



Document type

Instruction

Approved by (department acronym, name)

packaging.assortmentandselection@scania.com

Issued by (department acronym name phone)

OSP, Packaging Assortment & Selection

Title

Handling Guideline

File name

OSP045 – Handling Guideline

Date

2024-07-03

Issue

2

Info class

Public

Page

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Handling Guideline – Standard Assortment

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Changes from the previous issue

Issue	Issue date	Changes
2	2024-06-28	Section 2 <i>Strapping of units</i> and section 7.2 <i>Plastic – Boxes</i> are removed and will be available in <i>STD4172-4 Scania Logistics Manual, Packaging</i> . Stacking recommendations are removed and weight capacity, stacking load have been added. Clarified handling of distribution units, stacking and forklift transport.



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Instruction	Handling Guideline	2
Approved by (department acronym, name)	File name	Info class
packaging.assortmentandselection@scania.com	OSP045 – Handling Guideline	Public
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1 General information

For the usage of Scania standard returnable assortment **STD4172** – *Logistics Manual* is valid.

1.1 Purpose and background

The purpose of this document is to provide an instruction on how to handle the standard assortment. This handling guideline is an addition to the rules and regulations in the STD4172-series and the information on the Scania Supplier Portal (SSP).

1.2 Usage requirements

All requirements for the usage of Scania packaging are stated in our standards as well as documents on the Scania Supplier Portal, applicable for this document are:

- **STD4172-4** Packaging
- **STD4604** One-way packaging
- **VDA 4530** Disposable Small Load Carrier (EW-KLT) System
- **Order packaging** Scania Supplier Portal – Order Process

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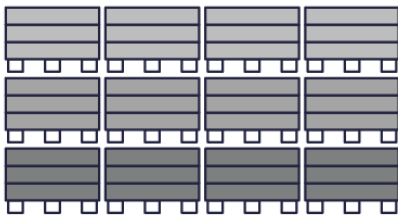
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2 General handling guidelines

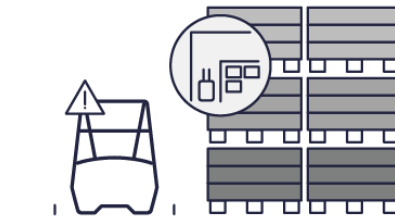
All stacking in this document refers to free stacking. In storage areas, it is not recommended to allow people to walk, stand or stay. It is a safety reason due to the high stacks to optimise the surface. A short time buffer and small stacking in handling areas are allowed.

2.1 Definitions

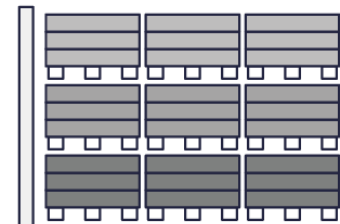
- **Free stack:** Pallets placed on a free plane surface without racks or other external protection.
- **Corner stack:** Stack placed in a corner of a transport intersection where visibility is needed.
- **Protected stack:** Stack surrounded by other stacks, placed next to a wall or protective barrier.
- **Outer and single stack:** Unprotected stack placed next to a free surface.
- **Pyramid stack:** To secure pallets free-stacked on an open area pyramid stacking can be used, this means a gradually increased height e.g. 15 – 19 – 24 units.



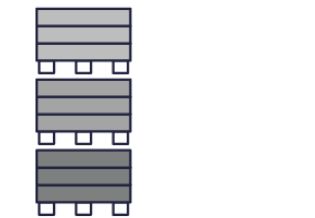
Free stack



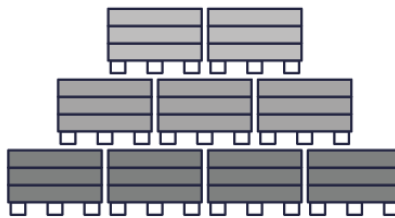
Corner stack



Protected stack



Outer- and single-stack



Pyramid stack

General stacking recommendations are both mentioned in the number of pallet units and the height in meters. The recommendations work in parallel with the maximum weight limit of the pallets and shall not be exceeded.

2.2 General forklift guideline

The drivers attention shall be on the work task, safely transporting the load or vehicle. Driver shall have oversight of what and where transports are done as well as keeping a safe distance to pedestrians or other transports. Driver must have a clear view otherwise the vehicle shall be driven backwards. The load shall be lowered before turning with the forklift, and the height of the load transported shall not exceed the mast.

Transports shall be done with a low centre of gravity. It is not allowed to push the pallets, they should be raised off the ground to extend their life-time. The recommended number of units to have on a forklift is the following: one collar – 8 units, two collars – 5 units, three collars – 4 units, four collars – 3 units and five collars – 2 units.

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
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2.3 Recommended speed limits for handling with forklift

The setting of the speed limits is dependent on different factors:

- Preconditions in the workshop; space, surface, visibility, etc.
- **Technical restrictions of the work equipment;** rules in the instructions of use from the supplier, type of forklift, number and type of wagons, visibility etc.
- **Organisational aspects;** experience of accidents and near accidents, unsafe situations etc.

The speed limits stated in the table below consist of the most common vehicles for transport of material within *Production & Logistics* in the automotive industry. If there is a need to differ from these speed limits in special situations a risk assessment shall be executed by the supplier and the results must be approved by Scania.

Type	Example	Speed (km/h)
Stand on stacker (and pedestrian stacker)		4 km/h
Low lift order picker (driver lifting height ≤ 1.2 m)		6 km/h
Low order picker (lifting height ≤ 0.2 m)		
Low order stacker (lifting height ≤ 0.2 m)		
Narrow aisle truck		8 km/h
Medium and high order picker		
Reach truck		
Medium and high lift order picker (lifting height ≥ 1.2 m)		
Counter balance – indoor		15 km/h
Counter balance – outdoor		
Tow tractor – outdoor		15 km/h
Tow tractor – indoor (for use in transfer areas)		8 km/h
Tow tractor – indoor		6 km/h (4 km/h in curves)

3 Plastic

Handling of plastic packaging material shall be done according to the following rules.



Figure 1/2: Raised plastic pallet kit, E-pallet and H-pallet



Figure 3/4: Distribution unit, E-pallet and H-pallet

3.1 Weight capacity, stacking load

Scania half-euro-sized can contain up to 250 kg and euro-sized plastic pallets must not contain more than 600 kg. The corners of the sleeve are the strongest part and should therefore be aligned with the pallet above.

Sleeve height	Pallet size	
	H	E
200mm	750kg	
400mm	750kg	1 500kg
600mm	750kg	1 500kg
750mm		1 500kg

3.2 Empty packaging

Handling in return flows from production units to breakdown.

For easier handling at the breakdowns, remove the spacers and other inserts from the plastic pallets before sending them to the breakdowns, since they arrive at another location than the wooden pallets.

3.3 Loading a trailer

Plastic pallets and boxes should be on top when loading a trailer with both wood and steel material.

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 OSPB, Packaging Assortment & Selection

Title
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 File name
 OSPB045 – Handling Guideline
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4 Wood

Handling of wood packaging material shall be done according to the following rules.



4.1 Weight capacity, stacking load

H-pallets can contain a maximum of 500kg and the other pallets (E, T, L, S, X, M, X) can contain a maximum of 1000kg.

Below is a table with the maximum stacking weights of pallet types and number of collars.

Number of collars \ Pallet size	H	E	T	L	S	X	M
	1	9 900kg	9 700kg	7 500kg	7 200kg	7 500kg	7 100kg
2	9 900kg	9 700kg	7 500kg	7 200kg	7 500kg	7 100kg	6 400kg
3	8 200kg	9 700kg	7 500kg	7 200kg	7 500kg	7 100kg	6 400kg
4	8 200kg	7 000kg	6 400kg	6 400kg	6 700kg	6 000kg	6 300kg
5	8 200kg	7 000kg	6 400kg	6 400kg	6 700kg	6 000kg	6 300kg
6		7 000kg	6 400kg	6 400kg	6 700kg	6 000kg	6 300kg

4.2 Stacking recommendations – distribution unit

One (empty) packaging material is grouped to create a unit for transport and storage. This could be a build-up pallet, boxes on a pallet, and a pallet with unfolded collars.



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4.2.1 Pallets

Type of stack \ Pallet size	H	E	T	L	S	X	M
	MH-1874	MH-1875	MH-7555	MH-7001	MH-1886	MH-3180	MH-7010
Free stack	4 units	4 units	32 units	32 units	32 units	32 units	32 units
Handling area	2 units	2 units	10 units	10 units	10 units	10 units	10 units
Forklift transport	2 units	2 units	16 units	16 units	16 units	16 units	16 units

4.2.2 Collars

Type of stack \ Collar size	H	E	T	L	S	X	M
	MH-1871	MH-1872	MH-7556	MH-7002	MH-1873	MH-3181	MH-7011
Free stack	6 units	6 units	5 units	5 units	5 units	5 units	5 units
Handling area	2 units	2 units	2 units	2 units	2 units	2 units	2 units
Forklift transport	2 units	2 units	2 units	2 units	2 units	2 units	2 units

4.2.3 Lid

Type of stack \ Lid size	H	E	T	L	S	X	M
	MH-2319	MH-2318	MH-7557	MH-7003	MH-2370	MH-3182	MH-7012
Free stack	4 units	4 units	6 units	6 units	6 units	6 units	6 units
Handling area	3 units	3 units	3 units	3 units	3 units	3 units	3 units
Forklift transport	2 units	2 units	2 units	2 units	2 units	2 units	2 units

4.2.4 Built-up units

Type of stack \ No of collars	1	2	3	4	5
	Protected free stack	16 units	10 units	8 units	6 units
Unprotected free stack	6 units	4 units	3 units	2 units	2 units
Handling area	5 units	3 units	2 units	2 units	2 units



5 One-way

Recommended handling of one-way packaging shall be taken into consideration.



5.1 Weight capacity, stacking load

H-pallets can contain a maximum of 500kg and the other pallets (E, T, L, S, X, M, X) can contain a maximum of 1000kg.

5.1.1 Without reinforcement

Pallet size \ Sleeve height	H	E	T	L	S	X	M
200mm	600kg	1 500kg					
400mm	600kg	1 000kg	1 000kg	1 000kg	1 000kg	1 100kg	1 500kg
600mm	400kg	800kg	700kg	700kg	700kg	800kg	800kg
800mm	400kg	900kg	800kg	600kg	700kg	700kg	800kg
1000mm	400kg	900kg	600kg	600kg	700kg	700kg	
1200mm		800kg	600kg			700kg	

5.1.2 With reinforcement

Pallet size \ Sleeve height	H	E	T	L	S	X	M
200mm	1 600kg	2 500kg					
400mm	1 600kg	2 000kg	2 000kg	2 000kg	2 000kg	2 100kg	2 500kg
600mm	1 400kg	1 800kg	1 700kg	1 700kg	1 700kg	1 800kg	1 800kg
800mm	1 400kg	1 900kg	1 800kg	1 600kg	1 700kg	1 700kg	1 800kg
1000mm	1 400kg	1 900kg	1 600kg	1 600kg	1 700kg	1 700kg	
1200mm		1 800kg	1 600kg			1 700kg	

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5.2 Forklift handling

When handling one-way units, the forks shall be in parallel with the pallet bottom to avoid damage.

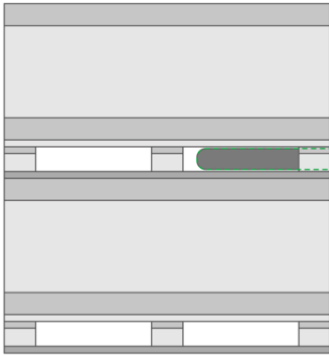


Figure 5 – Correct placement of forks

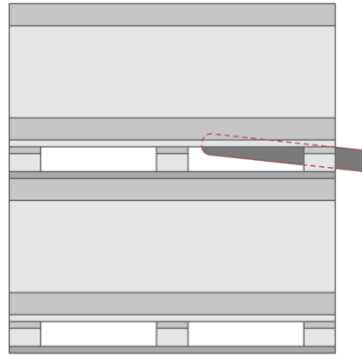


Figure 6 – Incorrect placement of forks



Figure 7 – Damaged unit

5.3 Loading a trailer

One-way pallets should be on top when loading a trailer with returnable and one-way material.

5.4 Storage conditions

One-way packaging must, to the greatest extent possible, be stored indoors in an environment with good humidity. Good atmospheric conditions are between 50 and 70% relative humidity (preferably 23°C and 50% humidity).

Extremes of temperature should be avoided. If conditions are comfortable to work in, they are normally good for storage.

It is proven that corrugated board absorbs more water under air circulation than in still air. Relative humidity and temperatures can change the properties of the corrugated board. Too much humidity will swell the fibers (absorbing water), too high temperatures and low humidity will release water from the corrugated board and weaken the packaging.

Always store the one-way packaging indoors (under cover if indoors is not possible) in a still air environment.



5.5 Storing empty one-way packaging

When empty one-way packaging is being stored there are some factors that should be kept in mind; if the one-way packaging will not be used in a while, protect it with stretch wrap (especially the sleeves). Do not store the sleeve distribution units in a stack higher than 2. Store the one-way packaging on a horizontal plane until it's used.

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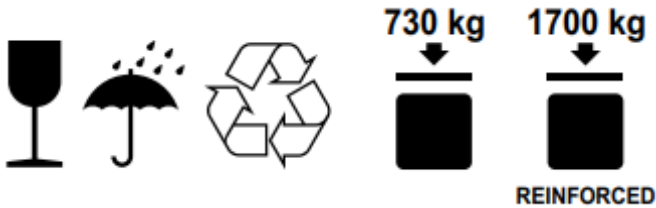
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5.6 Storing one-way packaging containing goods

Respect the printing that shows the packaging's **maximum** stackability under **dynamic load** (while the packaging is being transported). The marking is visible on the lower right corner of the sleeve.



The marking will be modified and changed as soon we have a nominated packaging supplier, this is just a first draft.

The marking on the sleeve shows two different maximum loads that can be stacked on the bottom container. The container showing 700kg is in transit, i.e. when being shipped overseas, in a truck or while being loaded on a forklift in a warehouse. The second one (1700kg max load), has the same prerequisites as above, but its however reinforced with wooden blocks in the corners, which constitutes a significantly stronger and more robust container.

While storing the packaging, it can handle more weight on the bottom container (at least double the load), but it is recommend to stack according the dynamic capacity when free stacking. For more information regarding stacking one-way packaging, please visit [Global Safety Rules for material handling](#).

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6 Detailed specification

6.1 Plastic Pallet container kit

6.1.1 Euro-sized plastic pallets

Scania Euro Sized standard plastic pallets must not contain more than **650 kg**, this weight is also the racking limitation. Stackability is **1+2**, this means you can stack the raised kits three units high or until the weight reaches the maximum of **1500 kg**. The weight limit is not allowed to be broken even if the packaging instruction for the part states something different. This limit is from a safety perspective and thus it overrides other instructions.

6.1.2 Half-euro-sized plastic pallets

Scania Half Sized standard plastic pallets must not contain more than **250 kg**, this weight is also the racking limitation. Stackability is **1+3**, this means you can stack the raised kits four units high or until the weight reaches the maximum of **750 kg**. The weight limit is not allowed to be broken even if the packaging instruction for the part states something different. This limit is from a safety perspective and thus it overrides other instructions.

6.1.3 Assembling the plastic pallets

Before placing parts inside the plastic pallet, please make sure that the sleeve is connected well to the tray. You can achieve this by pushing the sleeve against all corners.



Figure 3: Assembled plastic pallet



Figure 4: Assembled plastic pallet



Figure 5: Handling loading doors



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7 Change history

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2	2024-06-28	<p>Section 2 <i>Strapping of units</i> and section 7.2 <i>Plastic – Boxes</i> are removed and will be available in <i>STD4172-4 Scania Logistics Manual, Packaging</i>.</p> <p>Stacking recommendations are removed and weight capacity, stacking load have been added. Clarified handling of distribution units, stacking and forklift transport.</p>
1	2024-04-15	<p>Five documents have been consolidated: OSPB039-Handling Guideline, Scania Plastic Pallets, OSPB045-Plastic boxes, OSPB067-Strapping of units, OSPB078-Recommendation of Stacking Scania Packaging Assortment and OSPB079-Recommendation of Weights in and on pallets.</p> <p>The content from all documents has been reviewed and restructured to correspond with the structure of the Standard Assortment Catalogue – OSPB041.</p>