Additional Description
1	2DS02_Header	Format Envelope Header	2		N	1	F		"07"
2	2DS02_FormatID	BLOCL-ID = "S02X"	4		AN	X	F	29	X (AN) is the version of the record from "0".
3	2DS02_Curr	COD Currency	3		AN	1	F		ISO 4217 (eg. EUR)
4	2DS02_Amount	COD Amount	10		AN	1	F		Separator "." (point)
5	2DS02_CollectType	Collection Type	1		N	1	F		( 0 = cash / 1 = crossed cheque/ 2 = Credit card)
		Format Envelope trailer	1		A	1			R <sub>S</sub>

Custom format Block

Field No	Name	Description	Max Size	Subfield Max Size	Type	Priority	Field / Sub Field	Mgt Rul	Additional Description
1	2DS03_Header	Format Envelope Header	2		N	1	F		"07"
2	2DS03_FormatID	BLOCL-ID = "S03X"	4		AN	1	F	16 17	"X" (AN) is the version of the record from "0".
3	2DS03_CompInformation	Customs, Complete Information Flag	1		N	1			indicates whether more characters/data are needed than in 2D-Code printable (0=complete; 1=incomplete)
4	2DS03_RecVAT	Receivers VAT/PID/EORI No	20		AN	X	F	12	Necessary information for clearance at destination.
5	2DS03_SendVAT	Senders VAT / EORI number	20		AN	X	F	13	Senders VAT / EORI number (Economic Operator Registration & Identification)
6	2DS03_ComBillRecName	Commercial invoice receiver name	35		AN	X	F	14	Set in 20% of the case
7	2DS03_ComBillRecPropNum	Commercial invoice Property Number / House No	8		AN	X	F	14 6	Set in 20% of the case
8	2DS03_ComBillRecStreet	Commercial invoice receiver street	35		AN	X	F	14	Set in 20% of the case
9	2DS03_ComBillRecCity	Commercial invoice receiver city	25		AN	X	F	14	Set in 20% of the case
10	2DS03_ComBillRecCountryCode	Commercial invoice receiver country code	3		N	X	F	14 15	ISO 3166 (eg. 826 for GB), set in 20% of the case
11	2DS03_ComBillRecZipCode	Commercial invoice receiver postal code	9		AN	X	F	14	Set in 20% of the case
12	2DS03_ComBillRecContact	Commercial invoice receiver contact	35		AN	10	F	14	

<b>Field No</b>	<b>Name</b>	<b>Description</b>	<b>Max Size</b>	<b>Subfield Max Size</b>	<b>Type</b>	<b>Priority</b>	<b>Field / Sub Field</b>	<b>Mgt Rul</b>	<b>Additional Description</b>
13	2DS03_ComBillRecPhone	commercial invoice receiver phone number	25		AN	10	F	14	The only acceptable alphabetic character is "+" before country code. Country code can be preceded of "00" or "+"
14	2DS03_TotalValue	Total Value	12		N	1	F		declared customs amount in total (complete shipment if MPS). Separator "." (point).
15	2DS03_Currency	Currency	3		A	1	F		ISO 4217 (e.g. EUR)
16	2DS03_Incoterm	Incoterm	3		A	1	F		DDU, DAP.... List incoterm 2010.
17	2DS03_DestCountryReg	Destination country registration information	15		AN	2	F		Registration number or FDA
18	2DS03_ArticleNumber	Number of article	3		N	1	F		Real number of article (could be more than five). If more than five, additional keyboard entry is necessary
		Article description-1	45	66		2		2 18 30	
19	2DS03_Art1_Desc	- <i>Description</i>		35	AN		S		(medium value 17)
20	2DS03_Art1_Qty	- <i>Quantity</i>		2	N		S		

<b>21</b>	<b>2DS03_Art1_Weigth</b>	<b>- Weight</b>		<b>4</b>	<b>N</b>		<b>S</b>		<b>Net weight in Decagram without separator</b>
<b>22</b>	2DS03_Art1_Value	- Value		12	N		S		value of the invoice position. The currency Is the same currency than the total value. Separator "." (point).
<b>23</b>	2DS03_Atr1_ComCode	- Commodity Code (NDP, HTC, HS)		10	AN		S		Minimum of 6 digit. customs tariff number
<b>24</b>	2DS03_Art1_OriginCountry	- Origin country code		3	N		F		ISO-3166 3N (eg. 826 for GB), Manufactory country code.
<b>25</b>		Article description-2	45			2	F	2 18 30	Details see Article Description-1
<b>31</b>		Article description-3	45			2	F	2 18 30	Details see Article Description-1
<b>37</b>		Article description-4	45			2	F	2 18 30	Details see Article Description-1
<b>43</b>		Article description-5	45			2	F	2 18 30	Details see Article Description-1
		Format Envelope trailer	1		A	1			R <sub>S</sub>

Return Format Block

<b>Field No</b>	<b>Name</b>	<b>Description</b>	<b>Max Size</b>	<b>Subfield Max Size</b>	<b>Type</b>	<b>Priority</b>	<b>Field / Sub Field</b>	<b>Mgt Rul</b>	<b>Additional Description</b>
1	2DS04_Header	Format Envelope Header	2			1	F		"07"
2		BLOCL-ID = "S04X"	6				F		X (AN) is the version of the record from "0".
		Receiver Information	150	343		1		2 30	Note: The receiver Postal Code/Country is contained within the primary bar code
3	2DS04_RecComment	- Receiver comment		70	AN	5	S		Additional text to support delivery process. Any comment to help the delivery of the parcel. (Recipient comment)
4	2DS04_RecCompName2	- Receiver Company Name2		35	AN	10	S		Could be the company department (Communication department, finance...)
5	2DS04_RecContact	- Receiver contact name		35	AN	X	S	4	(receiver/consignee)
6	2DS04_RecContactPho1	- Receiver Contact Phone Number1		25	AN	X	S	25	The only acceptable alphabetic character Is "+" before country code. Country code can be preceded of "00" or "+"
7	2DS04_RecContactPho2	- Receiver Contact Phone Number2		25	AN	10	S		The only acceptable alphabetic character Is "+" before country code. Country code can be preceded of "00" or "+"

Field No	Name	Description	Max Size	Subfield Max Size	Type	Priority	Field / Sub Field	Mgt Rul	Additional Description
8	2DS04_RecNotifMob	- Receiver Notification Mobile Phone number		25	AN	X	S	5	The only acceptable alphabetic character is "+" before country code. Country code can be preceded of "00" or "+"
9	2DS04_RecNotifEMail	- Receiver Notification email		50	AN	X	S	5	
10	2DS04_RecPropNum	- Receiver Property Number / House No		8	AN	2	S	6	
11	2DS04_RecAdd2	- Receiver Address Line 2		35	AN	2	S		
12	2DS04_RecAdd3	- Receiver Address Line 3		35	AN	2	F		
13	2DS04_NotifType	Notification type	1		A	X	F	26	Notification could be driven by this field or by the presence of the field notification phone/email (see rule number 5). "B" : Email+SMS, "E" : Email, "S" : SMS, "C" : Call, Empty : No notification.
14	2DS04_SOCode	Service code / Sorting Code	3		AN	1	F	32	Geopost Group Service Code / Geopost Group Sorting Code
15	2DS04_ASCode	Additional service code	6		AN	1	F	33	Three characters to start then up to 6 characters (RFU)
		Format Envelope trailer	1		A	1			R <sub>S</sub>

*Fresh/Food Block*

Field No	Name	Description	Max Size	Subfield Max Size	Type	Priority	Field / Sub Field	Mgt Rul	Additional Description
1	2DS06_Header	Format Envelope Header	2			1	F		"07"
2		BLOCL-ID = "S06X"	6				F		X (AN) is the version of the record from "0".
3	2DS06_GoodsType	Type of goods	3		N	1	F	36	Type of goods transported: 1 : Food 2 : Medics
4	2DS06_FeaturesCode	Feature of transportation	3		N	1	F	36	Type of Fresh service to be provided: 1 : Fresh (Range of temperature from 0°C up to 8°C) 2 : Frozen (Range of temperature under -18°C)
5	2DS06_ExpirationDate	Best-before date	8		N	1	F	38	Limit date of consumption (best-before date)
		Format Envelope trailer	1		A	1			R <sub>S</sub>

*Fixed time delivery*

<b>Field No</b>	<b>Name</b>	<b>Description</b>	<b>Max Size</b>	<b>Subfield Max Size</b>	<b>Type</b>	<b>Priority</b>	<b>Field / Sub Field</b>	<b>Mgt Rul</b>	<b>Additional Description</b>
1	2DS06_Header	Format Envelope Header	2			1	F		"07"
2		BLOCL-ID = "S06X"	6				F		X (AN) is the version of the record from "0".
3	2DS06_GoodsType	Type of goods	3		N	1	F	36	Type of goods transported: 1 : Food 2 : Medics
4	2DS06_FeaturesCode	Feature of transportation	3		N	1	F	36	Type of Fresh service to be provided: 1 : Fresh (Range of temperature from 0°C up to 8°C) 2 : Frozen (Range of temperature under -18°C)
5	2DS06_ExpirationDate	Best-before date	8		N	1	F	38	Limit date of consumption (best-before date)
		Format Envelope trailer	1		A	1			R <sub>S</sub>



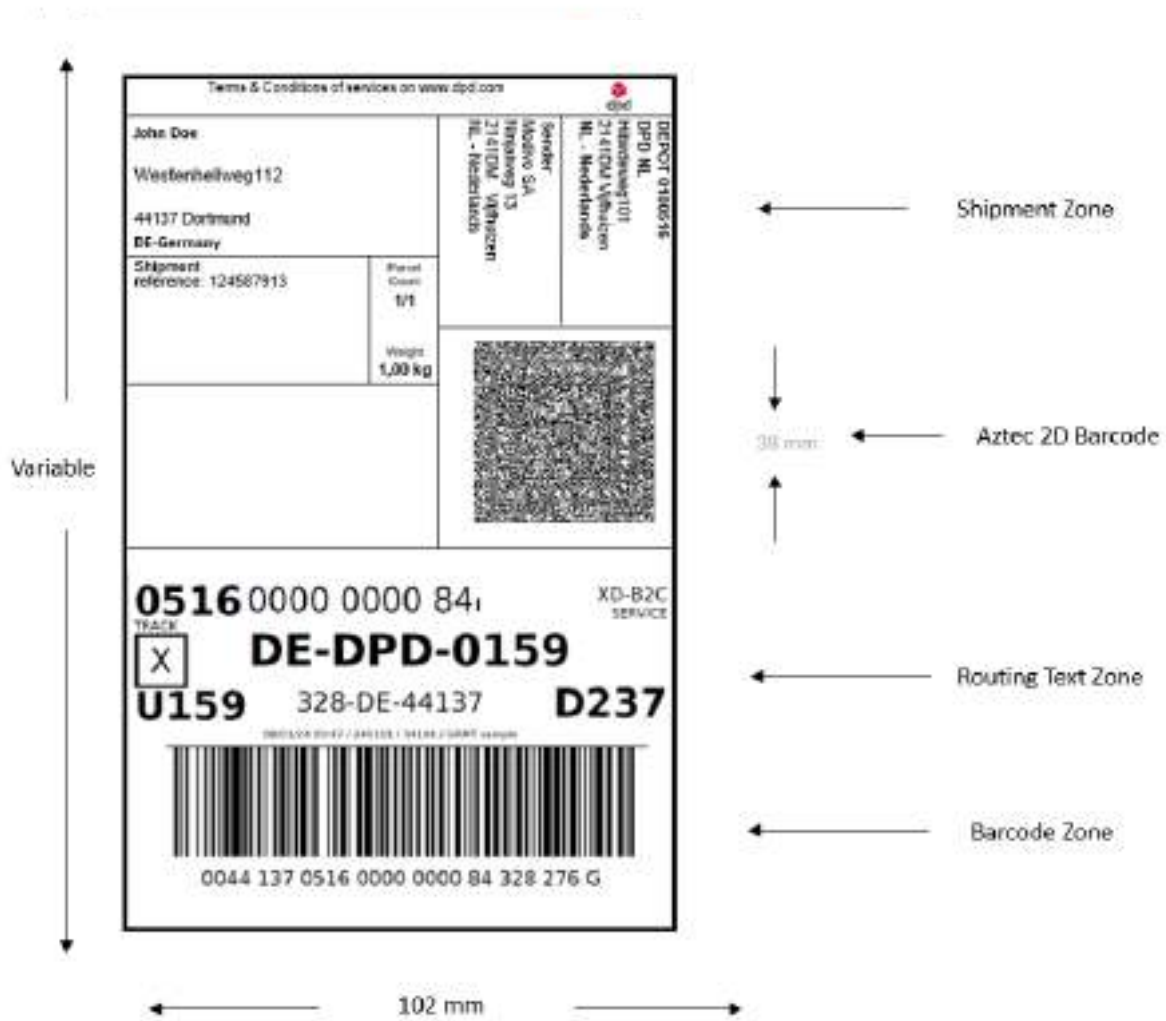
GPS Localization

<b>Field No</b>	<b>Name</b>	<b>Description</b>	<b>Max Size</b>	<b>Subfield Max Size</b>	<b>Type</b>	<b>Priority</b>	<b>Field / Sub Field</b>	<b>Mgt Rul</b>	<b>Additional Description</b>
1	2DS08_Header	Format Envelope Header	2			1	F		"07"
2		BLOCL-ID = "S08X"	6				F		X (AN) is the version of the record from "0".
3	2DS08_Latitude	Latitude of the consignee location	10		AN	1	F		±DD.DDDD
4	2DS08_Longitude	Longitude of the consignee location	10		AN	1	F		±DDD.DDDD
5	2DS08_Quality	GPS encoding quality	1		N	1	F		Values: - "0" : Center of the street - "1" : Exact number in the street - "2" : Interpolation of the number in the street - "3" : Nearest number in the street - "9" : Unknown precision
6	2DS08_DataOrigin	Origin of the GPS data	1		N	1	F		Values: - "G" : GPS data produce by a Geopost Group software (or controlled by Geopost Group) - Empty or other case
		Format Envelope trailer	1		A	1			R <sub>S</sub>

## 2.3. GEOLABEL FORMATS

### 2.3.1. Label home/business delivery

Label used for home or business delivery.

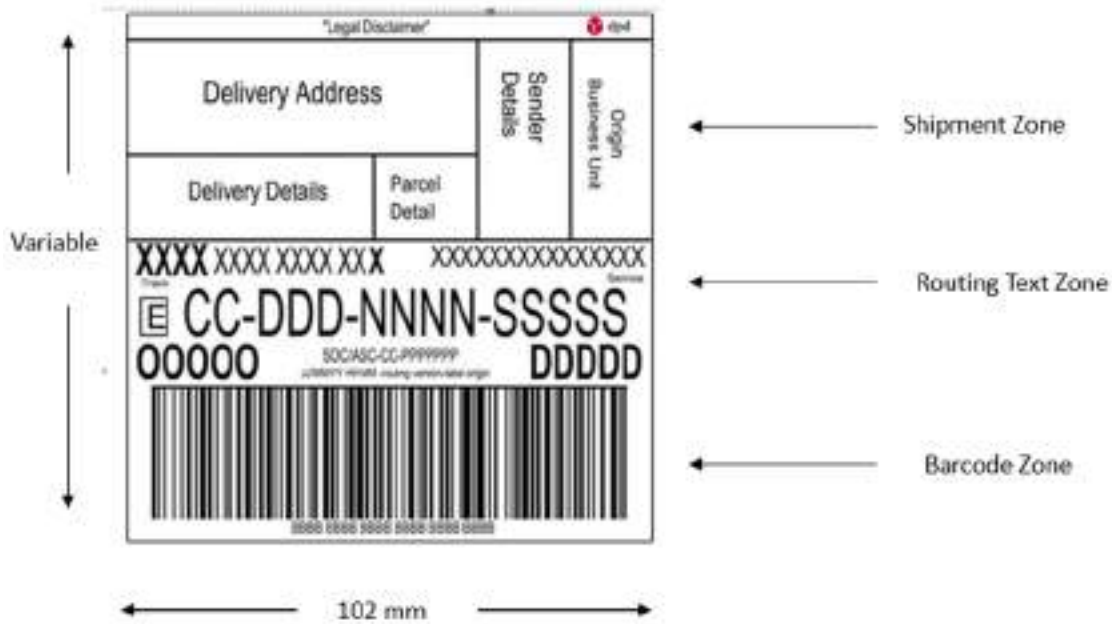


Label used for home or business delivery with data (sample)

### 2.3.2. Thermal Small Label Format Home / Business delivery (without AZTEC)

This label can be generated by exception due to the pressure from large integrated customers, as referred to in the introduction of the chapter, who do not have enough space on the label to print the full one, or cannot print the 2D barcode.

As there is no 2D Barcode on it, the lack of GeoData may block the parcel delivery or create disruption in the service promise to the customer.



Terms & Conditions of services on <a href="http://www.dpd.com">www.dpd.com</a>			
<b>Perfect Barcode Ltd</b> 123 Straightandnarrow Street Smethwick West Midlands - B66 1 BY GB - England		Phone +33(0) 1 41 33 90 00 Reference 64987X454F	Depot DE-DPD-0163 DPD GeoPost (Deutschland) GmbH Außenstr. 25 DE-63741 Aschaffenburg +49-(0) 60 21-4 43 94-0 Sender Account 907885 Service courier GeoPost 9 rue Maurice Maliet 92130 Issy Les Moulinaux
Contact <b>Fred Smith</b> Phone <b>0044 12 500 2500</b> Info Consignment <b>5689 3628 5385 2530</b>	Packages <b>1 of 3</b> Weight <b>5 Kg</b>		
<b>0163 2532 9483 75 8</b>		<b>EXPRESS BY 12</b> <small>Service</small>	
Track <input checked="" type="checkbox"/> <b>GB-GUK-0550-BHM1</b>		<b>12</b>	
901-GB-8661BY		<b>30</b>	
<small>08/09/11 10:46 11090520110905 PROTO 1.0</small>			
			
<small>0B66 1BY0 1632 5329 4837 5901 826L</small>			

102mm

Variable

This label can be generated by exception because of special printing device (Lockers).

As there is no 2D Barcode on it, the lack of GeoData may block the parcel delivery or create disruption in the service promise to the Customer.

Print a Barcode in ladder mode have an important impact on the Barcode reading rate on conveyor. So the printing speed has to be reduced to limit the impact of this problem. Label has to be seriously validated with the help of analyser in order to check the barcode quality.

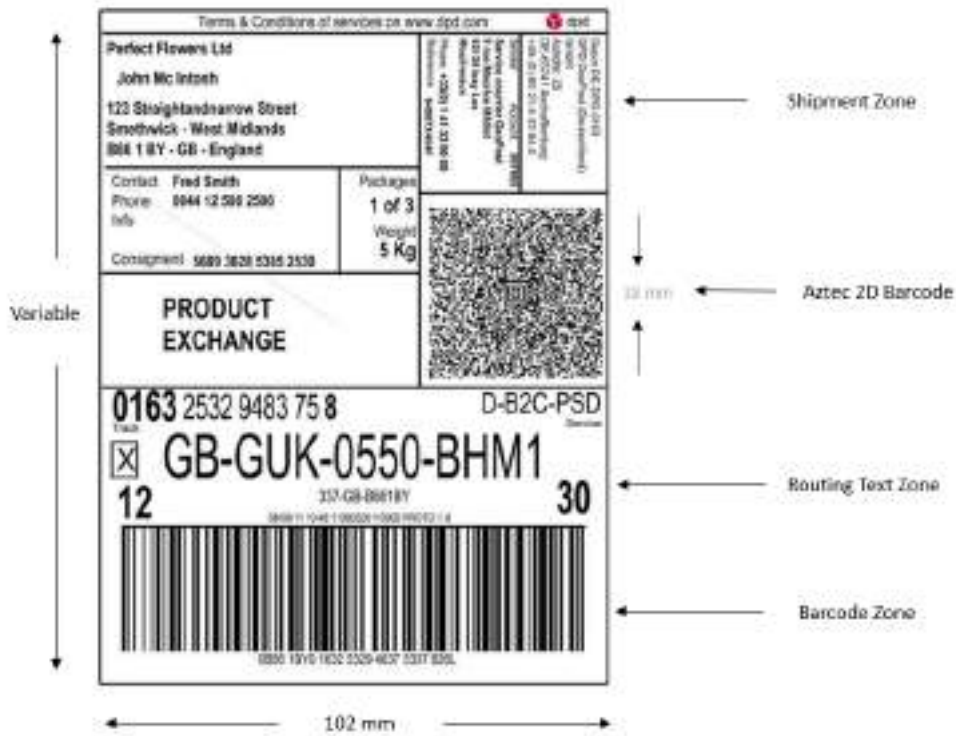
Thermal horizontal Label Format Home / Business delivery sample with data (without Aztec)



### 2.3.3. Label PUDO delivery

This is a label used for PUDO point delivery Parcels

*Thermal Label Aztec PUDO delivery with data (sample)*

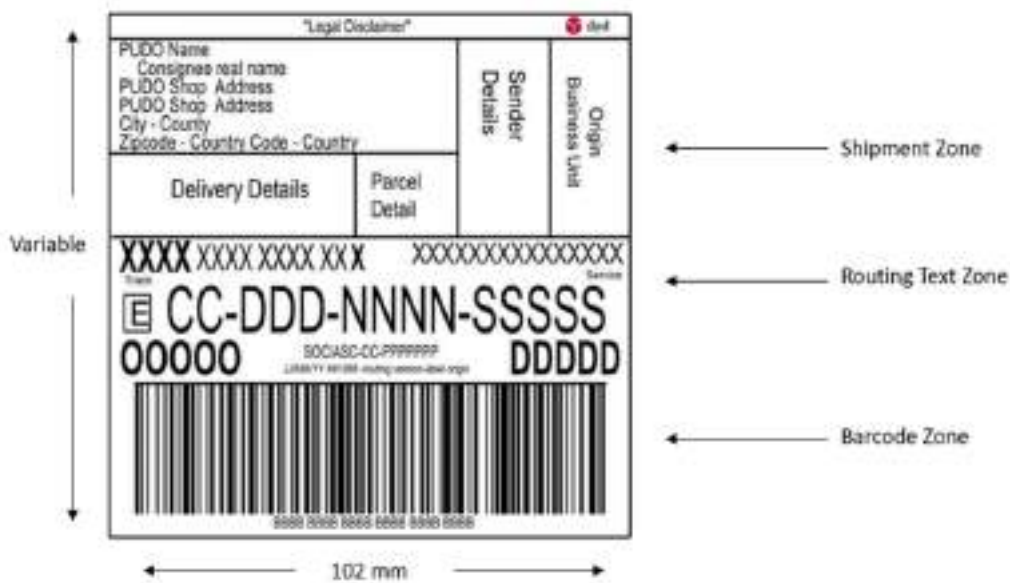


Small Thermal Label Format PUDO delivery

This label can be generated by exception due to the pressure from large integrated customers, as referred to in the introduction of the chapter, who do not have enough space on the label to print the full one or cannot print the 2D barcode.

As there is no 2D Barcode on it, the lack of GeoData may block the parcel delivery or create disruption in the service promise to the customer.

This label may be also used for RETURN with the appropriate service code and O-SORT "RET".



## 2.3.4. Heavy parcels pictograms on the label

### 2.3.4.1. Samples of labels with pictograms on the label

- More than 10 kg for German regulation

Terms & Conditions of services on <a href="http://www.dpd.com">www.dpd.com</a>			
Consignee Roland Berger Stiftung  Lehrer-Wein-Str. 4 81829 München DE-Germany		DPD (DEUT) 0010 DPD Deutschland AG Postfach 10153 D-50459 Köln Tel. +49 (0) 221 24 88 88 00 Fax +49 (0) 221 24 88 88 00	
Shipper TEST PARCEL		Label (Logos) & Special Icons DPD HEAVY PARCEL (MAX. 30 kg) HEAVY PARCEL (MAX. 30 kg)	
Shipment reference		Shipment 1 / 1 Weight 10kg 	
			
0516 8959 3873 51F		D	
TUSA		380004	
DE-DPD-0280			
R180		101-DE-81829	
		03AA	
001022 13 00 081002 18877			
			
0081 829 0518 8959 3873 51 101 276 Z			



- More than 20 kg for German regulation:



**Notice:** the only one place where the pictogram must be placed is the Parcels Details Zone.

### 2.3.5. Food Labels

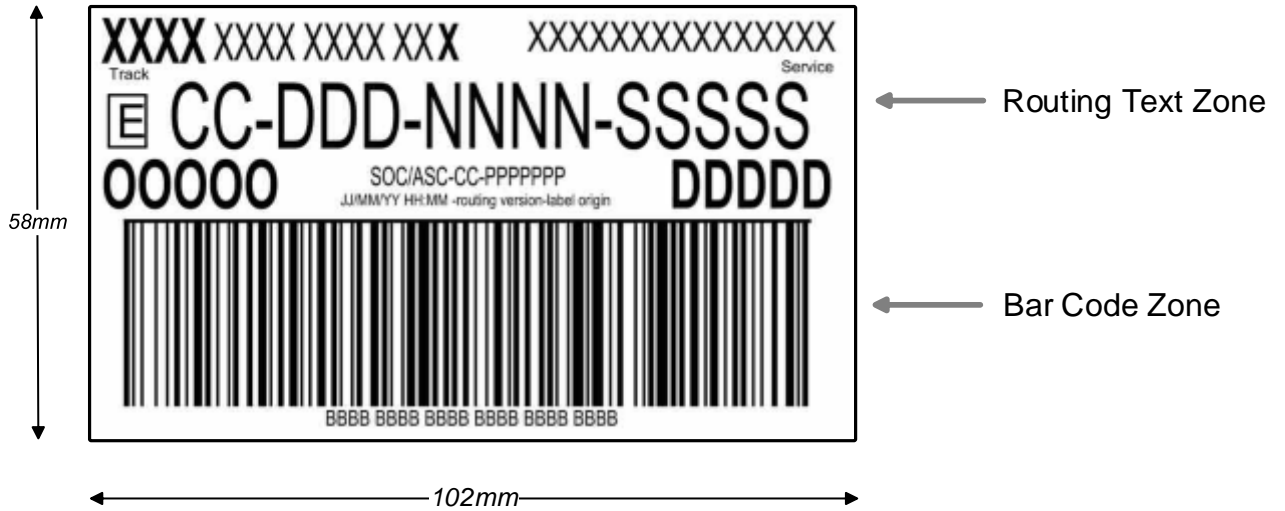
These labels are used for Food services with special transport condition i.g temperature.

Terms&Conditions of services on <a href="http://www.grospod.com">www.grospod.com</a>		
Bio LTD France Service Dep. Boulevard Stalingrad 1910 69006 Lyon FR - France		<small>Produit issu de l'élevage contrôlé par le Système d'Élevage Contrôlé (SEC) pour garantir la sécurité et la qualité de la viande.</small>
<b>Contact Local:</b> Phone +331 73391123 info	<b>Perce Count:</b> 5/1	
Cololement 05452290062683	<b>Weight:</b> 1 kg	
EXPIRATION: 21/02/2022		
<b>0545 5100 0266 03€</b>		D-FRESH SERVICE
TRACK <b>FR-CHR-0472-LYS0</b>		
112-FR-69006 <b>6YP60</b>		
<small>999900 11 00 1 000001 10263 / 0000</small>		
		
0069 006 0545 5100 0266 03 112 901 E		

### 2.3.6. Operational Labels Samples

Thermal Routing Label Layout [with primary Barcode]

This label can be used for reprinting in Operational Systems.



## 3. LABELS FOR CONTAINER HANDLING

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A container designed for the multiple transport of goods, without the need to reload them when changing means of transport, equipped with devices permitting easy transport and reloading, resistant to the conditions of carriage. Container consignment refers to the process of shipping or transporting goods in standardized containers.

### 3.1. LINEHAUL LABELS

#### 3.1.1. Linehaul Barcode Label

The Geopost defines a unique mark for each linehaul used for international traffics in the group.

This unique mark also defines a special Barcode for easy and fast identification of the linehaul.

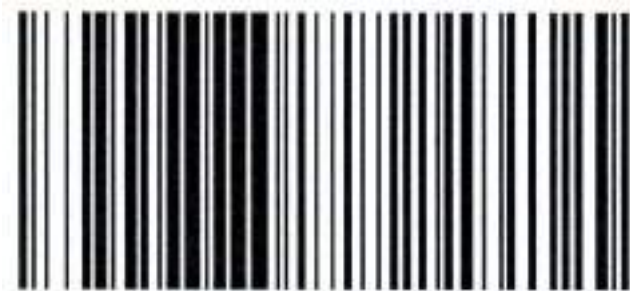
Linehaul Barcode label is placed on the linehauls to have a scannable identification. These labels are used for the systems to track the linehauls.

#### 3.1.2. Example



#### 3.1.3. Code Format

The Barcode used on the Linehaul (LTS)-Barcode label is a Code 128Barcode.



Barcode 128 is variable-length, high-density alphanumeric symbology. Three different subsets tell the Barcode reader which character set to use initially. Three shift codes permit changing character sets inside a symbol. Geopost requires subset C for the numeric portion of the . Barcode. The alphanumeric portion of the Barcode uses subset B.

### 3.1.4. Barcode Data Content

1	1	A	Identification Tag « L » (Not transferred to other systems)
2 - 5	4	A	Range Code
6 - 7	2	N	Length code of the TU
8 - 9	2	N	Code of the TU-Type
10 - 12	3	N	Owner of the TU
13 - 16	4	N	Sequential number per Range Code

#### 3.1.4.1. Check Digit Calculation Algorithms

Check digits are included in the human readable interpretation of the Geopost code 128 Barcode, this is designed to prevent errors for manual data entry. These check character should not be confused with the internal code 128 symbology check character. The symbology check character is a required part of the code 128 symbol structure and is not counted as part of the user-defined data encoded in the symbol. This check character is necessary for the Barcode reader to ensure correct decode performance and is usually calculated by the Barcode printing application.

Check digits are required for Human Representation of:16 Digit Barcode

Check digit will be generated using ISO/IEC 7064 mod 37/36 standard, the following table indicates the value to be used within the algorithm for each alphanumeric character of the field to calculate the check digit .

Character Table for ISO 7064 mod 37/36

Char	Value	Char	Value	Char	Value
0	0	A	10	N	23
1	1	B	11	O	24
2	2	C	12	P	25
3	3	D	13	Q	26
4	4	E	14	R	27
5	5	F	15	S	28
6	6	G	16	T	29
7	7	H	17	U	30
8	8	I	18	V	- 3 1
9	9	J	19	W	32
		K	20	X	33
		L	21	Y	34
		M	22	Z	35

### 3.1.5. Physical Properties

Pre-printed labels ordered in Geopost E-Shop with standardized sizes.

### 3.1.6. Print Quality

The print quality specifications were developed to ensure all scanners could read the Barcodes. The major print quality criteria are:

#### 3.1.6.1. Print Contrast Signal (PCS)

The Print Contrast Signal values were established to ensure the Barcodes would be readable at the conveyor speeds used on the Geopost automated package sorters. The scanners cannot consistently read Barcodes with low PCS values on the sorters, although they may read well with a hand scanner.

High-quality white label stock along with high-quality print is required to achieve the specified PCS. (Thermal labels should be of a Near Infra-Red type to support scanners operating in the 630nm to 670nm range. Labels should also exhibit stable print characteristics through exposure to varying heat and temperature conditions.)

### 3.1.6.2. Decode Margin

Decode margin is a graded measure of de-codability; or how close a given scan comes to a reference decode failure. Lower margins indicate an increased susceptibility to decoding failure due to scanning errors.

### 3.1.6.3. Average Bar Error

The average bar growth in the symbol relative to its X-dimension.

### 3.1.6.4. Reflectance

Given in two parts, reflectance is a measure of the reflected laser light from the bars (dark) and spaces (light).

### 3.1.6.5. Defects

This is a graded measure of the maximum element reflectance non-uniformity due to any noise within the element due to voids, spots, or fuzzy edges.

### 3.1.6.6. Overall Print Quality

#### **Print Contrast Signal:**

Minimum Print Contrast:	90%
Desirable Contrast Range:	95 - 100%

<b>Symbol Contrast (min):</b>	65%
<b>Decode Margin (min):</b>	"A" grade
<b>Average Bar Error (max):</b>	±0.10X
<b>Defects (max):</b>	15%

#### **Reflectance:**

Light:	≥80%
Dark:	≤15%

## 3.2 LABELS FOR FOOD CONTAINER

### 3.2.1 Permanent Food Container Labels

For the FOOD solution, a new standard for the permanent Label, which will follow the container during its whole life cycle, has been proposed to:

- Easy identify FOOD purpose
- Identify readable key relevant information as described below

The BU should create and print a permanent label.



### 3.2.2 Permanent FOOD Cool Box Label

On this Label, the mention COOL BOX is directly written and included on the 1D-Code cleartext with the Container type **400**.

**Warning:** The corresponding value to be transferred in the field CURCONTAINERTYPE or CONTAINERTYPE within the **TTEVENTS** dataflow should be **20**.



### 3.2.3 Permanent FOOD Refrigerated Roll Label

On this Label, the mention COOL BOX is directly written and included on the 1D-Code cleartext with the Container type **500**.

**Warning:** The corresponding value to be transferred in the field CURCONTAINERTYPE or CONTAINERTYPE within the **TTEVENTS** dataflow should be **22**.



### 3.2.4 Permanent FOOF Refrigerated VAN Label

On this Label, the mention COOL BOX is directly written and included on the 1D-Code cleartext with the Container type **600**.

**Warning:** The corresponding value to be transferred in the field CURCONTAINERTYPE or CONTAINERTYPE within the **TTEVENTS** dataflow should be **21**.



### 3.2.5 Permanent FOOD COLD Room Label

On this Label, the mention COOL BOX is directly written and included on the 1D-Code cleartext with the Container type **700**.

**Warning:** The corresponding value to be transferred in the field CURCONTAINERTYPE or CONTAINERTYPE within the **TTEVENTS** dataflow should be **23**.





Property	Length	Example	Type
barcode identifier	1	C	Fixed C
Range code	4	0450	NNNN
Temp.type	2	00	NN
Container purpose	2	80	NN
Container type	3	400	NNN
Sequential number	4	1063	NNNN

*Range code Temp type Container purpose Container type sequential number*

Examples:

- Cool box: C048000804001063
- Cold room: C048004807008765
- Van: C048000806009654
- Roll: C048000805003257

### *Content of the 1D 128 Barcode*

#### 3.3.1 Temporary food labels

At each usage of the container a temporary label, an A5 sheet with a 2D-Code, should be generated.

##### *3.3.1.1. Temporary FOOD Label structure*



### 3.3.1.2. Temporary FOOD Cool Box Label Example

This temporary label contains key information on the container for specific usage:

The temperature type for the usage fresh or frozen.

The Collection tour or destination or Delivery tour (renew for each transport phase of the container).

The Sensor ID is associated with the container.

The date when the temporary label has been generated.



### 2D Aztec Barcode code content

Principles

The used separator for the header is a colon (":")

Property	Length	Example	Type
TYPE	35	CONTAINER	A
VERSION	5	2.00	NNLN

Used field separator for the Content is the semicolon (“;”)

Property	Matching GeoData Field	Length	Example	Type
Container ID	CURCONTAINERREF	8	0001012	NNNNNNN
Temperature Type	CURCONTAINERTEMPTYPE	2	04	NN
Container Purpose	CURCONTAINERPURPOSE	2	00	NN
Container Type	CURCONTAINERTYPE	3	000	NNN
Sender ID	CURCONTAINERSNDGDRD	25	1224567890123 456789012345	Alphanumeric
Destination	CURCONTAINERROUTE	20	05-000-0555	Alphanumeric
Creation depot	DEPOT	7	0340551	NNNNNN
Container use date	CURCONTAINERUSEDATE	14	2001-06- 0415:30	<u>YYYY-MM-DDThh:mm</u>

## 4. GEOLABEL VALIDATION PROCESS

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Each BU is responsible to check if the labels created by the shipper are in line with the Geolabel Specification.

The Geopost provides a Global Validation Center to validate GeoLabel V1.0 based Labels.

The Global Validation Center will do a check based on the following topics:

GeoLabel Format

Mandatory Label Zones

Routing Details Text& Sizes

Code128 Spec &Print Quality

Aztec 2D-Code Spec & Print Quality

It is mandatory to validate sample Labels generated by BU own shipping system. The Global Validation Center also accepts Labels generated by the shipper, but the BU is responsible for the communication with the shipper.

The full process of the validation Process is described in the “GeoLabel Validation Guideline”.

### 4.1. IMPACT OF GEOLABEL BARCODE QUALITY ON SORTATION

#### 4.1.1. Overview

Geopost relies on the latest technology in Barcodes to sort and track packages, unlike any other small package transportation company. Packages are sorted at automated hubs at speeds in excess of 168 meters per minute. At these speeds, it is important that the Barcode meet the Geopost specifications so the overhead scanners can read the Barcode. If the Barcode cannot be read, the package is routed to the relabel area. A duplicate of the original Barcode is applied to the package to ensure the package will sort properly. The package is then re-circulated through the hub sortation system.

#### 4.1.2. Benefits of Quality Barcodes

- Ensures the best possible guaranteed service
- Provides real time information regarding the status of shipments
- Ensures data capture is accurate and complete
- Minimizes handling of packages which in turn reduces claims
- Improved shipment
- Ensures accurate billing

#### 4.1.3. Why Relabels Occur

- If a package is not labelled properly it will potentially need be relabelled. The major contributing factors that cause packages to be relabelled are as follows:

- Barcode placement
- damaged Barcode
- poor quality Barcode

#### 4.1.4. Barcode Placement

- Barcode should never be placed in the following places:
- Under straps
- Over an edge/corner/seam
- Placed on the small end of the package
- Under tape
- Under plastic

#### 4.1.5. Damaged Barcode

If a label is damaged because it is ripped, torn, wrinkled, wet or soiled, the package will have to be relabelled Poor Quality Barcode. Poor Quality Barcode

The quality of a Geopost Barcode plays a significant role. If the quality of the Barcode is poor, it cannot be read by the sortation scanners and will need to be relabelled. The following are typical Barcode quality problems:

- Print head problems or Split Bars
- Faded or Voids in the Print
- Incorrect data content
- Quiet zone too small
- Smudged bar code
- Toner fusion problem
- Wrinkle in the print
- Duplicate package numbers
- Print contrast too low (It must be 90% or higher)

#### 4.1.6. Keys to Success

Ensure that the front line parcel processing operator understands the importance of maintaining Barcode quality

Be proactive in solving Barcode quality issues

Work with Geopost for help in resolving of bar code quality issues

Establish preventative maintenance programs on labelling system

## 5. DIGITAL LABEL

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Digital label is a service that enables customers to send a parcel without printing the GeoLabel at home. They will receive a 2D barcode (DL code) by email or by mobile app notification, allowing them to drop off their parcel in a PUDO shop or in lockers. Commonly known as an e-label, the service is easy, fast, and convenient: designed to maximize the customer experience.

Main service codes allowed:

- All services that include drop-off in PUDO (ASCode A15) like:
- Drop-off in a PUDO, delivery to a business (400&A15),
- Drop-off in a PUDO, delivery to a home address (404&A15),
- Drop-off in a PUDO, delivery to PUDO (Shop2Shop – 345&A15)
- Return from a PUDO (Service code 332)

This chapter describes Digital Label standard, and minilabel ID standard that is used in one of two main scenarios for Digital Label processing.

Details including the process description can be found in the “Digital Label IT Process Specification”.

### 5.1. DIGITAL LABEL STANDARD

#### 5.1.1. General rules:

*AZTEC code and ISO 15434 compliancy*

Like for standard GeoLabel 2D Barcode, we are using AZTEC code type (ISO 24778) and GeoLabel standard 2D Barcode is compliant with ISO 15434.

*GDPR constraints*

From GDPR perspective it is forbidden to include in Barcode personal data if we don't use them in the process. In the process we described in Digital Label specification, there is absolutely no need to include it (except for sender notifications).

*Only key data to send a standard drop-off scan*

For Digital label processing, we need key mandatories data to send a standard drop-off scan, in case the PUDO Provider has not received the parcel information, for both scenarios (full Label or mini-Label).

*But more data can be present in the Barcode:*

Please refer to the “Digital Label IT Process Specification” for all the data that you can add in the Barcode. However, please inform the Geostandard team if you would like to put such optional data to avoid creating cross border return inconsistency with other BU.I

## 5.1.2. Definition

2D Aztec Barcode is already described in chapter 2.1.2.23. All format definitions and references to external standards are valid for Digital Label also, including technical properties.

Based on standard GeoLabel 2D barcode definition, Digital Label structure contains data blocks:

Geopost basic format block adapted for Digital Label.

All mandatory blocks described in chapter 2.1.2.22.7 must be present but only the blocks described below can contain content (except for optional fields defined in the “Digital Label IT Process Specification” where content can be put in optional blocks)”

The use of the blocks listed below implies that the Digital Label code must include all data fields defined therein. As described in the General Rules for Digital Labels, if an optional field provides business values or is necessary for operational processes, it can be used as follows.

### 5.1.2.1. Geopost basic format block adapted for Digital Label.

Field No	Name	Description	Max Size	Subfield Max Size	Type	M/O – Mandatory or optional field
		Message Header	4		A	] > <sup>R</sup> <sub>S</sub>
1	2DISO_Header	Format Envelope Header	2		N	"01" = Transportation
2	2DISO_Version	Format Version	2		N	"02" = Version
3	2DISO_DestZipCode	Destination Postal Code	9		AN	M
4	2DISO_DestCountryCode	Destination Country / Network Code	3		N	M
5	2DISO_SOCode	Service code / Sorting Code	3		AN	M
6	2DISO_ParcelNumber	Parcel Number	14		AN	M
		Format Envelope trailer	1		A	<sup>R</sup> <sub>S</sub>

### 5.1.2.2. Geopost basic format block

Field No	Name	Description	Max Size	Subfield Max Size	Type	Additional Description
1	2DSTD_Header2	Format Envelope Header	2		N	"07"
2	2DSTD_FormatID	2D Format Identification	3		AN	Standard block Version "G03"
3	2DSTD_BarcodeOF	Barcode overflow	1		N	O
4	2DSTD_NoHandWoutData	No handling without data	1		N	O
5	2DSTD_RoutingNec	Routing necessary	1		N	O
		Receiver Information	150	343		O
6	2DSTD_RecComment	- Receiver comment		70	AN	O
7	2DSTD_RecCompName2	- Receiver Company Name2		35	AN	O
8	2DSTD_RecContact	- Receiver contact name		35	AN	O
9	2DSTD_RecContactPho1	- Receiver Contact Phone Number1		25	AN	O
10	2DSTD_RecContactPho2	- Receiver Contact Phone Number2		25	AN	O
11	2DSTD_RecNotifMob	- Receiver Notification Mobile Phone number		25	AN	O

<b>Field No</b>	<b>Name</b>	<b>Description</b>	<b>Max Size</b>	<b>Subfield Max Size</b>	<b>Type</b>	<b>Additional Description</b>
12	2DSTD_RecNotifEMail	- Receiver Notification email		50	AN	O
13	2DSTD_RecPropNum	- Receiver Property Number / House No		8	AN	O
14	2DSTD_RecAdd2	- Receiver Address Line 2		35	AN	O
15	2DSTD_RecAdd3	- Receiver Address Line 3		35	AN	O
16	2DSTD_NotifType	Notification type	1		A	O
17	2DSTD_TotalWeight	Total weight of shipment (MPS)	8		AN	O
18	2DSTD_NotifSenderComp	Notification Sender Company Name1	35		AN	O
19	2DSTD_NotifSenderContact	Notification Sender contact person	35		AN	O
20	2DSTD_SendParcelRef	Sender parcel reference	35		AN	O
21	2DSTD_RecParcelRef	Receiver parcel reference	35		AN	O
22	2DSTD_ConsType	Consignment Type	1		AN	O
23	2DSTD_ContDescr	Contents Description	50		AN	O
24	2DSTD_ConsCustRef2	Consignment customer reference number 2	35		AN	O
25	2DSTD_LimitedQtyHaz	limited quantities hazardous	1		N	O
26	2DSTD_ASCode	<b>Additional service code</b>	<b>6</b>		<b>AN</b>	<b>M – if required by service definition</b>
		Format Envelope trailer	1		A	R <sub>S</sub>

### 5.1.3. Examples

The examples below describe Digital Label barcodes only.

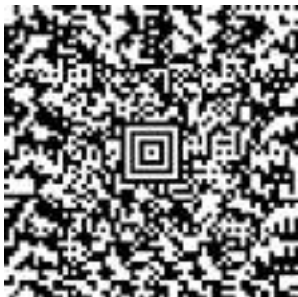
The email or mobile notifications that contain the barcode are specified in Digital Label IT Processes Specification.

#### 5.1.3.1. Basic Digital Label with key data only

05890000000052

#### 5.1.3.2. 4.1.3.1.2.Content

[]>[RS]01[GS]02[GS]75015[GS]FR[GS]332[GS]05890000000052[GS][GS][GS][GS][GS][GS][GS][GS][GS][GS]



[GS][GS][RS]07[GS]G03[GS][GS][GS][GS][US][US][US][US][US][US][US][US][US][GS][GS][GS][GS][GS][GS][GS][GS][GS][GS][RS]07[GS]S010[GS][US][US][US][US][US][US][US][US][GS][RS][EOT]



*5.1.3.3. Digital Label with sender information (only in case of specific needs from PUDO provider)*

4.1.3.2.1 Barcode



4.1.3.2.2 Content

```
[>[RS]01[GS]02[GS]75015[GS]FR[GS]332[GS]05890000000052[GS][GS][GS][GS][GS][GS][GS][GS][GS][GS][RS]07[GS]G03[GS][GS][GS][GS][US][US][US][US][US][US]+33123456789[US]sender@sender.com[US][US][US][GS][GS][GS][GS][GS][GS][GS][GS][GS][GS][RS]07[GS]S010[GS][US][US][US][US][US][US][US][US][GS][RS][EOT]
```

*5.1.3.4. Digital label with ASCODE (only in case of from shop services that required it)*

4.1.3.3.1 Barcode



4.1.3.3.2 Content

```
[>[RS]01[GS]02[GS]75015[GS]FR[GS]345[GS]05890000000052[GS][GS][GS][GS][GS][GS][GS][GS][GS][GS][RS]07[GS]G03[GS][GS][GS][GS][US][US][US][US][US][US]+33123456789[US]sender@sender.com[US][US][US][GS][GS][GS][GS][GS][GS][GS][GS][GS][GS][A15[GS][RS]07[GS]S010[GS][US][US][US][US][US][US][US][US][GS][RS][EOT]
```

## 5.1.4. Minilabel ID standard

Minilabel ID is used in minilabel scenario, where PUDO point staff stick to the parcel pre-printed label with a small Barcode and pair this ID with parcel number using PDA. There is no possibility to print full label by sender or at PUDO point. Driver's pickup needs to be done using this minilabel ID, standard GeoLabel is printed in origin depot.

### 5.1.4.1. Minilabel format

The whole format of the minilabel is in A6 (105 x 148 mm).

The size of the barcode must not be bigger than 80 mm x 25 mm and it appears at the bottom of the minilabel, 20% difference in size is acceptable.

### 5.1.4.2. Minilabel content

The minilabel should contain at least 3 key components:

1. **The Code-128 standard barcode.** It contains only the minilabel ID composed of 12 digits and minilabel ID in text below barcode. The first 3 digits must be the BU code. The minilabel IDs are managed and unique by BU. As the parcel number, a 6-month storage is necessary.
2. **14 digits empty spaces** to allow the PUDO Shop owner to write the parcel number manually. This parcel number could help to retrieve the link between the parcel and the parcel number if the pairing between the minilabel ID and the parcel number has not be properly done.
3. **A small space** for user instructions.

Minilabel mock-up is described in Digital Label IT Processes Specification.

### 5.1.4.3. Minilabel Barcode example



# 6. BARCODE & LABELS FOR OPERATIONAL HANDLING

## 6.1. PUDO POINT HANDLING

For better handling of shipment in the PUDO Points, Pickup Services designed together with the BU some Codes that are used

for Hand-Over of Shipments from PUDO Points to the Customer (Pickup Pass)

for Hand-Over of Shipments between driver and PUDO Points. Could be used for hand-Over of Shipments from Driver to PUDO Point and from PUDO Point to Driver. (Pickup Driver-PUDO and Pickup Driver-PUDO Security-Code)

### 6.1.1.1. Example

Pickup Pass v2 Example for DPD France



### 6.1.1.2. Code format

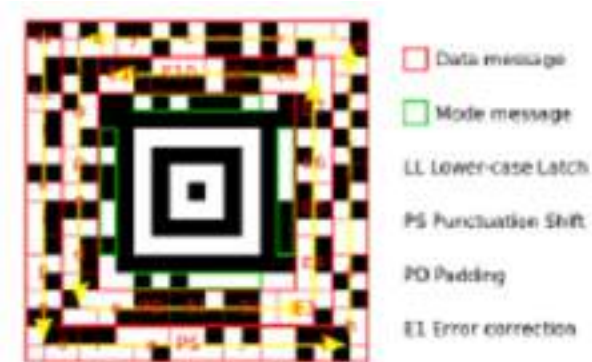
Use of AZTEC Two Dimensional Symbol enables Geopost BUs to encode large amounts of data into the symbol for handing over the parcel to the PUDO Point.

The symbology is capable of encoding the entire 255-character ASCII data set. The symbology can encode up to 3067 characters in a single symbol, however, this is reduced by the error correction level and the application.

AZTEC Code has been released to the public domain.

This symbology uses square modules with a unique finder pattern in the middle of the symbol.

The symbol is built on a square grid with a bulls-eye pattern at its center for locating the code. Data is encoded in concentric square rings around the bulls-eye pattern. Because of that, a quiet zone is not required.



The symbol is built on a square grid with a bulls-eye pattern at its center for locating the code. Data is encoded in concentric square rings around the bulls-eye pattern. Because of that, a quiet zone is not required.



Message data is placed in a spiral pattern around the core. The mode message begins "01011100", indicating  $01_2+1 = 2$  layers, and  $011100_2+1 = 29$  data codewords (of 6 bits each).

The selected encoding characters set is the ISO/IEC 8859-1 Latin alphabet No. 1

According to ISO 24778 (AZTEC bar code), the error correction is set to 23%.

#### Code Data Content

The Code Data consist of a header and a detail block defined as followed:

Used field separator for the Header is a colon (":")

Property	Length	Example	Type
TYPE	35	PICKUPPASS	A
VERSION	5	2.00	NN.NN

#### Detail Information

Used field separator for the Detail Information is a semicolon (";")

Property	Length	Type	Example
PUDO_ID	20	AN	GB123456
PARCEL_NUMBER	18	AN	15501234567890, If two or more parcels (separate by “:”): 15501234567890:0123456789012 (This increased also the length of the Field PARCEL_NUMBER by each parcel by max 18)
NAME	35	AN	Jason Highfield
EMAIL	100	AN	jason.highfield@Geopostuk.com
PHONE	30	AN	7769743059
POST_CODE	9	AN	B66 1BY
ADDRESS_LINE_1	35	AN	Roebuck Lane
ADDRESS_LINE_2	35	AN	DPD
TOWN	35	AN	Smethwick
CITY	35	AN	Birmingham
REGION	35	AN	West Midlands
COUNTRY	3	AN (ISO)	GBR
PUDO_NAME	35	AN	PRESS LIBRARY PERNG
CARRIER_ID	20	AN	DPD_GBR
VALUE_OF_THE_GOODS	1	A (S = ‘Standard’ or H = ‘High Value’)	H
COD_AMOUNT	15	N.N	
CURRENCY	3	AN (ISO)	
EXPIRATION_DATE	14	N yyyymmddhhmmss	
ID_REQUIRED	1	A (N=‘No’)	
SECURED_KEY	35	AN Based on the first parcel number = ‘SHA1(PARCEL_ID + PRIVATE_KEY)’	
INFO_3	35	AN	
INFO_4	35	AN	
INFO_5	35	AN	
PIN_CODE	35	AN (CRC16 based on parcel number)	8db4

*Example with data*

One parcel (High Value) :

PICKUPPASS:2.00:GB123456;15501234567890;Jason

Highfield;jason.highfield@Geopostuk.com;07769743059;B66 1BY;Roebuck

Lane;DPD;Smethwick;Birmingham;West Midlands;GBR;PRESS LIBRARY PERNG;DPD\_GBR;H;;;;;;;;;;;;;8db4;

*Physical Properties*

The individual components of the specification were determined as follows:

The specified physical properties of the PICKUP PASS V2 AZTEC “2D” symbol has been developed to ensure accurate readability by the handheld scan guns in use now and with other Barcode scanning systems that may be introduced in the future.

The individual components of the specification were determined as follows:

### 6.1.1.3. *Module size or X-Dimension*

Determined by the scanner type, the specified module size was selected to ensure adequate scanner performance with raster laser type scanners.

The width of the minimum narrow element (bar or space) is a dimensional parameter, which can be used to calculate the symbol's actual width. The X-Dimension should be set to 1,27mm

### 6.1.1.4. *Error Correction*

The error correction level was chosen as a good compromise between data security and symbol size (and overhead). ISO 24778 sets this error correction to 23% for large AZTEC Barcode. ISO 24778 specify that that error correction should not be higher.

### 6.1.1.5. *Barcode Metrics*

The important physical properties evaluated on the PICKUP PASS V2 AZTEC "2D" symbol are:

**Module Size:**

X-Dimension (Module size)

Minimum:	N/A
Nominal:	1,27mm
Maximum:	N/A

**Error Correction:** 23%

**Quiet Zones:** None

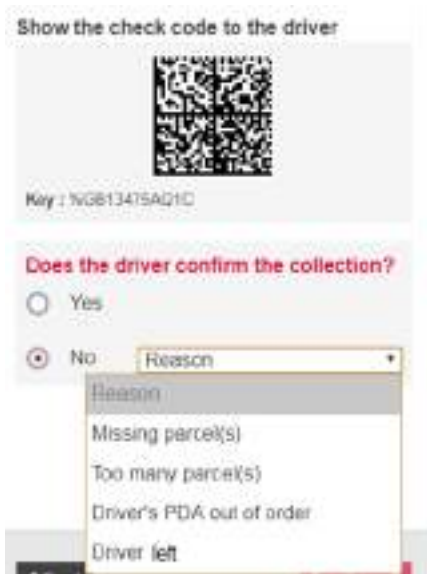
### 6.1.1.6. *Print Quality*

The Code will be generated as a PNG-File that has to be scanned directly from mobile devices.

## 6.1.2. Pickup Driver PUDO Code

To ensure parcel responsible transfer from the driver to the PUDO the PDA in the PUDO point creates a 2D-Code that has to be scanned by the driver.

### 6.1.2.1. Example



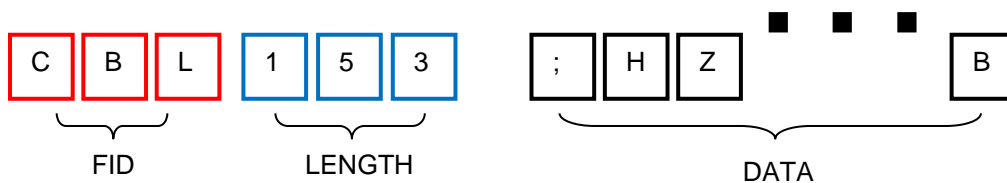
### 6.1.2.2. Code Format

Based on tests made to find the best 2D-Code for that usage, GS1 Datamatrix was selected as the 2D-Code generated by the PDA in the PUDO point.

### 6.1.2.3. Code Data Content

- . Records Description

The 2D-Code will include records made of data fields that should comply with the minimal following structure:



**FID** : Field ID => 3 characters. It is the field identifier. Needed to identify the type of data that follows.

**LENGTH** : Character length of DATA => A String of 3 characters max. An integer that counts the numbers of character that follow.

DATA : Data transmitted. This part is entirely free of use for the developer that can place in it whatever is needed. It can be data, integers, or an even more complicated description of what follows.

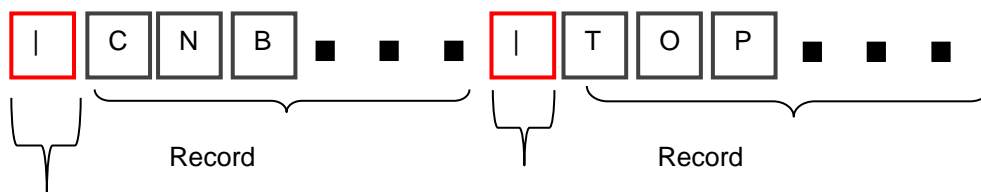
Records are concatenated in the 2D-Code using a character as a separator.

### Records separation

To facilitate the 2D-Code parsing, a separation character will be used.

This character will be stored as the first character of the 2D-Code. So it is possible to change it.

Example:



First character  
Separation character

Record Separator

Thanks to this separator, it's easy to extract the records prior to parse them one at a time.

### Rules

The identifier must be self-explanatory.

If the DATA is a list of fields, it is recommended to add a record to describe how to parse the data list. For instance, refer to « CBL » further in this document.

When encoding numbers with characters, you must respect the following naming conventions :

Only the following 36 alphanumeric characters should be used: 0-9 and A-Z.

No lower case. If you find a lower case in that field, you must convert it to uppercase prior to any calculation.

Characters from 0-9 will be equivalent to their corresponding 0-9 values.

Characters from A-Z will have a numerical value in the range of 10-35 in that order.

It is a 36-base number (Like hexadecimal but extended to Z).

- Field list defined to the date



Records count in 2DBC

**FID** : « CNB » (CAB NumBer)

**LENGTH** : DATA length as a string (3 characters)

DATA: Number of bar codes scanned by PDA

Operational Type PDA

**FID** : « TOP » (Type of OPERATION)

**LENGTH** : 1

DATA: 2 possible values:

- « D » : Delivery
- « C » : Collection

Key counting the parcels Barcodes scanned with the PDA

**FID** : « CBL » (CAB List)

**LENGTH** : DATA length as a string. 3 characters.

DATA : Contains a substructure that describes how to read the rest of the DATA

Leading character: A field separator for the Barcodes in the list that follows.

It must be different from the records separator.

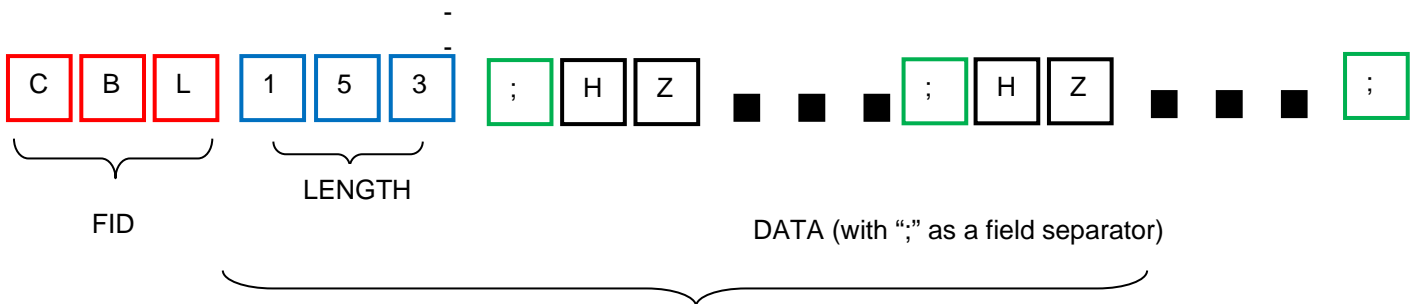
The Barcode list begins with a separator character and ends with a separator character. The barcodes are separated by a separator character.

NOTE :

For Chronopost, only the first 11 characters of barcodes are used.

For DPD full parcel will be used (14 characters)

Example:



#### 6.1.2.4. List of Prepared Barcodes with PDA (OPTIONAL)

**FID** : « PBL » (Prepared Barcode List)

**LENGTH** : DATA length as a string. 3 characters.

**DATA** : Contains a substructure that describes how to read the rest of the DATA

Leading character: A field separator for the Barcodes in the list that follows.

It must be different from the records separator.

The Barcode list begins with a separator character and ends with a separator character. The Barcodes are separated by a separator character.

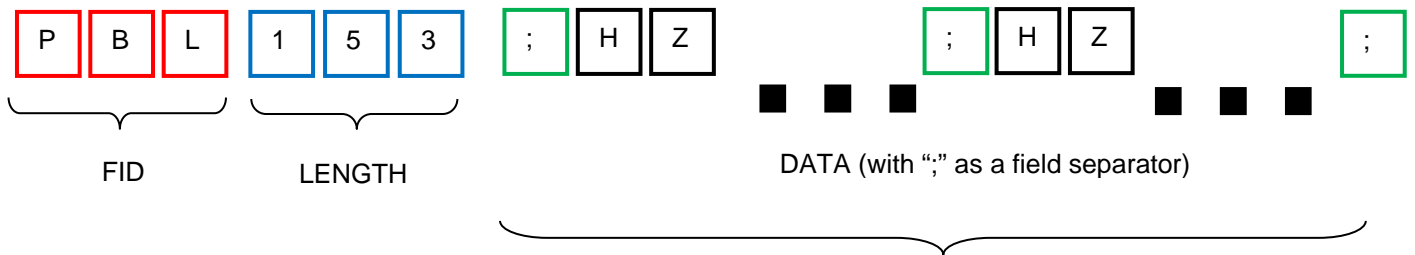
**NOTE:**

This list is similar to the "CBL" except that it includes only the parcels that has been prepared for collection by the store.

For Chronopost, only the first 11 characters of Barcodes are used.

For Geopost full parcel will be used (14 characters)

Example:



### 6.1.2.5. List of Prepared Barcodes with PDA (OPTIONAL)

**FID** : « PBL » (Prepared Barcode List)

**LENGTH** : DATA length as a string. 3 characters.

**DATA** : Contains a substructure that describes how to read the rest of the DATA

Leading character: A field separator for the Barcodes in the list that follows.

It must be different from the records separator.

The Barcode list begins with a separator character and ends with a separator character. The Barcodes are separated by a separator character.

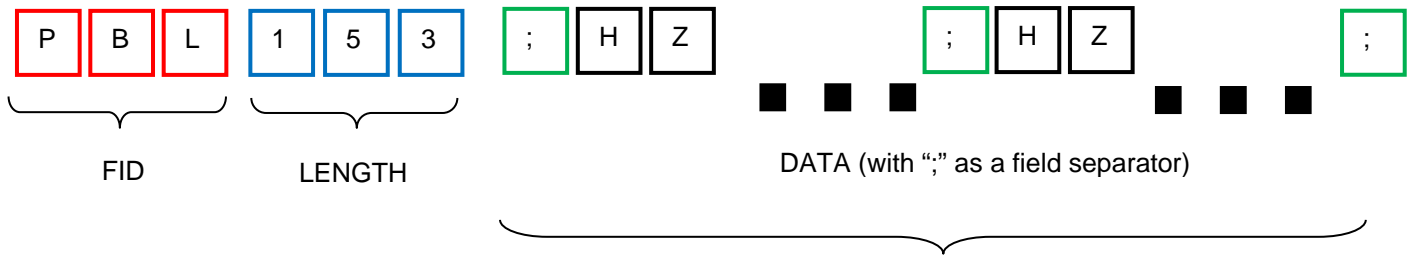
**NOTE:**

This list is similar to the “CBL” except that it includes only the parcels that has been prepared for collection by the store.

For Chronopost, only the first 11 characters of Barcodes are used.

For Geopost full parcel will be used (14 characters)

Example:



### 6.1.2.6. Examples with data

#### 5.1.2.1. Example with 5 parcels

Site id : "POINT"

Creation date : 7/9/2012

Number of parcels : 5

Process type : Distribution

Barcode list : ;HZ812356898;HZ814578985;HZ835454589;HZ812457415;HZ835458965;

Resulting 2DBC:

"|CNB0015|TOP001D|KEY010%POINT796X|CBL061;HZ812356898;HZ814578985;HZ835454589;HZ812457415;HZ835458965;|"



Key to be displayed on PDA screen: POINT796X

Trying to regenerate it with exactly the same entry parameters may yield following result:

"|CNB0015|TOP001D|KEY010%POINT7O6C|CBL061;HZ812356898;HZ814578985;HZ835454589;HZ812457415;HZ835458965;|"



Key to be displayed on PDA screen: POINT7O6C

● Example with 30 Barcodes

Site ID : "POINT"

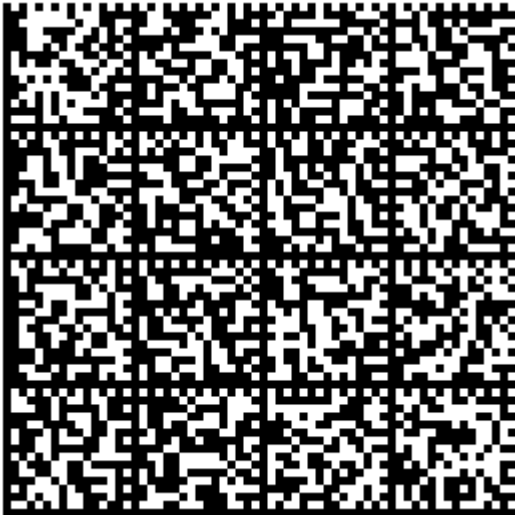
Creation date : 7/9/2012

Number of parcels : 30

Process type : Distribution

Barcode list :

"|CNB00230|TOP001D|KEY010%POINT7ZVC|CBL361;HZ812356898;HZ814578985;HZ835454589;HZ812457415;HZ835458965;HZ812358487;HZ835487589;HZ816969896;HZ938785485;HZ813256895;HZ814741452;HZ815558963;HZ836565895;HZ815478589;HZ839587458;HZ812545845;HZ839856589;HZ834564586;HZ814545712;HZ836958695;HZ836547851;HZ836589568;HZ814758523;HZ839865896;HZ845452158;HZ815458985;HZ836547852;HZ815489563;HZ836589568;HZ812589658;|"



Key to be displayed on PDA screen: "POINT7ZVC"

Trying to regenerate it with exactly the same entry parameters may yield following result:

"|CNB00230|TOP001D|KEY010%POINT7RV4|CBL361;HZ812356898;HZ814578985;HZ835454589;HZ812457415;HZ835458965;HZ812358487;HZ835487589;HZ816969896;HZ938785485;HZ813256895;HZ814741452;HZ815558963;HZ836565895;HZ815478589;HZ839587458;HZ812545845;HZ839856589;HZ834564586;HZ814545712;HZ836958695;HZ836547851;HZ836589568;HZ814758523;HZ839865896;HZ845452158;HZ815458985;HZ836547852;HZ815489563;HZ836589568;HZ812589658;|"



Key to be displayed on PDA screen: "POINT7RV4"

### 6.1.3. Pickup Driver Security Code

Pickup Driver-PUDO Security-Code

The PDA Driver-PUDO Security-Code will be used just to confirm that the driver is in the PUDO point to finish the reception when some parcel(s) have been removed.

It will not be used for gap analysis

### 6.1.3.1. Example



### 6.1.3.2. Code Format

The "Pickup PDA Driver2PUDO Security-Code" uses the well-known AZTEC code, used in the Group also in GeoLabel and PICKUP-Pass V2. A detailed general description of the AZTEC Code can be found in chapter **Error! Reference source not found..**

### 6.1.3.3. Code Data content

Parcel Tracking Number of the parcel scanned **in the first position in alphabetical order** then add a private key (one per carrier) and finally encrypt the string created by that in "**SHA1**"

### 6.1.3.4. Example with data

- « Parcel Tracking Number » 01102532948375 (=first parcel by alphabetical order)
- « Example private key » GU97wd2p
- « Parcel Tracking Number + private key » 01102532948375GU97wd2p
- Encoding SHA1 « Parcel Tracking Number +key » =  
a4687f72cc62a935a50144a13ca2a74c7614b721



### 6.1.3.5. Physical Properties

The specified physical properties of the PICKUP PASS V2 AZTEC "2D" symbol has been developed to ensure accurate readability by the handheld scan guns in use now and with other Barcode scanning systems that may be introduced in the future.

The individual components of the specification were determined as follows:

#### 5.1.3.5.1. Module size or X- Dimension1

Determined by the scanner type, the specified module size was selected to ensure adequate scanner performance with raster laser-type scanners.

The width of the minimum narrow element (bar or space) is a dimensional parameter, which can be used to calculate the symbol's actual width. The X-Dimension should be set to 1,27mm

#### 5.1.3.5.2. Error correction

The error correction level was chosen as a good compromise between data security and symbol size (and overhead). ISO 24778 sets this error correction to 23% for large AZTEC Barcode. ISO 24778 specify that that error correction should not be higher.

#### 5.1.3.5.3 Barcode Metrics

The important physical properties evaluated on the PICKUP PASS V2 AZTEC "2D" symbol are:

**Module Size:**

X-Dimension (Module size)

Minimum:	N/A
Nominal:	1,27mm
Maximum:	N/A

**Error Correction:** 23%

**Quiet Zones:** None

## 7. REVISION

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Version	Changes	Author
21/02/2019 <b>Version 5.0</b>	<ul style="list-style-type: none"><li>- Change format to Geopost Layout</li><li>- Rearrange Content</li><li>- Added "2DS01_SendNotifEMail » to 2D code sender format block (chapter <b>Error! Reference source not found.</b>)</li><li>- Added Management rule 36 for handling sender notification (chapter 0)</li><li>- Added Digital Label Format example</li><li>- Revised GeoLabel Validation process based on new Geopost validation Center</li><li>- Added GeoLabel Smart Data for Mail handling</li><li>- Added Linehaul Handling Labels (Chapter 3 Labels for container Handling)</li><li>- Added Operational PUDO Handling</li><li>- Moved BIC3 Label definition to Chapter <b>Error! Reference source not found. Error! Reference source not found.</b></li></ul>	Sebastian GÖRGEN Geopost



<p>08/05/2019 <b>Version 5.0.1</b></p>	<ul style="list-style-type: none"> <li>- Increased "2DISO_CustAccNumber" to 20 digits (following GeoData) in Iso Standard Block(Chapter <b>Error! Reference source not found.</b>)</li> <li>- Raised Version Number of ISO Standard Block to "3"</li> </ul>	<p>Sebastian GÖRGEN Geopost</p>
<p>09/12/2019 <b>Version 5.0.2</b></p>	<ul style="list-style-type: none"> <li>- Removed chapter 3.2 GeoLabel Smart Data for Mail handling until final validation settled.</li> <li>- Validated official Version published</li> </ul>	<p>Sebastian GÖRGEN Geopost</p>
<p>28/06/2021 <b>Version 5.0.3</b></p>	<ul style="list-style-type: none"> <li>- Change in document structure</li> <li>- Added GeoData and JSON data source for information printed on GeoLabel</li> </ul>	<p>Grzegorz KARCZMARCZYK Geopost</p>
<p>22/03/2022 <b>Version 5.0.3</b></p>	<ul style="list-style-type: none"> <li>- Food label added</li> <li>- Food container added</li> </ul>	<p>Magdalena ŚMIGLA- ŻYWOCKA Geopost</p>
<p>21/12/2022 <b>Version 5.0.4</b></p>	<ul style="list-style-type: none"> <li>- Digital Label added (chapter 5 and 7.2)</li> <li>- Information about PostNord logo for customer's returns (chapter 2.1.2.15)</li> </ul>	<p>Grzegorz KARCZMARCZYK Geopost</p>
<p>20.02.2024 <b>Version 6.0</b></p>	<ul style="list-style-type: none"> <li>- Reviewing and structuring the entire document</li> <li>- Set Parcel Details as mandatory (paragraph 2.1.19)</li> <li>- Deletion of Legacy Label Formats (chapter 6)</li> <li>- Added Heavy parcels labels with pictogram – DPD DE</li> </ul>	<p>Magdalena ŚMIGLA- ŻYWOCKA Geopost</p>