ZF LIFETEC EUROPE

REQUIREMENTS FOR VDA 4994 LABELING STANDARD

Content:

ZF Lifetec Requirements Labelling

List of Abbreviations:

AIAG Automotive Industry Action Group

ASCII American Standard Code for Information Interchange

ASN Advanced Shipping Notification

DESADV Despatch advice, an international standard for the format for the exchange of electronic data in business transactions. DESADV corresponds to the ASN.

DI Data Identifier (ISO/IEC 15418)

DMC Data Matrix Code (ISO/IEC 16022)

DUNS-Number Data Universal Numbering System (developed and regulated by DUN & BRADSTREET')

ESD Electrostatic discharge

GLN Global Location Number

GS1 Global Standards One

GTL Global Transport Label

HU Handling Unit

IEC International Electrotechnical Commission

ISO International Association for Standardization

JAMA Japan Automobile Manufacturers Association

JAPIA Japan Auto Parts Industries Association

Odette is a pan-European collaboration and services platform to create standards for the automotive industry.

PDS Product Data Sheet

SKU Stock keeping unit

SLC Small Load Carriers

SLC1/KLT1 Label for Small Load Carriers

SLC2/KLT2 Label flat Small Load Carriers

UHF Ultra High Frequency

VDA Verband der Automobilindustrie

GME Global Mechanical Engineering

ZF Lifetec Requirements Labelling

1   Introduction / Purpose

The document support logistics processes and effective and efficient capture of data for production counts, warehouse input/output, cycle counting, shipper generation, forwarding, freight transfer control, receiving, Electronic Data Interchange (EDI) with Advance Shipment Notice (ASN), and other inventory controls.

ZF Lifetec Global Transport Label is in accordance with the VDA recommendation 4994

The document describes ZF specific customer Requirements of European facilities.

Deviations from VDA 4994 latest version and ZF specific customer requirements are subject to approval by the Logistics Manager at the receiving facility AND the ZF Automotive buyer. The approval has to be proceeded in writing form (mainly in PDS document).

This labeling specification applies to all products being shipped to any of ZF Automotive location in Europe, regardless of the supplier's location.

The data printed on labels originates from the same data pool as the information printed on dispatch advice (DESADV, VDA 4987) and shipping documents (shipment documents according to VDA 4939).

The document is valid since September 1st, 2021.

All parts shipped after **January 1st, 2022, must be** shipped in accordance with this standard.

2   Function of labels

No specific customer requirements

3   Consignments and transport

No specific customer requirements

4   Size, layout, and application of labels

Insert labels might be secured with adhesive dots or might be produced from heavier paper.

For use with returnable containers, adhesive labels must be easy to remove without leaving behind any residue.

Before applying new labels, all old (and thus invalid) labels must be removed from the packaging.

4.1 Dimensions

ZF is following the recommended dimensions according VDA 4994

- ➢ Format A5 (210 mm x 148 mm)
- ➢ Format A6 148mm x 105mm x 101.6mm
- ➢ Format A6 148mm x 152.4mm (6 inches) x 101.6mm (4 inches)
- ➢ SLC1 /KLT1 Label for small load carriers 210mm x 74mm
- ➢ SLC2 /KLT2 Label for flat small load carriers 210mm x 42mm

4.2 Data fields on labels

According the VDA 4994 the information printed on the label is divided into logical fields of data according to the applicable layout template. The following information blocks are defined:

Block	Status	Description
A1	Mandatory	Goods sender (ship from)
A2	Mandatory	Goods recipient (ship to)
A3	Mandatory	Label type and 2D barcode symbol
B1 (1)	Mandatory	Customer reference 1
B1 (2)	Mandatory	Customer routing information
B3	Mandatory	Logistics reference
C	Mandatory	Customer's article number
D1	Mandatory	Package ID
D2	Mandatory	Customer reference 2
E1	Mandatory	Optional information as defined by supplier/ Customer
E2	Mandatory	Customer reference 3

4.3 Technical requirements

4.3.1 Label Application

Label	Requirement
Insert label	Min. 160 g/m²
Insert label with Adhesive dots	Min. 80 g/m²
Adhesive label	Min. 80 g/m²
Combined label	130-170 g/m²
Paper	white, machine-finished, moisture-resistant
Sticking	permanent adhesive, moisture-resistant, easy to remove

4.4 Labels for transport packaging units (TPU)

No specific customer requirements

4.5 Labels for small load carriers (KLTs)

No specific customer requirements

5 Description of data fields

No specific customer requirements

## 6 Identification of packages and loading units
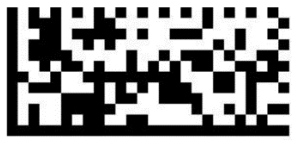
Single label on small container

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Standard VDA 4994 label - format DIN A5

SHIP FROM	SHIP TO		
SUPPLIEZF PASSIVE SAFETY CZECH S.R.O. **PLANT STARA HLAVENEC 161 294 74** ID **A278** COUNTRY OF ORIGIN **CZ**	ZF AUTOMOTIVE SYSTEMS POLAND SP.Z O.O. **PLANT CZE LEGIONOW 63 42-200** PLANT/UNLOADING POINT/INTERNAL DESTINATION **CZE / GATE 3 / STOCK 12**	**S**	

DELIVERY NOTE **DL 235689**	CUSTOMER SPECIFIC ROUTING **ROUTE 66**	ETA **2016-01-15/13:30**
SUPPLIER NUMBER **A278**	**TRUCK 15**	QUANTITY (PCE) **1000** — NET KG **11** — GROSS KG **12**

CUSTOMER PART NUMBER	IGNATOR
	33023540A ▽

PACKAGE ID (1J) **UN 367970717 000500601**	PACKAGING TYPE **B2 BOX** — EXPIRY DATE **E 22.12.2022** BATCH NUMBER **BD 28590**

ENGINEERING CHANGE/HARDWARE REVISION/SOFTWARE REVISION
ERD 022021 / HC11 / SV 1.1

SUPPLIER AREA	1JUN367970717000500601
33023540A ESD Contract 5500076867	

Standard VDA 4994 label - small load carriers (74 x 210 mm)

SHIP FROM	SHIP TO		PACKAGING TYPE **B2 BOX** — EXPIRY DATE **E 22.12.2022**
SUPPLIEZF PASSIVE SAFETY CZECH S.R.O. **PLANT STARA HLAVENEC 161 294 74** ID **A278** COUNTRY OF ORIGIN **CZ**	ZF AUTOMOTIVE SYSTEMS POLAND SP.Z O.O. **PLANT CZE LEGIONOW 63 42-200** PLANT/UNLOADING POINT/INTERNAL DESTINATION **CZE / GATE 3 / STOCK 12**	**S**	BATCH NUMBER **BD 28590** ENGINEERING CHANGE/HARDWARE REVISION/SOFTWARE REVISION **ERD 022021 / HC11 / SV 1.1**

DELIVERY NOTE **DL 235689**	CUSTOMER SPECIFIC ROUTING **ROUTE 66**	ETA **2016-01-15/13:30**	1JUN367970717000500601
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CUSTOMER PART NUMBER	IGNATOR	
	33023540A	▽

PACKAGE ID (1J) **UN 367970717 000500601**	33023540A ESD Contract 5500076867

VDA 4994 label format half US-Letter (8.5 x 11 inches / 215.9 x 279.4 mm)

SHIP FROM	SHIP TO	
SUPPLIEZF PASSIVE SAFETY CZECH S.R.O.	ZF AUTOMOTIVE SYSTEMS POLAND SP.Z O.O.	**S**
PLANT STARA HLAVENEC 161 294 74	PLANT CZE LEGIONOW 63 42-200	
ID **A278**	PLANT/UNLOADING POINT/INTERNAL DESTINATION	
COUNTRY OF ORIGIN CZ	**CZE / GATE 3 / STOCK 12**	

| DELIVERY NOTE **DL 235689** | CUSTOMER SPECIFIC ROUTING **ROUTE 66** | ETA **2016-01-15/13:30** | | |
| SUPPLIER NUMBER **A278** | **TRUCK 15** | QUANTITY (PCE) **1000** | NET KG **11** | GROSS KG **12** |

| CUSTOMER PART NUMBER | IGNATOR | |
| | **33023540A** | ▽ |

PACKAGE ID (1J)

UN 367970717 000500601

	PACKAGING TYPE **B2 BOX**	EXPIRY DATE **E 22.12.2022**
	BATCH NUMBER **BD 28590**	
	ENGINEERING CHANGE/HARDWARE REVISION/SOFTWARE REVISION **ERD 022021 / HC11 / SV 1.1**	

| SUPPLIER AREA 33023540A ESD Contract 5500076867 | 1JUN367970717000500601 |
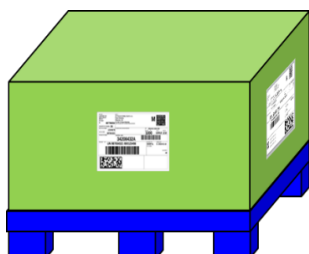
Detailed description of label positioning/placement on the box /Pallet is in latest verion of the document „Packaging Data Sheet & Packaging Guidelines Europe"

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6.1.1 Master label

For homogenous material = homogenous single units

SHIP FROM	SHIP TO		
SUPPLIEZF PASSIVE SAFETY CZECH S.R.O. **PLANT STARA HLAVENEC 161 294 74** ID **A278** COUNTRY OF ORIGIN **CZ**	ZF AUTOMOTIVE SYSTEMS POLAND SP.Z O.O. **PLANT CZE LEGIONOW 63 42-200** PLANT/UNLOADING POINT/INTERNAL DESTINATION **CZE / GATE 3 / STOCK 12**		**M**

DELIVERY NOTE DL 235689 SUPPLIER NUMBER A278	CUSTOMER SPECIFIC ROUTING **ROUTE 66 TRUCK 15**	ETA **2016-01-15/13:30** QUANTITY (PCE) **56 000** NET KG **616** GROSS KG **672**

CUSTOMER PART NUMBER   IGNATOR

33023540A

PACKAGE ID (6J) **UN 367970717 000500600**	PACKAGING TYPE **B2 BOX** BATCH NUMBER **BD 28590**	EXPIRY DATE **E 22.12.2022**

NUMBER OF INTERNAL PACKAGE
56

SUPPLIER AREA
33023540A
EU pallet/ Strap/ESD
Contract 5500076867

Single label for homogenous single units

SHIP FROM SUPPLIEZF PASSIVE SAFETY CZECH S.R.O. **PLANT STARA HLAVENEC 161 294 74** ID **A278** COUNTRY OF ORIGIN **CZ**	SHIP TO ZF AUTOMOTIVE SYSTEMS POLAND SP.Z O.O. **PLANT CZE LEGIONOW 63 42-200** PLANT/UNLOADING POINT/INTERNAL DESTINATION **CZE / GATE 3 / STOCK 12**	**S**	PACKAGING TYPE **B2 BOX** BATCH NUMBER **BD 28590** ENGINEERING CHANGE/HARDWARE REVISION/SOFTWARE REVISION **ERD 022021 / HC11 / SV 1.1**	EXPIRY DATE **E 22.12.2022**

DELIVERY NOTE DL 235689 SUPPLIER NUMBER A278	CUSTOMER SPECIFIC ROUTING **ROUTE 66 TRUCK 15**	ETA **2016-01-15/13:30** QUANTITY (PCE) **1000** NET KG **11** GROSS KG **12**	6JUN367970717000500601

CUSTOMER PART NUMBER   IGNATOR

33023540A

PACKAGE ID (1J)   UN 367970717 000500601

33023540A
EU pallet/ Strap/ESD
Contract 5500076867

Detailed description of label positioning/placement on the box /Pallet is in latest verion of the document „Packaging Data Sheet & Packaging Guidelines Europe"
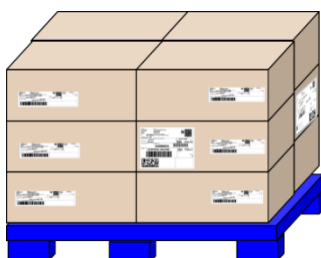
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6.1.2 MIX Master label

Mixed material on the pallet – non homogenous single unit

- non homogenous single unit

- single labels for non homogenous material

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SHIP FROM	SHIP TO			PACKAGING TYPE	SHIPMENT DATE
ZF PASSIVE SAFETY CZECH S.R.O. PLANT STARA HLAVENEC 161 294 74 ID COUNTRY OF ORIGIN A278 CZ	ZF AUTOMOTIVE SYSTEMS POLAND SP.Z O.O. PLANT CZE LEGIONOW 63 42-200 PLANT/UNLOADING POINT/INTERNAL DESTINATION CZE / GATE 3 / STOCK 12	S		B3 BOX S 2021-01-14 BATCH NUMBER CH1234 ENGINEERING CHANGE/HARDWARE REVISION/SOFTWARE REVISION ERD 2554 / HC11 / SV 1.1	
DELIVERY NOTE DL55890 SUPPLIER NUMBER A278	CUSTOMER SPECIFIC ROUTING ROUTE 66 LINE 15	ETA 2021-01-14/13:10 QUANTITY (PCS) 200 NET KG 150 GROSS KG 170	1JUN367970717000500634		
CUSTOMER PART NUMBER IGNATOR **33023541A**					
PACKAGE ID (1J) UN367970717000500634		33023541A, EU pallet/ Strap/ESD Contract 5500267880			

SHIP FROM	SHIP TO			PACKAGING TYPE	SHIPMENT DATE
ZF PASSIVE SAFETY CZECH S.R.O. PLANT STARA HLAVENEC 161 294 74 ID COUNTRY OF ORIGIN A278 CZ	ZF AUTOMOTIVE SYSTEMS POLAND SP.Z O.O. PLANT CZE LEGIONOW 63 42-200 PLANT/UNLOADING POINT/INTERNAL DESTINATION CZE / GATE 3 / STOCK 12	S		B3 BOX S 2021-01-14 BATCH NUMBER CH1234 ENGINEERING CHANGE/HARDWARE REVISION/SOFTWARE REVISION ERD 2549 / HC11 / SV 1.1	
DELIVERY NOTE DL55970 SUPPLIER NUMBER A278	CUSTOMER SPECIFIC ROUTING ROUTE 66 LINE 15	ETA 2021-01-12/13:10 QUANTITY (PCS) 200 NET KG 250 GROSS KG 260	1JUN367970717000500635		
CUSTOMER PART NUMBER IGNATOR **34217633B**					
PACKAGE ID (1J) UN367970717000500635		34217633B EU pallet/ Strap/ESD Contract 5598774455			

SHIP FROM	SHIP TO			PACKAGING TYPE	SHIPMENT DATE
ZF PASSIVE SAFETY CZECH S.R.O. PLANT STARA HLAVENEC 161 294 74 ID COUNTRY OF ORIGIN A278 CZ	ZF AUTOMOTIVE SYSTEMS POLAND SP.Z O.O. PLANT CZE LEGIONOW 63 42-200 PLANT/UNLOADING POINT/INTERNAL DESTINATION CZE / GATE 3 / STOCK 12	S		B3 BOX S 2021-01-14 BATCH NUMBER CH1234 ENGINEERING CHANGE/HARDWARE REVISION/SOFTWARE REVISION ERD 2599 / HC11 / SV 1.1	
DELIVERY NOTE DL56010 SUPPLIER NUMBER A278	CUSTOMER SPECIFIC ROUTING ROUTE 66 LINE 15	ETA 2021-01-16/13:10 QUANTITY (PCS) 100 NET KG 180 GROSS KG 200	1JUN367970717000500636		
CUSTOMER PART NUMBER IGNATOR **34217634B**					
PACKAGE ID (1J) UN367970717000500636		34217634B EU pallet/ Strap/ESD Contract 5500662354			
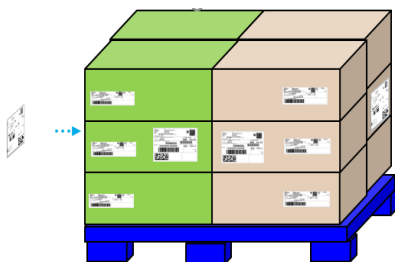
Detailed description of label positioning/placement on the box /Pallet is in latest verion of the document „Packaging Data Sheet & Packaging Guidelines Europe"

6.1.3 Label for Primary Metal supplier

Should be contracted individually with production plan and GME

6.1.4 Label for empty packaging

No specific customer requirements

7 Barcode, 2D code and optional RFID tag

7.1 Definition 1D barcode

The 1D barcode for the package is a code 128 barcode.

The identifiers are immitted in code 128

The width of the barcode of the package ID must be at least 130 mm for the A5 label. For all other formats a minimum width of 100 mm must be observed. The minimum height for the A5 label is 20 mm, for all other formats 15 mm. The quiet zone (regardless of format) must be at least 6 mm to the left edge and at least 5 mm to the right edge. The minimum distance to the text (regardless of format) at the top and bottom is 1 mm

7.2 Definition 2D data matrix symbol

The Data Matrix Code follows the same syntax and content as proposed in the VDA recommendation 4994

The Data Matrix code is a Data Matrix ECC 200 code (see also ISO/IEC 16022). For SLC1 labels the height and width including quiet zone is max. 20 mm, for DIN A5 labels max. 34 mm. The height and width of each module is min. 0.3 mm

Linear barcodes must be designed using the Code 128 symbology and comply with the ISO/IEC 15417 standard, 1JUN367970717000500601

Located in section E1 of Master label must have certain properties in order to suit ZF Stara Boleslav needs. This 2D code simplifies and speeds up unloading process, hence it is an essential feature for goods receipt. The characteristics of the 2D code are outlined below.

Type of 2D code - M12x26 (DataMatrix) – rectangle (version DataMatrix ECC 200)

Modul size within the range of 2,8mm – 3,0mm

Must be printed in good quality according to GS1 standards.

DataMatrix has a mandatory Quiet Zone - a light area around the symbol which must not contain any graphic element that may disrupt reading of the barcode. It has a constant width equal to the X-dimension of the symbol on each of the four sides.

DataMatrix Content (Data): 1JUN987654321000123456 (PACKAGE-ID): 22 characters – max. 26 characters allowed

Reviewed by: Jiri Petrtyl

Data Matrix, []> 06 12PGTL3 9K01 3LA278 4LCZ 8VCZE 2LGATE 3 20LSTOCK 12 VA278 2SDL235689 Q1000 3QPCS 2Q850 P33023540A 6JUN367970717000500600 BB2 BOX 14D22.12.2022 16D10.02.2021 1TERD 022021 2PEC11 20PHC11 21PSV 1.1

Optional for the DMC located at the bottom of the Master label.

DMC dimensions: 28 x 65 mm, 33023540A

Fig. 10 Visual appearance of the 2D code

7.2.1 Symbol size
No specific customer requirements

7.2.2 Character sets
No specific customer requirements

7.2.3 Message structure according to ISO 15434
No specific customer requirements

7.2.4 User data for coding in Data Matrix
No specific customer requirements

7.2.5 Single box Minimum required Data Matrix code content
Mandatory information contained in the single box label DMC. Total length of minimum required standard for VDA4994 is 87 digits.

Data field	Identifier	max digits
Customer's part number	P	14
Supplier number	V	28
License plate (UUID)	1J	26
Batch number / lot number (suppl. ass.)	1T	19

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7.3 RFID tags used in conjunction with smart label

Currently there are no SMART labels used in the ZF Stara Boleslav standard delivery process. Independent from that the regulations of the VDA recommendation 4994 apply in case of a future usage of RFID tags.

7.3.1   Function of passive RFID transponders

No specific customer requirements

7.3.2   Air interface and frequency range Structure and size of memory banks

No specific customer requirements

7.3.3   Example of code according to ISO 17637

No specific customer requirements

8   Delivery scenarios and requirements regarding the information on the labels

Samples will be provided for each case

9   Label for shipments of empty packages

No specific customer requirements

10 Appendices
No specific customer requirements

10.1.1   Appendix 1 – Overview of data fields
According to the table see below

Blocks	Description	Content	Mandatory
A1	Goods sender (Ship from)	L1: Name of goods sender	Yes
		L2: Name of goods sender, continued or Blank	Yes
		L3: Town/city	Yes
		L4: Country code (ISO 2 alpha code) and postal code	Yes
		L5: ID (supplier number) of the ship from	Yes
		L6: Country of origin of goods (ISO 2 alpha code)	Yes
A2	Goods recipient (Ship to)	L1: Name of goods receipent	Yes
		L2: Name of goods receipent, continued or Blank	Yes
		L3: Address of goods recipient	Yes
		L3: Country, postal code and town/city of goods recipient	Yes
		L4: Plant, unloading point, customer internal destination	Yes
A3	Label type and 2D barcode symbol	Label type codes	Yes
B1	Customer reference 1	Associated delivery note number, assigned by ship from Supplier number assigned to the seller by the sustomer	Yes
B2	Customer reuting information	Ctomer specific reuting info	No
B3	Logistics reference	ETA, Quabtity, Quantity Unit, Net, Gross Weight	Yes
C	Customer's article number	Article number	Yes
D1	Package ID	Package ID in plain text	Yes
D1	Customer reference 2	Package type, Qauilified date, Batch number, Number if inn packaging	Yes
E1	Optional information as defined by supplier	2D code, Part Numbers, Contracts, Info about packaging, Pyro	Upon plant request
E2	Customer reference 3	Package ID in DMC dimensions	Upon plant request

10.1.2   Appendix 2 – Masks for Barcodes / DMC (including dimensions)
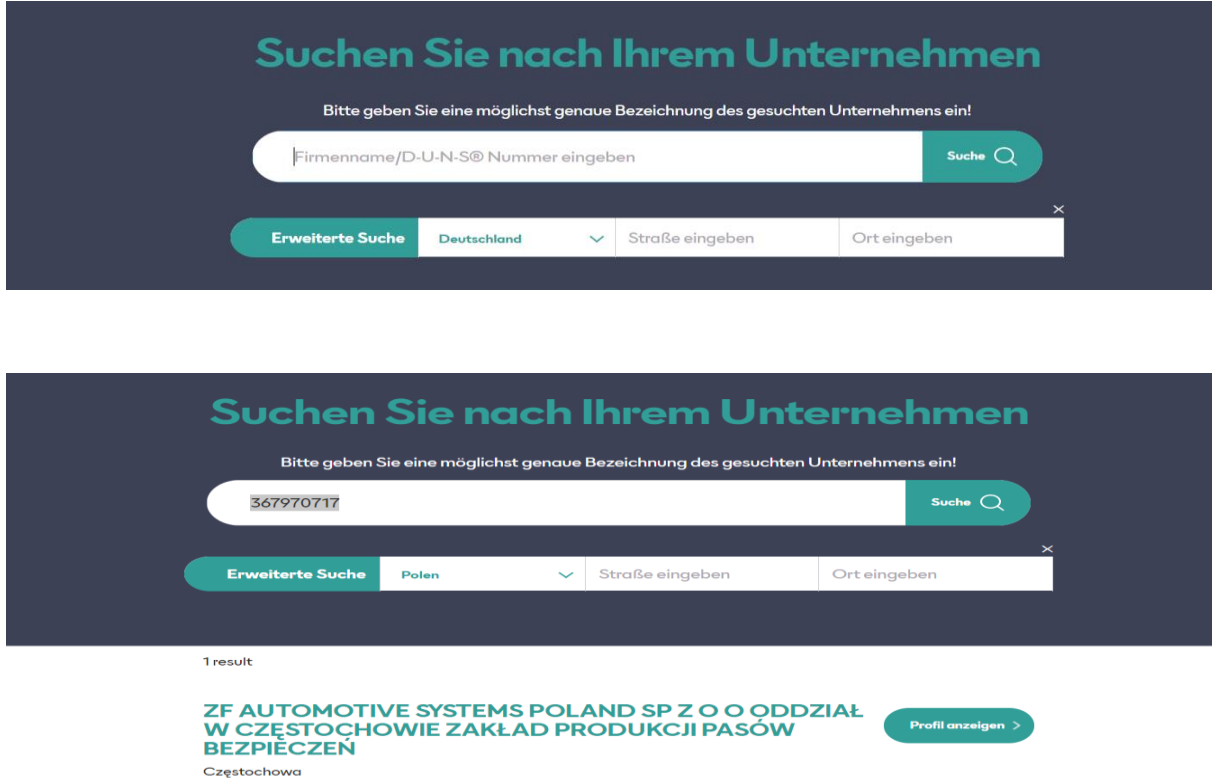No specific customer requirements

10.1.3   Appendix 3 – Reference table of German and English terms
No specific customer requirements

10.1.4   Appendix 4 - 1 DUNS number

D-U-N-S Number, the registration is for free, the number is worldwide valid, the verification can be run on internet side, f.e **https//www.bisnode.de**

10.1.5   Appendix 5 - Supply on

Supply on is ready to provide us the label according to this specification, and with data matrix code

10.1.6   Appendix 5 - ZF ASN requirements

The procedures for ASN creation are at following link http://zf.com/EDI

10.1.7   Norms

ISO/IEC standards that needs to be followed in order to achieve printing quality of the DMC

- ISO/IEC 16022 — Data Matrix bar code symbology specification

- ISO/IEC 15415 — 2-D Print quality standard

- ISO/IEC 15418 — Symbol data format semantics (GS1 application identifiers and ASC MH10 data identifiers and maintenance)

- ISO/IEC 15424 — Data Carrier Identifiers (including Symbology Identifiers) IDs for distinguishing different barcode types

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- ISO/IEC 15434 — Syntax for high-capacity ADC media (format of data transferred from scanner to software, etc.)

- ISO/IEC 15459 — Unique identifiers

- ISO TR 29158 AIM DPM – Association for Automatic Identification and Mobility Direct Part Mark

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