

# **ZFH LOGISTICS**

## **Guideline**

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**For the deliveries to  
ZF Hungária Kft.  
(Division T/ Plant Eger, Hungary)**

Revised in 2018





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This site-specific logistics directive is based on the **Global Logistics Directive** (GLD) of the ZF- Group, which is mandatory for all the suppliers of ZF Friedrichshafen AG worldwide regarding production material (incl. spare parts) and is binding as an overarching directive for all ZFH/Division T suppliers worldwide.

GLD can be downloaded at ZF homepage: [GLD](#).

The present guideline relates to the suppliers of ZF Hungária Kft / Division T (hereafter ZFH) and is valid only for production material for all stages of the product life cycle at the location of ZFH /Eger.

We reserve the right for changes or supplement in the logistics concept any time.



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## **Abbreviations:**

DCF:	Directive Corporate Function
EDI :	Electronic Data Interface
LAB:	Delivery Schedule
JIT:	Just in Time
JIS:	Just in Sequence
VMI :	Vendor Managed Inventory
CIP :	Continuous Improvement Process
KLT:	Plastic box standard in the automobile industry
ADR:	Accord europeen relatif au transport international des marchandises dangereuses par route (=European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID:	Reglament International Dangerous (Carriage of dangerous Goods)
EKAER:	Electronic Public Road Trade Control System ( <u>E</u> lektronikus <u>K</u> özúti <u>Á</u> ruforgalom <u>E</u> llenőrző <u>R</u> endszer)
MRP:	Material Requirement Planning
SupplyOn:	Web based Supplier Portal
WebEDI:	Web-Interface for Electronic Data Interchange
GLD:	Global Logistics Directive ( <a href="#">link to GLD</a> )
ERP system:	Enterprise Resource Planning

## **Preface**

The competition in the international market has increased in the last years significantly.

The classical function of the material- and goods flow has changed into an integrated and customer-oriented management function. The quality of overall logistics determines the overall competitiveness of our company and thereby becomes a strategic success-factor.

ZF Hungária Kft. must collaborate with their competent and reliable suppliers, who have the same customer-oriented goals, because ZFH can achieve the high quality only with them.

The target of this Logistics Guideline is to improve the relationship between the suppliers and ZFH and to minimize the losses between the two.

Major objective is to achieve the customer satisfaction and the customer requirements.

The suppliers and customers are our most important partners in our Supply Chain in pursuit of Business Excellence. An adequate process is necessary for achievement of our objectives. By the self-assessment (for example Logistics Self-Audits) and Continuous Improvement Process (CIP), our suppliers must prove their ability to achieve a high standard in the area of the Logistics procedure and support.

The requirements of this brochure are ZFH's specific demands and to implement as a part of the QM-system requirements (VDA6.3, IATF16949).

The supplier has the obligation to meet all ZFH and its customers' requirements as outlined in this Guideline.

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# **I. General Logistics Requirements of ZFH**

## **1. Information and procurement logistics**

An accurate communication flow between the supplier and ZFH is the basis for an efficient co-operation. The important things are as follows: unrequested and in-time information regarding to the suppliers' related issues (agreements, processes, etc.) and regarding to the compliance and pursuance of the agreements.

Supplier is responsible for a timely and unsolicited transmission of information about deviations from agreements between supplier and ZFH (e.g. delivery quantities, delivery dates and packaging).

Supplier is obliged to ensure supply of goods to ZFH according to the order and maintain replacement capacity. Supplier has the possibility to use supplier paid premium freight to meet the originally scheduled destination window if necessary. If for any reason supplier is unable to meet the schedules, supplier is to notify ZFH in written notice immediately and proactively once the issue is known.

### **1.1 Communication between supplier & ZFH**

#### **1.1.1. Contact**

The supplier must nominate and communicate a contact person for the logistics support (contact person, deputy, and manager in every case with e-mail, telephone and mobile/cell phone numbers).

The contact person should have the appropriate professional competence. Languages for the communication both in written and oral form (the contact person must have the ability to speak fluently at least one of the following languages):

- German
- English
- Hungarian

The contact person and/or his/her deputy nominated by the supplier must be available on working days from 8:00 till 4:00 p.m. (local time at the supplier).

Outside working hours the supplier must be available by an emergency cell phone used. The availability of qualified personnel must be communicated to ZFH.

#### **1.2. Information transfer**

The global strategy of ZF is the use of electronic communication with its suppliers. Accordingly, the data exchange between the parties shall be carried out electronically to ensure reliable and efficient processing between ZF and its supplier. In this context, the technical connection of the supplier's system must be implemented directly by supplier (classic EDI) or indirectly via WebEDI specified by ZF.

Costs incurred by supplier for the technical connection of the supplier's system must be borne by the supplier.

Basically there are two kinds of EDI (Electronic Data Interface):

- classical EDI and
- WebEDI through SupplyOn.

The information transfer via EDI or via alternative web-EDI is the basic requirement of the supply-relationship with ZFH. The supplier uses EDI in order to receive information (for example calling-off processes) from ZFH and to send information to ZFH (for example advanced notification of dispatch =ASN). For suppliers without an existing EDI connection to ZFH, EDI or Web EDI is to be introduced on the basis of an agreed time schedule and agreed process steps of EDI.

The technical conditions and the message format are regulated in details in the respective EDI contract. The supplier can ask the ZFH contact person for more information if necessary.

### 1.2.1. Classical EDI

ZFH uses standard format for the order data:  
VDA, ODETTE and EDIFACT

### 1.2.2. WebEDI

The WebEDI is an internet based information portal for the suppliers in order to communicate via EDI (for example in case of small call-off volume and missing infrastructure). This is an alternative of the classical EDI. The application is provided by SupplyOn AG ([www.supplyon.com](http://www.supplyon.com)).

SupplyOn is the strategic portal used by ZF to communicate with its suppliers. SupplyOn provides applications, that can be used in the following areas: logistics, finance, purchasing, quality and research and development (R&D). The application and use of the WebEDI service of SupplyOn is obligatory for all suppliers that have no capability for classic EDI-communication. Information on SupplyOn is available on the ZF homepage ([www.zf.com](http://www.zf.com)) including the contact details of the ZF Onboarding Team. Supplier is to pay service fee to SupplyOn.

### 1.2.3 E-Mail

There is a possibility to send the updated delivery schedule to the suppliers per e-mail at phasing-in parts and in exceptional cases. In this case, the supplier should define and communicate an e-mail address, where the delivery schedules can be sent automatically after MRP run. Only one e-mail address is possible to add; if supplier needs the delivery schedule sent on several e-mail addresses, a collective e-mail address is to be defined.

## 2.0. Management of ordering parts

Basically ZFH uses the following concepts:

- Classical delivery call-off procedure(LAB=delivery schedule) and single orders
- Vendor Managed Inventory (VMI)
- Consignment strategy with call-off procedure
- JIT and JIS (on demand delivery)
- C-Part Management

Which concept will be used must be defined by ZFH and the supplier at part-number level (using the most appropriate and efficient ways). The validity of the current concept must be revised periodically.

### 2.1. Delivery call-off procedure

The delivery schedule is communicated on the basis of a rolling system. This includes all the data for the next 12 months and is continuously updated. Changes will be transmitted by an updated call-off, always the last delivery schedule is binding and replaces the previously published delivery schedule.

Supplier receives delivery call-off quantity through the forecast (LAB=delivery schedule) from ZFH Logistics and through the yearly foreseeing (from ZFH Purchasing) if requested.

Based on this, supplier ensures:

- the production capacity is adequate for this volume
- the subcontractors are able to ensure the semi-finished parts' volume

There is a fixed horizon in ZFH system, within which the scheduled data (quantity and delivery term) cannot be changed. This refers only to the transport time (from supplier to ZFH).

#### 2.1.1. Processing of orders

***The delivery dates mentioned in the delivery schedule (LAB processing) are to be understood as arrival dates at ZFH,*** therefore the official transit times must be taken into consideration according to

the schedule table (see actual lead-time table). The delivery dates are indicated on a daily, weekly or monthly basis.

In case of accurate and in-time delivery the order confirmation is not requested. Always the last delivery request is valid and replaces the earlier delivery schedules. If you do not receive a new delivery schedule, the last one is binding. The following purchase commitments are valid for delivery schedule:

The quantities shown during the issuing week and the following 3 calendar weeks are fixed purchase commitments in respect of the quantity. If no new scheduling agreement is available for us within one week, the quantities of the next calendar week will become automatically a fixed acceptance obligation. The quantities entered for the next 4 weeks entitle you for material and capacity disposition. We reserve the right to schedule rearrangements. Any further information on future schedules will refer to non-binding volumes for planning purposes only.

According to this, supplier checks the received delivery schedule with respect to the following: complete, accurate, right and plausible information. (for example: name of the supplier, part numbers, quantity, due-dates).

For orders the General Conditions of Purchase of ZFH and the Global Logistics Directive (GLD) are valid:

[https://www.zf.com/hungary/media/hungary/corporate\\_hu/career/ZFH\\_Purchase\\_HU\\_EN.pdf](https://www.zf.com/hungary/media/hungary/corporate_hu/career/ZFH_Purchase_HU_EN.pdf)

[https://www.zf.com/site/supplierboard/media/zf\\_media\\_import/document/corporate\\_2/downloads\\_1/downloads/Global\\_Logistics\\_Directive\\_Version\\_2018\\_4\\_english.pdf](https://www.zf.com/site/supplierboard/media/zf_media_import/document/corporate_2/downloads_1/downloads/Global_Logistics_Directive_Version_2018_4_english.pdf)

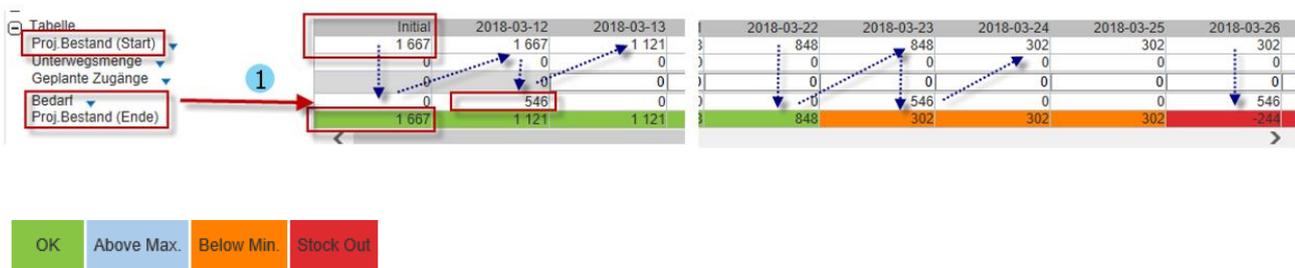
## 2.2. Consignment strategy

Consignment Inventory is inventory that is in the possession of the customer, but is still owned by the supplier. In other words, the supplier places some of his inventory in his customer's possession (in their store or warehouse) and allows them to sell or consume directly from his stock. The customer purchases the inventory only after he has consumed it.

### 2.2.1 Consignment strategy with VMI Processing (“Vendor Managed Inventory”):

In this procurement method supplier is responsible for disposition and delivery management within appointed MIN/MAX limits. The VMI procedure is applied only in combination with consignment or bonded warehouse. The supplier has access to inventory and demand information and generates the deliveries by himself.

The application of SupplyOn VMI Monitor is obligatory. At Vendor Managed Inventory (VMI) transparent net-demand and actual stock are available for the supplier. The supplier controls the deliveries of goods so that the stocks (in the consignment stock) remain between minimum and maximum levels, as agreed between the supplier and ZFH.



In case of VMI suppliers also receive call-offs, however these are only for planning the capacity and raw material at the suppliers.

In VMI there are net demands (= production demand) forwarded to the suppliers instead of delivery schedules, so that VMI stock remains between agreed minimum and maximum levels.

The supply of the material is defined by the agreed minimum and maximum levels. If the stock of a part is under minimum level, the supplier is in a backlog situation and it has to launch special activities pro-actively and accept all the costs related to this issue.

### **2.2.2 Consignment strategy with call-off procedure:**

The main principle is analogue to the ones written in paragraph 2.1.1 with the difference that the incoming stock is to be booked to the consignment stock, i.e. the parts remain the property of the supplier until the moment of consuming. Supplier receives a stock report regularly (daily stock report + 10 days' report).

This procedure is preferred in case of phasing in/out parts and at slow-runner (exotic) parts.

### **2.3 JIT (Just in Time) / JIS (Just in Sequence):**

#### **2.3.1 JIT (Just in Time):**

The order is placed for a certain point in time and the ordered material is shipped directly to the production area as defined by ZFH. The parts must meet both the quality and quantity requirements. Information on requirements can be retrieved and displayed through SupplyOn by the supplier, even after every MRP run, which takes place daily.

Regular JIT call-offs will be automatically received by the supplier (once a day). Goods are transported by the supplier's own truck on the basis of the time-window defined in the daily call-off. Suppliers are to register the data of the delivery note directly to the SAP terminal at the JIT Goods Entrance electronically, in accordance with ZFH IT requirements.

Invoicing:

Billing is done every 10 days. On the 11th, 21st of each month and on the last day of the month, supplier can call the list of the parts to be invoiced in the dedicated decade from SupplyOn with aggregation numbers. Details are to be negotiated with ZFH Controlling and issues are to be invoiced.

#### **2.3.1 JIS (Just in Sequence):**

The order is placed for a certain point in time and the ordered material is shipped directly to the JIS area as defined by ZFH. The parts must meet both the quality and quantity requirements.

Information on requirements can be retrieved and displayed through SupplyOn by the supplier, even after every MRP run, which takes place daily.

Regular JIS call-offs will be automatically received by the supplier (more times a day). Goods are transported by the supplier's own truck on the basis of the time-window defined in the daily call-off.

Suppliers are to register the data of the delivery note directly to the SAP terminal at the JIS area electronically, in accordance with ZFH IT requirements.

Invoicing:

Billing is done every 10 days. On the 11th, 21st of each month and on the last day of the month, supplier can call the list of the parts to be invoiced in the dedicated decade from SupplyOn with aggregation numbers. Then details are to be negotiated with ZFH Controlling and issues are to be invoiced.

### **2.4 C-Part Management:**

The C-parts are delivered directly to the assembly line in KLT boxes, where the KLT size and its filling quantity is agreed upon in advance by ZFH and supplier.

The parts must meet both the quality and quantity requirements.

Information on requirements can be retrieved and displayed through SupplyOn by the supplier, even after every MRP run, which takes place daily, and once a week an excel demand list is to be sent automatically from ZFH SAP to C-part supplier.

Types of delivery:

- Kanban C-products placed on the pre-defined shelf of the Assembly Line by the supplier.

- Block C-products supplied by the supplier to a location set up for this purpose in ZFH assembly hall, from where the line-feeder prepares them to the block numbers and places them to the Assembly Line.

Both KANBAN and BLOCK items are to be supplied by supplier 4x daily according to the agreed time-window.

Supplier's Responsibility:

- continuous supply of items to be delivered by the supplier, trouble-free replenishment
- pro-active troubleshooting for critical positions;
- providing clean and appropriate KLTs,
- sending the current stock list once a week
- sending updated shelf-register in case of change;

Additional export spare-part demand is to be ordered by ZFH single orders. These are to be transported into the Inbound Warehouse.

### **3.0 Endangering the production/assembly line**

Should the correct (accurate and in-time) delivery be endangered, the supplier must get in touch with the ZFH contact person immediately and resolve the issues and confirm.

Basically no discrepancy in the delivery is tolerated by ZFH, but in such case it has to be agreed separately and in advance.

If there are failures, which have influence regarding the delivery date and quantity, the supplier is to implement immediate corrective actions. If the supplier can see, that it cannot fulfil the originally agreed requirements, he is to communicate in written form (e-mail) the new delivery date and/or quantity to ZFH promptly.

Furthermore, the supplier is to inform ZFH about followings (at the request of ZFH):

1. Reasons for the supply problem;
2. Production capacity for the missing parts based on the machine running time and working time hours (hour per workdays, workdays per week) etc.
3. Alternative production possibilities (strictly in compliance with ZFH quality requirements);
4. Deliverable alternative parts (strictly in compliance with ZFH quality requirements/standards);
5. Checking of lot-splitting / partial delivery;
6. Possibility of shorter delivery time through special transport;
7. Information about escalation within the supplier's organization;

If a common solution cannot be found, the supplier is to involve its management for support.

In case of production/assembly -line stoppage despite the supplier's corrective actions, the followings are to be applied:

- The supplier receives the information in advance concerning the eventual production-/assembly-line stoppage.
- The supplier is to be charged with the emerged costs, resulted from the line stoppage:  
In case of an assembly-line stoppage at ZFH: 75 € / worker / hour (the duration of the stoppage is multiplied by the number of the co-workers, who actually work at the assembly line concerned);  
An example: the assembly line has a stoppage of 2 hours;  
Fee which is to be charged to the supplier:  
 $2 \text{ hours} \times 15 \text{ (number of actual workers at the line)} \times 75 \text{ €} = 2250 \text{ €}$ .  
In case of a production-line stoppage at ZFH: 1050 € / hour
- If a special transport to the customer becomes necessary due to the caused band-stoppage, the export special transport costs are also to be charged to the supplier.

- Premium freight for the entire supply chain will be charged at actual cost + *there is a* handling cost of 10 % of the transport costs, which is in addition to the transport-costs.
- Besides, ZFH reserves the right to charge the emerged costs to the supplier, if ZFH receives a customer claim, caused by the supplier.

**4.0. Measurement of the delivery performance**

The target of ZFH is to have trustworthy, co-operative and stable business relationship with its suppliers. Consequently, the measurement of the delivery performance offers an important basis for improvements and optimization.

The basis of the measurement of the delivery performance is to reach an average **min. 95%** delivery performance with every supplier. To support this procedure ZFH sends an evaluation on a monthly basis about the actual delivery rating & details from ZFH-SAP system. Performance indicators are available on SupplyOn Performance Monitor for registered users. In case the suppliers do not reach the given 95 % performance, further negotiations with ZFH can be launched to establish a corrective action plan.

ZFH expects that the supplier has the passion to develop himself, and to act on his own initiative without any special instruction for developing and improving the business relationship between the two companies.

The standard **measuring method** used ZF worldwide is the Bensberg Tool (SAP-AddOn):

**Delivery Performance in %:**

Number of the correct receipts within the evaluation timeframe

Number of the total receipts within the evaluation timeframe

A goods receipt can be rated only 0% or 100% per item number:

Delivery Performance: 100% - if time and quantity tolerances have been met

Delivery Performance: 0% - if time and/or quantity tolerances have not been met

The tolerance limits of this evaluation is compared to the actual situation in each case as follows:

	<b>Tolerance of quantity</b>	<b>Tolerance of time</b>
<b>Delivery schedule, single order</b>	+/- 10%	+/-1 day (this tolerance relates to the measuring of the delivery performance, the delivery is to be performed according to Delivery Schedule accurately) <b><u>Any delay in shipment can only be accepted after consulting with ZFH contact.</u></b>
<b>VMI/ZFH-consignment handling</b>	Daily evaluation of the actual VMI stock in the mornings done by ZFH: If the stock is between min./max. levels =>100% rating if the stock is outside min./max. levels => 0% rating – no tolerance or partial rating in case of deviation	
<b>JIT/JIS</b>	+/- 0 % and +/- 0 days	

*Note: This is purely a measurement tolerance and applicable solely for measurement of delivery reliability purposes only. Nothing herein shall release supplier from its obligations to deliver the goods in due time and according to the order. Supplier must ship to the quantities and exact dates given by ZF: no over, under, early or late shipments are allowed.*

The result of the measurements of delivery reliability will be communicated to supplier via automated e-mail from the SAP and also via “SupplyOn Performance Monitor” tool. Supplier takes care that the measurement results are promptly available for the responsible functional area and are analysed.

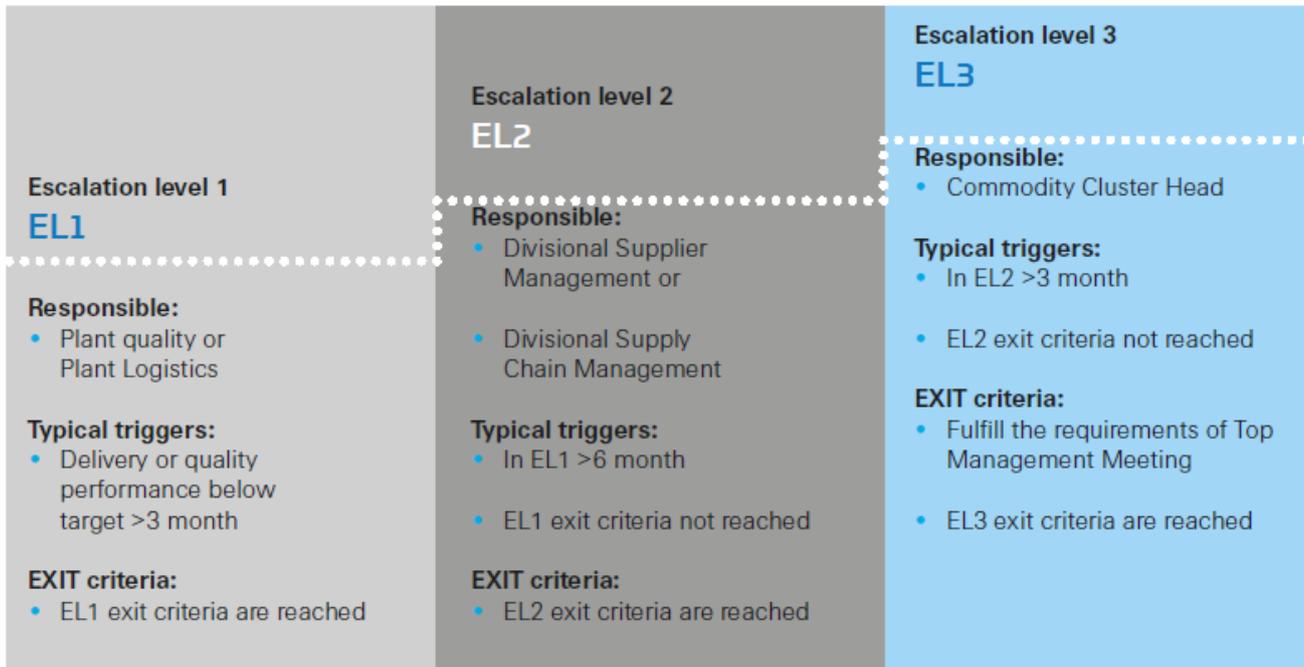
**Over- and early delivery:** In case of an over-delivery, ZFH reserves the right to return the surplus of the delivered quantity at the supplier’s cost with an additional 150 € administration costs. In case of early delivery each incidents are to be discussed with ZFH contact separately.

**5.0 Management of phasing-in and phasing-out parts**

In the phasing-in and phasing-out process ZFH expects an increased flexibility from the suppliers. For this it is required to carry out a capacity planning, to be able to deliver smaller quantities within agreed time. The capacity planning is to be fine-tuned in due time between ZFH and the suppliers.

**6.0 Escalation model**

If performance problems are detected at a supplier for a longer period of time repeatedly, an escalation process occurs by involving the relevant ZFH departments.



In case of an unsuccessful escalation process (after EL3) ZFH blocks this supplier for further orders and places the supplier in a phase-out process in co-operation with purchasing department internally.

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## **II. General Packaging Instruction of ZFH**

### **1.0 Scope of application**

This general packaging instruction applies to all suppliers for ZFH. It describes the basis of packaging planning for ZFH and the requirements for the usage of packaging standards by suppliers.

Following ZF Standards must be observed at the same time:

- ZFN 9004/1 - General Packaging Regulation Logistics, Environmental Protection

### **2.0 Types of packaging**

Different types of packaging materials (see Appendix II.1) are used in the logistics chain from supplier to ZFH.

The packaging system must protect the product from place of origin, through transit, to point of use and must assure easy handling and safety at the receiving location.

Supplier ensures that all deliveries are made solely in clean, dry, non-defective and fully-functioning packaging.

If requested by ZF, all components must be provided in “ready for production” condition, no additional process like washing or sorting shall be needed.

In general ZFH prefers reusable packaging to one-way transport packaging considering quality aspects and efficiency.

### **3.0 Packaging requirements**

Packaging is to be planned for specific parts according to the following criteria:

- product specific requirements
- logistics (material flow),
- quality assurance,
- environmental compatibility,
- work safety and ergonomics
- economic (cost) efficiency.

Packaging must keep the parts clean and preserve them from corrosion, damages and be suitable for the mode of transportation and intended use.

Other potential security criteria and country specific regulations regarding import packaging must also be considered.

**Following requirements shall be met irrespective of which type of packaging is chosen:**

- Protection of the parts
- Maximum height of loading unit: 1 m
- Maximum weight of loading unit: 500 kg
- Maximum weight of packaging unit and small load carrier (KLT): 20 kg
- Loading units with more than 25 kg should be approachable from below for lift truck forks to enter & lift the package (min. 100 mm under -ride height).

- The packed content and the packaging aids must not protrude beyond the external contours of the loading unit.
- Containers will be designed without dunnage/spacers whenever possible.
- Basically one part number per loading unit should be packed, but to optimize freight and handling costs, mixed shipments are explicitly welcomed. Handling units with different part numbers (on one palette) are to be labelled as “Mixed shipment” in accordance with VDA 4902.
- Transport vehicles must be able to be unloaded without any problems. The loading units should be underridden from each side.
- The packaging must be of sufficient strength to allow full transportation utilization (stackability).

#### **4.0 Recycling of packaging and avoidance of waste**

The waste management must meet the environmental legislation and the requirements of ZFH as follows:

- Avoidance of packaging waste:  
Any packaging waste shall be limited to the absolute necessary amount.
- Reduction of waste:  
Application of packaging made of materials which can be recycled
- Recycling of materials:  
The use of environmentally compatible and recyclable materials for all types of packaging

In general, environmentally compatible materials, which are suitable and accepted worldwide for recycling are to be used for all one-way packaging. Combination of materials (pin in wood) is limited to a minimum level and should be simply separable according to use. Adhesive tapes, packaging straps, adhesive labels and product labels must not restrict the ability to recycle the packaging material.

When supplier uses wooden packaging material, supplier must observe the phytosanitary service and the Regulation of the ISPM (International Standards for Phytosanitary Measures). Permanent and legible marking and treatment of the packaging must be provided according to IPPC (International Plant Protection Convention) Standard ISPM 15.

#### **5.0 Determination of packaging**

- The quantities and technical configuration of the packaging is undertaken by the supplier in conjunction with ZFH. The method of packaging - proposed by the supplier - must be agreed upon with ZFH and released prior to the start of serial production/deliveries.
- The part number-related ZFH packaging instruction describes the defined packaging. This packaging instruction should be completed by the supplier when packaging is defined for the first time or when the packaging is changed.
- The packaging instruction should be confirmed with the signature and firm stamp of the supplier in this document.
- If the packaging instruction is not undertaken by the supplier, it is to be worked out by ZFH. If the proposal of ZFH is not confirmed by the supplier within 15 working days, it comes into force automatically.

Supplier is liable for decreases in quality due to insufficient, damaged or soiled packaging.

If the supplier does not use the packaging as agreed between ZFH & supplier, ZFH reserves the right to charge the supplier for all the handling, disposal and repackaging costs incurred (150 € costs of administration / case + 75 €/h/person).

## **6.0 Packaging costs**

The packaging costs present a significant portion of the logistics costs that ZFH takes into account when selecting suppliers.

Packaging costs associated with meeting the packaging specifications and requirements must be provided as part of the supplier's quotation. They only include the costs for packaging incurred. Consequently plastic inserts / deep drawn parts, one-way inserts, one-way cardboard packaging, as well as VCI parts are included. Expenditures and/or work times (handling costs), besides storage and transport expenses are not included in the packaging costs.

When making an offer, the packaging costs must be indicated separately in the quotation, but they do not appear separately on the invoice.

## **7.0 Use of returnable packaging materials:**

- As a rule, ZFH gives preference to standardized returnable packaging materials over one-way packaging considering quality and efficiency aspects.
- Whenever planning or changing packaging, therefore, it is to be examined whether the use of returnable packaging materials is possible for efficiency and quality aspects. In these cases, the returnable packaging materials must always be preferred to other type of packaging.
- Appropriate proposals are expected from suppliers concerning the change-over from one-way to returnable packaging (KLT) within the framework of CIP (Continuous Improvement Process).
- When packaging is being modified or new packaging is planned, the following KLT's can be considered:

C-KLT (VDA 4500) types used by ZFH:

description	Weight [kg]	External measurements [mm]			Internal measurements [mm]			Loading unit Max. quantities/ euro palette
		Length	Width	Height	Length	Width	Height	
<b>KLT 3214</b>	0,72	297	198	147,5	271	136	127,5	96 pcs
<b>KLT 4314</b>	1,63	396	297	147,5	334	247	98,5	48 pcs
<b>KLT 4328</b>	2,6	396	297	280	334	247	231	24 pcs
<b>KLT 6414</b>	2,8	594	396	147,5	532	346	98,5	24 pcs
<b>KLT 6428</b>	4,4	594	396	280	532	346	231	12 pcs

- The load security features of the KLT on EUR- palette consist of top cover plate (A1208) and security plate (SP1218). Loading units must be fully filled for proper securing. Empty KLT can be used for this purpose if applicable.
- In case of low KLT quantity, the KLT's can be transported on one-way or half-sized palette.
- The costs of any permanently deformed, and therefore damaged carriers is to be charged to the supplier.

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## **8.0 Management of reusable packaging**

The procedure described below shall apply for all reusable packaging used at ZFH.

All reusable containers are only intended for the transport of parts between the supplier and ZFH. Basically they must not be used for other purposes such as batch-size production, or temporary warehousing of semi-manufactured goods or delivery to subcontractors. (Exceptions are to be agreed with ZFH individually.)

### **8.1 Supply/provision**

The supplier orders the needed quantity of reusable packaging/load carriers in written form using the blank „Order of loading unit” (see Appendix II.3). ZFH provides the supplier with volume required for free of charge and without any delivery costs. The supplier is responsible for the cleanness and usability of returnable packaging materials. The quantity of loading units required by the supplier cannot exceed the quantity of the normal circulation time of max. 6 weeks.

Returnable packaging materials can be soiled and damaged by climatic influences (e.g. UV radiation). Consequently outdoor storage of empties without adequate sun and weather protection is not permitted.

Requests for reusable packaging have to arrive in time, regarding the lead times (at domestic suppliers 2 workdays, at foreign suppliers min. 7 workdays before the date of demand of packaging material at supplier) to assure the supply in time. Basically lack of reusable packaging at supplier must not cause production line stoppage at ZFH. In such cases the supplier should use one-way (alternative) packaging after consulting with ZFH (in charge of supplier packaging – see attached Appendix III.1: List of the contact persons) prior to the shipment.

Alternative packaging must keep the parts clean and preserve them from corrosion, damages and be suitable for the mode of transportation and intended use – analogous to serial packaging.

In case of non-compliance of this procedure (disruptions resulted in the entire process chain in the form of special freight and/or repackaging activity), all the related costs will be charged to the supplier.

### **8.2 Accompanying documents**

The “ZFH Bill of loading units” (see Appendix II.4) must be enclosed with all deliveries; as well as in those cases when the packaging details are recorded in the delivery note. All the shipping documents are to be completed carefully to ensure accurate booking-in.

### **8.3 Stock management (at reusable packaging material)**

Stock management, based on the recorded details on the “Bill of loading units” (Appendix II.4) is conducted by ZFH and should be confirmed by the suppliers. The supplier receives a stock overview of the containers regarding stock management from ZFH every month and uses this as a basis for comparison.

If no objections are raised in 10 workdays, the documented inventory records are considered.

Accurate and final information on differences should be submitted in written form to ZFH. In case of any objection appropriate booking documents (as copies of ZFH Bill of loading units, delivery notes, and any relating correspondence) are to be enclosed with correspondence of objections.

ZFH has got the right any time to ask the supplier for a stock inventory of returnable empties owned by ZFH in order to check.

If the stock inventory is not presented by the supplier within 5 workdays, ZFH’s own booking will be taken as basis and no appeal will be granted for the supplier.

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Non-conformance of this process may cost to the supplier 150 € per incidence; furthermore the lack of the document “Bill of loading units” (Appendix II.4) will result to an incapability of making a monthly stock report for packaging units.

## **9.0 Labelling**

- The loading units and packages are labelled using a label compliant with VDA 4902 "Goods label (barcoding capable)", version ZFH (Appendix II.6).
- It refers both to one-way and returnable packaging. KLTs are provided with special KLT labels.
- Initial samples, proto parts and parts with deviation request must be labelled according to ZF Guideline “QD83”.
- The labels of the loading units and packages must be inserted to the place which is for this purpose on the longer side on a well visible place.
- At returnable packaging the adhesive tag / label is prohibited for the reason of cleanness.
- The master label (A5 size) is to be fixed to the loading unit with adhesive dots that are easily removable and leave no residue.
- Reusable containers must be palletized so that the goods’ labels remain visible.

## **10. Non-conformance**

Any deviation from these packaging regulations requires written approval from ZFH.

### **Appendixes:**

- Appendix II.1: Reusable packaging materials
- Appendix II.3: Order of loading unit
- Appendix II.4 Bill of loading units
- Appendix II.5: Packaging instruction
- Appendix II.6: Labelling

### **III. General delivery instructions of ZFH**

#### **1.0 Delivery address with hours of operations:**

**a) ZF Hungária Kft. T-Division Import Warehouse**

Eger H-3300, Kistályai út 2/B.

Operating hours:

Monday – Friday: 6:00-22:00

Suppliers, which organize the deliveries on their own, have the responsibility to respect the operating hours of ZFH warehouse.

In emergency cases the unloading at the weekend or at night is allowed, but requires approval from ZFH responsible person (see attached List of the contacts).

#### **2.0 Definition of the delivery**

A delivery is the entire number of goods, which is loaded on one day on one truck from one supplier to one customer (incl. external location).

We can differ following types of transports:

##### **2.1 Combined transports, full-loading, partial loading**

In case of regular shipment following data are to be given to ZFH by the supplier: part number, weight, volume of goods and all the important information well in advance (details see in 4).

##### **2.2 Delivery of machines**

The shipment of machines must be co-ordinated with the responsible person at ZFH. All the needed information must be forwarded to ZFH. Suppliers which deliver machine to ZFH are called as non-productive suppliers.

##### **2.3 Delivering of hazardous materials:**

For deliveries of hazardous materials all relevant laws, legal norms and regulations must be complied with. The compliance of all the relevant laws, legal norms is compulsory regarding each relevant activities (packaging, loading etc.), which refers to the entire chain of production until the final point, where product is delivered.

It is also the supplier's responsibility to advice the hazardous material to the forwarder, particularly UN number of the hazardous material, official description, classification, packaging group, packaging method, number of loading units and quantity of goods.

##### **2.4 Overseas delivery:**

The overseas delivery must be managed similar to the land freights. About forwarder you can get information at ZFH Logistics (see contact list III.1.).

##### **2.5 Delivery by airfreight:**

All the airfreights within Europe are regarded as premium/special freights. The costs of the premium/special freight must be defined in a written form before scheduling. Details are defined in paragraph 7 (Processing of premium freights).

- If the supplier wants to deliver the goods by airfreight at ZFH cost, it must be confirmed by ZFH in written form well in advance.



- This also refers to the shipments by express mail service / courier service (like DHL, TNT, UPS, etc.)
- The delivery which is not co-ordinated with ZFH responsible person and where the costs are not approved by ZFH in advance, the goods will be shipped back to the supplier and all the relevant costs will be charged to the supplier automatically.
- If ZFH accepts the goods because of urgency, ZFH will charge the transport costs to the supplier with an additional ZFH administration cost (10% of the premium freight costs additionally).

## **2.6 Domestic delivery by road**

The deliveries to/from ZFH have to be arranged according to the actual and valid delivery conditions (Incoterms). If the freight is paid by ZFH, it works with contracted forwarder company at ZFH's own expense.

## **3.0 Advising note of the goods:**

The forwarder company of the normal land freights is defined in the Appendix III.1.

It is the suppliers' responsibility, that the transit-time (Lead-Time Table) is respected for deliveries on time (see transport times in the Appendix III.2).

Goods must be advised only by e-mail until 12.00 a.m. the day before collection - according to the lead time table by using the pickup sheet/collection advice (Appendix III.3.) which is only accepted in Excel format. All shipments must be ready for pick up on the day of dispatch latest until 9:00 a.m.

In the pickup sheet/collection advice the supplier has to provide the relevant and complete shipment data – inclusive stackability respectively stacking factor and total value – to the forwarder in time.

The supplier must ensure consistency between the physical delivery including load carrier/packaging and the data notified beforehand in the documents (e.g. number of loading units).

Any weight and volume discrepancies are not tolerated by ZFH, consequently any potential additional costs due to differences between the notified data and actual staging will be charged to the supplier.

In case the supplier sends the pickup sheet/collection advice too late and receive a notification from ZFH's forwarder that the transport cannot be performed on the dispatch day (day B), the supplier is to inform the competent ZFH Logistics contact to agree what actions need to be taken.

If the specified delivery day falls on a holiday/ national bank holiday the goods are to arrive at ZFH on the previous working-day, or this is to be agreed with ZFH Logistics contact. The holiday/national bank holiday in the country of origin are not taken into consideration by ZFH, this is the supplier's responsibility. Non-conformance of this process may cost to the supplier 150 € per incidence.

In case of any deviation because of incomplete, improper or unclear filling up of the advising document, changes (even if the loaded quantity is less than advised) or late advising (after 12:00) the supplier is to bear the additional costs. The supplier is obliged to archive all the advising documents at least for 6 months.

Detailed information about **EKAER data submission** can be found in Appendix III.5.

## **4.0 Preparation of the goods for the delivery:**

- All shipments and documentation must be ready for pick up from 09:00 a.m. on the day of dispatch (day B).
- If the goods or the documents are not available on time on the agreed collection day, the forwarder is entitled to leave supplier's plant without the goods. In this case the supplier must immediately contact ZFH partner in order to check whether collection on the following day is still acceptable or special freight must be organized at the supplier's cost.

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Any additional costs due to “dead freight” (as a consequence of supplier’s failure) will be charged to the supplier.

### **5.0 Loading at the supplier:**

The supplier is responsible to provide the goods according to the “Pickup sheet /Collection advice” and packaging specification for the forwarder company to load them onto the truck and to secure them on the truck for the delivery.

### **6.0 Documentation:**

Following documents need to accompany the goods and are to be given to the forwarder before departure:

- min. 4 copies of the delivery note: 3 copies for the driver and 1 copy must be fastened to the loading unit. Furthermore in case of returnable packaging the document “Bill of loading unit” is to be attached (Appendix II.4).
- CMR , Packing List (where applicable)
- Export customs declaration (where applicable)

#### Commercial invoice requirements:

- information about the EU VAT Nr (within the EU)
- country of origin
- purchase order number
- ZFH’s contact name
- indicate INCOTERMS 2010 +“named place of delivery” (e.g. FCA Eger)
- One original invoice must be forwarded by post to the ZFH Financial Department.

Non-conformance of this process may cost to the supplier 150 € per incidence. Such shipments will be evaluated with 0 % in the delivery performance. The data of the delivery note and the freight documents must match. It is the supplier’s responsibility to ensure that the documents are accurate and reflect all legal requirements.

The transport documents for special freights have to be clearly marked with the note “special freight”.

In case of any non-conformance regarding ZFH requirements, the forwarder agency may cancel the loading process. The shipping in time (with accurate quantity and accurate documents) must be guaranteed by the supplier, otherwise the supplier is to contact competent ZFH Logistics responsible person to agree what actions need to be taken.

### **7.0 Processing of premium (special) freights:**

At special / premium freights following data are also to be indicated in the documentation: part-number, description, name and department of the requester, and the indication of “special freight” (“Sonderfracht”).

If the premium freight is caused by the supplier, it is the supplier’s responsibility to carry out the organisation of the freight, and to bear the costs of it. If the premium freight is caused by the supplier but organized by ZFH, the transport costs are to be borne by the supplier with an additional handling cost of 10 % of transport costs.

All the premium freights which are at the expense of ZFH but organized by the supplier must be approved in written form by ZFH.

## **8.0 Domestic transport order:**

When the freight is organized and paid by ZFH, the following procedure has to be considered:

- Deliveries must be advised in time, which is 1 day prior the picking up time till 2:30 p.m by e-mail to both of the logistics freight-coordinators (Appendix III.1) on the ‘Domestic Transport Order‘ Form (see Appendix III.4).
- The supplier must provide all the necessary delivery documents as required for domestic transport.
- If special freight is necessary, the supplier must have a written agreement with ZFH regarding the additional costs.
- In case the supplier needs to delete the domestic transport order, it can be done only on the pick-up day until 8:00 a.m. After this time he has to bear the cost of the failed transport.
- When more goods are ready for collection than booked in advance, the forwarder and ZFH Logistics Freight coordinator must be contacted immediately.

## **9.0 Control of goods received at ZFH Warehouse:**

ZFH import warehouse has to check the incoming goods as follows:

- **Visual control for damages**

If the goods and / or its packaging are damaged, ZFH import warehouse accounts and treats the goods as blocked until the quality inspection is completed.

The supplier will be informed about this incidence via an official quality report by ZFH-QM.

The party causing this issue must bear all the costs which are resulted from these problems.

The reason for the damage and identifying of the responsible party is carried out by ZFH-QM.

- **Document control**

ZFH import warehouse checks, whether the delivery notes are available according to ZFH requirements. In case of lack of delivery note, report will be made and the supplier will be informed.

- **Comparison of the document and the loading units (based on number of collies)**

All deviations must be reported by ZFH import warehouse and both the forwarder and the supplier will be informed. The booking-in will be modified according to the report.

For any concerning deviation, the supplier will be charged at actual cost of 150 €/ incidence.

- **Quantity-control only random checking**

In case of any volume discrepancy ZFH reserves the right to complain at “delivery call-off procedure” parts within 15 calendar days calculated from goods’ receipt and in case of consignment parts within 15 calendar days calculated from picking.

The additional administration work may be charged at actual cost of 150 €/ report.

In case of volume discrepancy the supplier is to send the revised invoice and delivery note to ZFH within 15 calendar days from the date of the report by e-mail and by post. If the revised/corrected invoice does not arrive in time at ZFH, the original invoice is to be returned by ZFH Controlling to the supplier.

### **Appendixes:**

Appendix III.1: List of contact persons

Appendix III.2: Import delivery times

Appendix III.3: Collection advice / pickup sheet

Appendix III.4: Domestic transport order

Appendix III.5: EKAER

# **APPENDIXES:**

- 1) Appendix II.1: Reusable packaging materials
- 2) Appendix II.3: Order of loading unit
- 3) Appendix II.4: Bill of loading units
- 4) Appendix II.5: Packaging instruction
- 5) Appendix II.6: Labelling
- 6) Appendix III.1: List of the contacts
- 7) Appendix III.2: Import delivery times
- 8) Appendix III.3: Collection advice / pickup sheet
- 9) Appendix III.4: Domestic transport order
- 10) Appendix III.5: EKAER