



Corporate Packaging Requirements

GD-114 Rev. 1.1



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1 Revision history

Version	Updated by	Function	Date	Changes	Accepted by (HUF)	Date (HUF)
1.0	Paweł Łaszczak	Global Customs, Transport and Packaging Manager	31.08.2022	created		
1.1	Sylwia Nawrot	Logistics Planning	14.03.2023	One way + returnable packaging dim tolerance change	Paweł Łaszczak	14.03.2023

2 Glossary / definitions

Term	Definition
One-way packaging	Also disposable packaging – any packaging which is not reusable and/or returnable.
Returnable packaging	Also reusable packaging – packaging that is being used more than once to deliver products, after delivery it is returned / collected by sender.
Primary packaging (PP)	Also Inner Packaging, this is a packaging / box to which parts are being inserted, latter shipping unit / pallet is being build out of it.
Secondary Packaging (SP)	Also Inner Packaging, shipping unit / pallet build out of primary packaging.
EUR-pallet	A known as Euro-pallet or EPAL-pallet, is the standard European pallet as specified by the European Pallet Association (EPAL). Pallets conforming to the standardization are eligible for the European Pallet Pool (EPP), the system which allows for an exchange as "pallet for pallet". The EUR/EPAL-pallet is 1,200 mm × 800 mm × 144 mm (47.2 in × 31.5 in × 5.7 in); it is a four-way pallet made of wood that is nailed with 78 special nails in a prescribed pattern. The weight of a EUR/EPAL-pallet (EPAL 1) is approx. 25 kg.
ESD	Protection against electrostatic discharges (ESD)



3 Introduction / General

This document, provides guideline for any current or potential HUF supplier regarding packaging requirements that needs to be fulfilled once undertaking business for HUF Group and / or any local HUF Plant. All deliveries to HUF must be carried out in the packing appointed and approved by HUF Group. Following conditions are applicable for all HUF locations globally and any deviation from them requires written approval, otherwise null and void.

4 Packaging approval process

The packages are to be determined in coordination with HUF for every new part. As part of request for quotation, HUF will provide detailed guideline constituting key packaging requirements to be fulfilled by the vendor. HUF reserves the right to request supplier to quote for one project both one way and returnable packaging. Supplier is obliged to propose packing in written form following this guideline, which will be checked from a qualitative and quantitative point of view and, if required by HUF, a sample packing has to be provided. The packaging agreement will be documented in the HUF packaging data sheet (Appendix 1) and is approved only after supplier receives written confirmation.

5 ESD Packaging

All the ESD parts or the parts assembled in the ESD assembly line must have ESD packaging. The packaging must have resistor point to point minor than $1 \times 10^9 \Omega$ ($R_{pp} < 1 \times 10^9 \Omega$). This value is based in the standard IEC 61340-5-2-2007.

ESD requirements are not applicable unless clearly specified by HUF procurement during quotation phase.

If according to supplier's best knowledge ESD protection is needed (even though not requested initially by HUF), supplier should inform lead buyer who will recheck internally within HUF and advise final decision.

6 Preferred primary packaging dimensions

To maximize loading units and truck utilization, as well as to ensure easy supermarket handling and manufacturing station design, primary packaging materials and dimensions needs to be standardized. Maximum gross weight (box/KLT + goods in it) of primary packaging shall not excide 12kg. Supplier shall chose primary packaging type from below options (unless at the



sourcing phase HUF limits the selection to particular types / dimensions or defines other exception):

1. Returnable primary packaging types and dimensions accepted by HUF Group:

KLT Number	EXTERNAL Dimensions (mm)		
	L	W	H
KLT 6428 / KLT 006280	600	400	280
KLT 6147	600	400	150
KLT 4328 / KLT 004280	400	300	280
KLT 4314 / KLT 004147	400	300	140
KLT 3214	300	200	140

Tolerance +10mm / -30mm

2. One way / disposable primary packaging types and dimensions accepted by HUF Group:

Carton Number	EXTERNAL Dimensions (mm)		
	L	W	H
Box Type1	600	400	280
Box Type2	600	400	150
Box Type3	400	300	280
Box Type4	400	300	140
Box Type5	300	200	140
Box Type6	300	200	100
Box Type7	200	150	100
Box Type8	150	100	50

Tolerance +10mm / -30mm



7 One way packaging

If disposable packages are used, costs of one way, stackable, flat top units are borne by the supplier and have to be included in the quotation. Boxes and pallets build out of them shall be durable enough to survive any type of transportation. Pallets build out of them needs to be stackable three times (one pallet on the other plus third one on top). One way packaging type shall be selected from available types as described in section 6, "Preferred primary packaging dimensions". Any deviation requires written approval from HUF, otherwise null and void.

One way packaging offered by supplier shall protect parts from any physical or mechanical damages during transport and for the period of at least 6 months from delivery date. This means that parts are protected not only during transportation, but also kept in the warehouse are safe and protected by the packaging.

For the use of one way packaging, focus should lie on necessity without compromising quality. Environmentally-compatible recycling materials are to be used for all one-way packaging i.e. materials that are widely-accepted for recycling processes.

Material combinations and/or compounds are to be avoided or reduced to an absolute minimum, however if used, need to be simple to separate after use (e.g. iron clips or nails in wood). Boxes shall not be glued with tape of any kind, the top cover should be easily removable, without use of any tools (such as scissors or knives). During any sourcing process HUF may specify / forbid using glued / taped boxes).

Recommended



Not recommended



Material recommendations:

<u>Type</u>	<u>Permissible material</u>	<u>Impermissible material</u>
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Plastics	PE, PP (with PE foil max. 5% of surface printed) PE, PP, PS foam material PP hoops (Plastics marked as per DIN 6120)	Plastic mixes, rubber compounds, metal-plastic compound foils, incompatibly-impregnated and VCI foils, polyamide and polyester hoops
Cardboard boxes	Must be free of hazardous materials used in paper production	With water-insoluble coatings or adhesives
Anticorrosion paper	VCI papers that are evidenced as being recyclable in combination with paper/cardboard (VCI: volatile corrosion inhibitor)	Paper with incompatible admixtures (e.g. bitumen, oiled and waxed paper)
Wood	Treated solid wood, plywood, wood shavings	Particle board, impregnated, coated or varnished wood

8 Reusable / Returnable Packaging

Reusable packages should be used instead of one-way packages, if that involves ecological and economic advantages.

Returnable packaging type shall be selected from available types as described in section 6, "Preferred primary packaging dimensions". Any deviation requires written approval from HUF, otherwise null and void.

During offer submission, supplier has to ensure that number of planned KLTs / returnable packaging for the business secures reliable, shortage free loop of empties, covering vendor's manufacturing process, confection, transport to HUF, HUF's manufacturing process, return of empties and safety stock. Supplier is responsible to plan secure appropriate number of returnable KLTs / boxes during whole project lifetime, including manufacturing picks.

8.1 Packaging ownership, marking and back-up

Material supplier bears the costs of purchase, cleaning, maintenance and empties flow management. In case any conversion of reusable packages is needed, this is solely



responsible of material supplier. The return transportation of empties are managed and paid by material supplier.

Some HUF plants may request returnable packaging to be clearly marked to identify owner (material vendor) and project name. In case, primary packaging consist two or more pieces (example box and cover), each piece needs to be clearly marked.

HUF reserve the right to put its own identification label / markings on the packaging, if so, those may not be removed, pasted over, scratched or overwritten until packaging is fully phased out from the flow to/from HUF.

For parts, where returnable packaging was selected as default solution, to mitigate material shortage risks related with insufficient number of packaging in loop, alternative / back-up one way packaging needs to be defined by material supplier, approved by HUF and kept on stock for minimum of 3 working days, by material vendor to be used if needed (returnable packaging not available). Once alternative packaging is being used, supplier is obliged to procure additional boxes to continue shipping to HUF (if returnable are continued to be unavailable) and to replace used safety stock. This alternative packaging design needs to be provided in HUF's packaging data sheet (Apendix1) and be approved in writing by HUF prior to business start. Under no circumstances insufficient number of returnable packaging in the loop can be a base for delivery hold by the supplier. On any HUF's request, supplier needs to immediately switch deliveries to alternative packaging and continue until HUF decides that regular flow with returnable packaging can be restored.

Before business start, material supplier will provide detailed cost break down for returnable packaging, including purchase price per each packaging type used. In case of damages and or lost packaging caused by HUF, HUF will reimburse material supplier cost of new packaging acc. to the market price at the moment of the event (destruction or loss), however this cost cannot excide purchase price indicated by supplier in the cost breakdown provided prior to business start. If cost break down has not be provided by material supplier prior to business start, purchase price will be treated as "0" – zero.

8.2 Management of empties

Supplier is solely responsible for management of returnable packaging flow (incl. transportation of empties on supplier's cost). This consist (but is not limited to): purchasing new packaging, ensuring sufficient number of packaging is available for supplier's and HUF's production and safety stock, replacement of damaged pieces, cleaning and maintenance of packaging.

Supplier is forbidden to keep excessive stock of empties at HUF premises, empty packaging needs to be pick-ed up from HUF plants with frequency of at least matching frequency of product deliveries (example: if HUF pick-ups material from vendor two times per week, than vendor is obliged to pick-up all available empties from HUF at least twice per week).

Any deviation requires written approval from HUF, otherwise null and void.



8.3 Alternative packaging cost

In case, alternative packaging usage is caused by material supplier, no additional costs shall be addressed to HUF. If alternative packaging use is however caused by HUF, or directly requested by HUF, supplier is entitled to recharge alternative packaging cost to HUF. Before execution, supplier shall obtain written confirmation from HUF receiving plant. Only direct, pass through cost will be accepted. Supplier is obliged to provide pricing evidence, clearly indicating actual cost paid – invoice from supplier’s packaging vendor.

Alternative packaging cost claims must contain the following to be considered and accepted by HUF:

- evidence of written approval from receiving HUF plant
- a cost breakdown per packaging unit with matching, current packaging invoices

No additional admin, handling or any other type of extra cost will be accepted.

Claims can only be submitted to HUF once per month, consolidated as summary of full month alternative packaging cost incurred by supplier. Claim shall be send in a following month after a month in which alternative packaging cost occurred (example: All cost occurred in June, shall be claimed by the end of July same year).

Failure to provide either of these within the designated timeframe will result in claim rejection.

9 Number of pieces per primary packaging

HUF reserves the right to specify number of pieces per primary box per each part number / project. If so, this will be clearly specified in the RFQ documentation. Supplier is obliged to prepare and submit quote in accordance with this requirement.

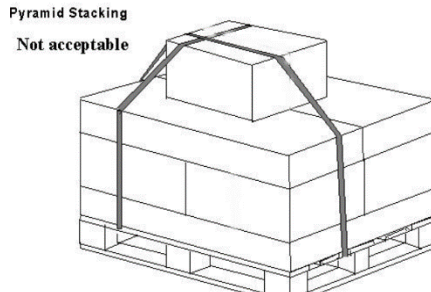
10 Branding

Packaging used to ship material to HUF shall not have any marking indicating suppliers name, product name and any other trade marks printed on it. It shall be marked with HUF logo or kept “clean”, without any markings either outside and inside.

11 Building pallets



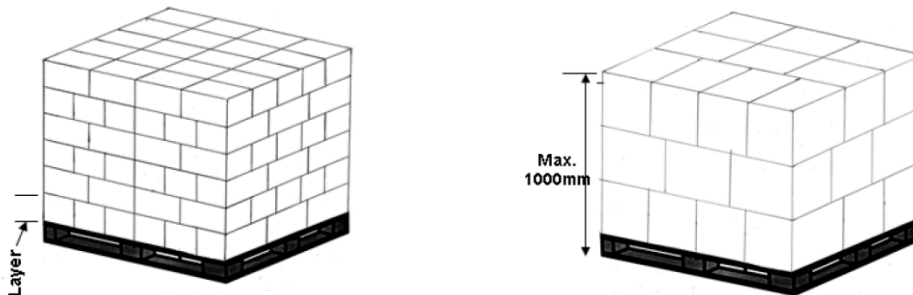
Unless, individual boxes are being shipped, all cargo needs to be palletized. Stackable, flat top loading units (pallets) have to be built. Incomplete layers, have to be filled up with empties. Pyramid pallets are not permitted.



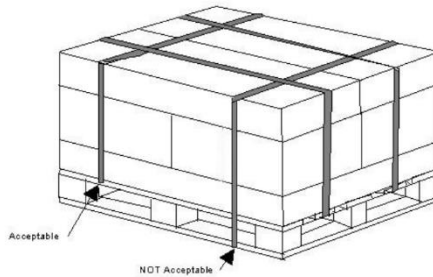
If supplier builds mixed pallets, they need to be build the following way: PN with majority of boxes shall be put on the bottom of the pallet, than one with smaller number of boxes on the top. In case, there are more than two PNs, pallet needs to be build the way that the more boxes per PN there are, the lower on the pallet this PN is packed.

A loading unit / pallet must comply with the following conditions:

- **Loading unit / pallet total height (pallet + goods on it) must be as close as possible to one meter, but shall not excide height of one meter**
- **Gross weight of each individual primary box / KLT must not excide 12 kg**
- **The total gross weight of a loading /pallet unit may not exceed 550 kg**
- **The pallet must be stackable three times (one pallet on the other plus third one on top)**
- **Boxes / KLTs cannot excide pallet outline / overhangs are not allowed**



Loading unit needs to be packed and secured in such a way, that the possibility of any damage to the boxes and cargo itself can be excluded. Tightening strap systems (hoops) may only be manufactured out of recyclable, environmentally-friendly plastic materials (no steel strip). Banding that passes completely under the pallet can be damaged during handling operations.



Banding should be sufficiently tight to control the stack without creating deformation of the top KLT/box. It is recommended that a spacer or load spreader is used on the top edges.

As an alternative to banding for unit loads, particularly for smaller KLT's/cartons or light loads, stretch-wrapping can be used. The plastic wrapping should be applied to provide sufficient strength to the pack and be capable of retaining the boxes in correct alignment with the pallet base. Plastic foil used shall be recyclable.

Mixed loading units / pallets containing different parts and KLT's/carton sizes are acceptable, as long as stackable, flat top units (pallets) are built.

Unless specify otherwise, EUR-pallets needs to be used for deliveries to HUF. Alternative dimensions are not acceptable. Corrugated pallets are also unacceptable unless, separate, written approval given by HUF.

For international consignment with wooden packages, supplier has to comply with International Standards For Phytosanitary Measures No. 15 (ISPM15) of the International Plant Protection Convention (IPPC) and all regional demands. If necessary the local production plant can be asked for information.

All objects that may interfere with scanning the packages have to be removed before dispatch. (e.g. banding, loose paper, corrugated).

12 Labeling

Labeling shall fulfill min. VDA 4902 standard.

There are 4 types of labels to be used:

- Standard single box/KLT label (S) – 210x148 mm
- Small single box/KLT label (S) – 210x74 mm
- Master label for homogenous pallet (M) – 210x148 mm
- Mixed load label for heterogenous pallet – 210x148 mm

It is mandatory, that 1 single label (S) contains only 1 part number. Mixing parts within one single box is not allowed.



Labels will be put into dedicated KLT slot on 1 side of handling unit. In case of carton boxes labels will be fixed with 2 stickers of max 30mm size

For homogenous pallets the delivery note number is optional on the single label, it is sufficient to place it on a master label.

For heterogenous pallets delivery note number has to be put on both: single and master label.

All single labels must be visible, it is not allowed to put boxes inside of the pallet. This is valid unless supplier sends ASN and the master label can be read and process by the receiving Huf Plant. This exception is valid only for homogenous pallets.










Master labels must be printed in 2 copies and be fixed on the lid or on the highest layer of boxes, 1 on shorter pallet side, 1 on longer pallet side. Master is to be fixed with 4 stickers.

Labels must be readable for standard scanning devices. It is essential, to obtain quality release from receiving plant before start of deliveries.

Supplier is obliged to ensure, labels (especially barcode) are fully visible and not blocked by anything like packing material, other labels, sticks, straps, etc.

Examples of labels:

Standard single box/KLT label (S) – 210x148 mm

(1) Receiver Huf Plant Example Street 1 12345 Musterdorf		(2) Dock-Gate Postfach 123456 Tel. 999999	
(3) Advice Note No. (N) 2581752 		(4) Supplier Address Musterplatz, 12345 Musterdorf	
		(5) Net Weight 370 kg	(6) Gross Weight 400 kg
		(7) No. of Boxes 1	
(8) Part No. (P) 12345678-000-A1  			
(9) Quantity (Q) 140 		(10) Description Screw	
		(11.1) Supplier Part No. (30S) 0-123B10-0 	
(12) Supplier No. (V) 4638141 		(11.2) Package Reference No. (B) 6099012 	
(15) Serial No. (S) 258175201 		(13) Date D 220816	(14) Engr. Change A43-275 XL
		(16) Batch No. (H)  C123	
<small>(17) Example Supplier</small>		<small>Warenanhänger VDA 4902</small>	
		<small>15:14:59 18.08.2022</small>	



Small single box/KLT label (S) – 210x74 mm

(1) Receiver Huf Plant Example Street 1 12345 Musterdorf	(2) Dock-Gate Postfach 123456 Tel. 999999	(3) Advice Note No. (N) 2581752
(6) Part No. (P) 12345678-000-A1 		
(8) Quantity (Q) 140 	(10) Description Screw	
(12) Supplier No. (V) 4638141 	(11.1) Supplier Part No. (305) 0-123B10-0 	
(15) Serial No. (S) 258175201 	(13) Date D 220816	(14) Engr. Change A43-275 XL
	(16) Batch No. (H) C123 	

13 Appendix list

- Appendix 1 – HUF Packaging Data Sheet (CForm -0172)