

ICS 55.020

Supersedes SN 200-8:2016-05
and SN 200-9:2016-05

Table of contents

	Page
1 Scope	1
2 Normative references	2
3 Terms and definitions	2
4 Order picking	3
4.1 Basic specifications	3
4.2 Order picking by SMS group	3
4.3 Order picking by supplier	3
5 Packaging	4
5.1 Basic specifications	4
5.2 Packaging means	4
5.3 Packing aids	7
5.4 Quality and strength of the packing materials	7
6 Packaging	8
6.1 Basic specifications	8
6.2 Joining of packaging good(s) and packaging	8
6.3 Marking of the package	10
6.4 Checking	13
7 Handling/loading	13
7.1 Basic specifications	13
7.2 Load securing	13
8 Transport	15
8.1 Basic specifications	15
8.2 Delivery and incoming goods	15
8.3 Oversize parts and heavy parts	15
8.4 Dangerous goods	15
Annex A (Normative) Definition of terms	16
Annex B (normative) case types	20
Revisions	24
Previous editions	24

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1 Scope

This company standard specifies the minimum requirements for order picking, package, packaging and the loading of products/materials to be transported.

2 Normative references

The following documents, quoted herein either in whole or in part, are required for the application of the present document. Dated references relate only to the dated edition indicated. Undated references relate to the latest edition of the relevant document (including all revisions).

BAAINBw TL 8135-0003:2018-11	of the federal office for defense technology and procurement; technical delivery conditions - packaging materials - sandwich films
BAAINBw TL 8135-0019:2019-09	of the federal office for defense technology and procurement; technical delivery conditions - packaging materials - polyethylene films of low density
CLP/GHS	Regulation on Classification, Labelling and Packaging of Substances and Mixtures, Regulation (EC) No.1272/2008 (GHS Regulation) on the classification, labeling and packaging of substances and mixtures according to new GHS and old EU law CTU Code IMO/ILO/UNECE Code of Practice for Packing of Cargo Transport Units
CTU Code:2020-10	IMO/ILO/UNECE Code of Practice for Packing of Cargo Transport Units (CTU Code)
DIN 436:1990-05	Square washers; especially for timber constructions
DIN 440:2001-03	Washers - with square hole, especially for timber constructions
DIN 603:2017-05	Cup head square neck bolts
DIN 1052-10:2012-05	Design of timber structures - Part 10: Additional provisions
DIN 4074-1:2012-06	Strength grading of wood - Part 1: Coniferous sawn timber
DIN 30781-1:1989-05	Transport chain; Basic concepts
DIN 53122-1:2001-08	Testing of plastic and elastomer films, paper, board and other sheet materials - Determination of water vapor transmission - Part 1: Gravimetric method
DIN 55405:2014-12	Packaging - Terminology - Terms and definitions
DIN 55474:2015-03	Auxiliary means of packaging - Desiccants in bag - Application, calculation of the required number of desiccant units
DIN EN 300:2006-09	Oriented strand boards (OSB) - Definitions, classification and specifications
DIN EN 315: 2000-10	Plywood - Tolerances for dimensions
DIN EN 1993-1-1:2010-12	Eurocode 3: Design of steel structures - Part 1-1: General rules and rules for buildings
DIN EN 1995-1-1:2010-12	Eurocode 5: Design of timber structures - Part 1-1: General - General rules and rules for buildings
DIN EN 10204: 2005-01	Metallic products - Types of inspection documents
DIN EN 10230-1	Steel wire nails - Part 1: Loose nails for general purposes
DIN EN 13986: 2015-06	Wood-based panels for use in construction - Characteristics, evaluation of conformity and marking
DIN EN ISO 780:2016-05	Packaging - Pictorial marking for handling of goods (ISO 780:1997)
DIN EN ISO 4032:2013-04	Hexagon regular nuts (style 1) - Product grades A and B (ISO 4032:2012)
DIN EN ISO 15106-3:2005-05	Plastics - Film and sheeting - Determination of water vapor transmission rate - Part 3: Electrolytic detection sensor method (ISO 15106-3:2003)
GGVSEB	Regulation on carriage of dangerous goods by road, rail and inland waters (Dangerous Goods Ordinance Road, Rail and Inland Navigation – GGVSEB)
GGVSee	Ordinance on the transportation of dangerous goods with sea-going vessels (Dangerous Goods Ordinance Sea - GGVSee)
GGVAusnV	Regulation on derogations from the rules on the transport of dangerous goods (Dangerous Goods Exemption Ordinance - GGAV)
HPE Packaging Guidelines 2018	of The Registered Federal Association for Wooden Packages, Pallets and Export Packaging e.V.
IATA-DGR	Dangerous Goods Regulations
SN 200-7	Manufacturing instructions; Corrosion protection
StVO	(German) Road traffic regulations
StVG	(German) Road Traffic Act
VDI 2700	Directive on Load securing on road vehicles
IPPC	International Plant Protection Convention

3 Terms and definitions

The terms as defined in Annex A (normative) shall be valid for the application of this document.

4 Order picking

4.1 Basic specifications

Order picking is the taking and collecting of a specified quantity of goods from a total quantity.

The result of this activity is the change from a store-specific condition to a shipment-specific condition.

The result of order picking in the shipping process is the packed good.

The packing is the result of the combination of the packed goods and packaging (see Annex A [normative]).

A packing which is particularly suitable for transport is a package.

There are preliminary and final packages. A preliminary package is a transport unit for delivery to the packing company (packer). A final package is a package for transport/delivery direct to the customer.

4.2 Order picking by SMS group

4.2.1 Reporting of packed goods

When SMS group compiles goods into a packed good, it must be documented in the SMS group system, which project item is assigned to which packed good (shipping units (VE)).

4.2.2 Assignment of the packed goods

Every packed good is given a number which is the consecutive number of a unit in the scope of supply of loose parts or of an assembled unit. It shall be documented which packed good is to be assigned to which packaging.

4.2.3 Reporting of the package

When the package is reported in the system, it shall be documented which packed good is assigned to which package. These data shall be used to prepare an advice of delivery.

4.2.4 Identification by SMS group

When packed goods are picked at SMS group for transport to a packer or a customer, the goods shall be provided with labels for identification (Figure 1).

Shipment labels are stickers which contain specific data of the packed goods. The quantity shown on the shipment label is the numerical indication of the number of parts contained in the pack. Piece(s) as unit of quantity need not be indicated. Other data (e.g. set, m, kg etc.) shall be indicated. The shipping labels must not be stucked directly on the packed good.

4.3 Order picking by supplier

When packed goods are picked for shipment, these shall be marked with SMS group shipping labels, see Figure 1.

The supplier shall provide each individual packed good separately with an SMS group shipping label for identification. The shipping labels must not be stucked directly on the packed good.

SMS group shall provide a delivery note only in the case of direct delivery to the customer.



Figure 1 - Example of an SMS group shipping label with barcode

5 Packaging

5.1 Basic specifications

Packaging is the generic term for all packaging means and packaging aids for fulfilment of a given packaging task. The selection of the packaging shall always be made on the basis of economic and ecologic aspects (multi-trip packagings shall be preferred to one-way packagings). The packaging shall fulfill the following functions:

- **Protective function:** Protection against physical and environmental damage. Sufficient stability must be guaranteed for the maximum pile height.
- **Loading and transport:** Transport packagings shall be designed such as to guarantee easy and safe holding, lifting, moving, setting-down and stowing of the load.
- **Storage function:** The packaging must withstand the static and environmental loads and stresses to which it is exposed during storage.
- **Ease of use and handling:** The goods must be packaged in such a way as to allow rationalized movement and storage of the goods manually or by lift truck or by crane. Consequently, when moving the goods by forklift or by lift truck, the hollow space between the pallet feet should not be obstructed by packing aids.
- **Informative function:** It is essential to ensure that the required shipping information and delivery data are visibly present on the goods.
- **Environmental compatibility:** It is necessary to observe the environmental compatibility and the possibilities for problem-free recycling and/or disposal and to comply with the statutory regulations.
- **Warranty function:** Upon supply of an undamaged packaging the Supplier warrants that the data on the packaging correspond to the contents.

For cross-border movement of goods it is necessary to observe the import regulations for wooden packaging materials. These regulations also include the correct labeling of all treated materials in conformity with the IPPC standard. If mixed packages or containers cannot be avoided, the parts must be separated in a clearly visible manner, be labeled and be packed in a proper manner.

5.2 Packaging means

5.2.1 Basic specifications

SMS group uses the following categories of packaging means, see sections 5.2.2 to 5.2.12. The selection of the corresponding category from sections 5.2.2 to 5.2.12 shall be made after consulting SMS group.

Load carriers that are not standardized in accordance with this standard may only be utilized following consultation with SMS group and/or on the basis of an individual agreement in writing. Before shipping the packaged goods, the Supplier must always check that the load carrier is in good condition, has not been damaged and can be safely exchanged, in order to avoid disruptions during the course of further transportation and to safeguard the exchangeability of the load carriers. Inadmissible or damaged load carriers will not be accepted by SMS group.

The following conditions of pallets and pallet collars are not permitted for delivery of goods:

- Adhering material, e.g. cardboard, foil, tapes, labels
- Projecting and/ or visible fixing elements, e.g. nails
- Twisted blocks
- Wet surfaces
- Missing structural parts, e.g. boards, blocks
- Impermissible structural parts, e.g. undersized, wood rotten or showing "wane"
- Cracked or broken boards
- Contamination that may be transferred to the packaged goods, e.g. paint, oil, odors

5.2.2 Case, categories 1 to 4

5.2.2.1 Case designs

The design of the cases shall be specified on the basis of the case type in Annex B (normative).

5.2.2.2 Cases of category 1

Goods heat-sealed in aluminum sandwich film (BAAINBw TL 8135-0003:2018-11 or equivalent film) with addition of appropriate desiccant.

Goods:	Corrosion-sensitive machine-building and electric materials, prefabricated pipe lines.
Guaranteed durability:	24 months

5.2.2.3 Cases of category 2

Case as in section 5.2.2.2 but with the use of padding elements appropriate for the sensitivity of the goods, case-in-case packaging. The g values shall be specified.

Goods:	Highly sensitive electrical and control system components.
Guaranteed durability:	24 months

5.2.2.4 Cases of category 3

Case as in 5.2.2.3 but goods heat-sealed in 0,2 mm PE film (BAAINBw TL 8135-0019: 2019-09 or equivalent film).

Goods: Corrosion-sensitive machine-building and electric materials, prefabricated pipe lines.
Guaranteed durability: 12 months

5.2.2.5 Cases of category 4

Case as in section 5.2.2.2 without heat-sealing of goods but with gilled plates when the top section of the case is provided with plywood and OSB/3 board cladding.

Goods: Shock and corrosion resistant units (simple machine components, bolts/pins, parts for pipe lines such as welding fittings, threaded fittings).
Guaranteed durability: 24 months

5.2.3 Crates of category 5

The specifications given for the cases above (section 5.2.2) also apply to crates. The bottom of the crate is the load-bearing element and shall always remain closed.

Two thirds of the end, side and top faces shall be provided with planking.

Goods: Components insensitive to corrosion and to the usual mechanical effects occurring during transport; all types of vessels.

5.2.4 Strapping (bundling) of category 6

A bundle shall be made up in such a way that:

- it has at least two entry openings for the forklift,
- it withstands the tying-up forces occurring in transshipment,
- handling with hoisting gears and/or industrial trucks is possible.

Bundling shall be carried out as follows:

- with square-timber clamps and clamping screws (threaded rods). The clamps can also be in the form of channel sections.
- with intermediate layers in wood, plywood or plastic material, dimensioned as required for the weight of the goods and secured with clamping screws to avoid slipping,
- with suitable screws/bolts whose projecting lengths shall be covered with strips provided with appropriate recesses. The strips shall be fixed with nails, the screwed/bolted joint shall be secured.

Goods: > 100 mm for pipes sold by the meter, structures/racks which do not need protection against the usual mechanical effects and have been combined only for the purpose of forming a loading unit.
< 100 mm in crates of category 5 but with closed end side.

5.2.5 Sledge of category 7

The sledge shall be designed in such a way that:

- it has at least two entry openings for the forklift,
- the rope sling points are provided with heavy-lift corners when the weight exceeds 5 t,
- it withstands the tying-up forces occurring in transshipment,
- handling with hoisting gear and/or industrial trucks is possible,

The sledge structure is allowed in timber or in steel. If direct bolting is not possible, the goods shall be fastened on the sledge with appropriate bands. Length and width of the sledge structure shall not be smaller than the respective dimensions of the goods. The sliding skids shall be beveled at 45° to at least 30 % of the skid thickness. If necessary, appropriate padding shall be provided between the goods and the supporting structure and between the goods and the fastening elements.

Goods: Robust corrosion-resistant components whose dimensions exceed the usual loading gauges.

5.2.6 Cladding of category 8

The cladding (incl. cable drums) shall be designed in such a way that:

- it has at least two entry openings for the forklift,
- the rope sling points are provided with heavy-lift corners when the weight exceeds 5 t,
- it withstands the tying-up forces occurring in transshipment,
- handling with hoisting gear and/or industrial trucks is possible,

Preservation shall be made by applying contact preservative according to SN 200-7 and adhesive aluminum film.

The cladding shall be designed in such a way that all machined surfaces are completely protected.

Fittings and projecting parts shall be fully clad and, if necessary, provided with padding.

When parts are highly sensitive, it is urgently recommended using a case according to categories 1 to 4, items 5.2.2.3 to 5.2.2.6.

Goods: Parts whose dimensions and weights exceed the usual loading gauges. For components which are insensitive to corrosion and mechanical effects of transport, only the machined surfaces are protected by cladding.

5.2.7 Dangerous goods packaging of category 9

When packing units are prepared, special attention shall be paid to the regulations on the maximum quantities allowed for the packing together of dangerous goods.

Dangerous goods as defined by:

- GGVSee Transport by sea
- GGVSEB Road, rail and inland waterway transport
- IATA-DGR Transport by air

5.2.8 Transport packaging of category 11

The transport packaging shall be designed in such a way that:

- it has at least two entry openings for the forklift,
- it withstands the tying-up forces occurring in transshipment,
- handling with hoisting gear and/or industrial trucks is possible,
- the parts are protected against climatic influences and mechanical influences during transport.

The transport packaging does not guarantee storage.

Goods: Parts for intermediate shipment (to sub-suppliers, machining workshops, central packers).
These parts shall be protected against climatic and mechanical influences during transport.

5.2.9 Freight container packaging of category 12

In freight container packaging (packaging on load-bearing transport bottoms, see Figure 2) the inside dimensions of the containers shall be observed.

Goods heat-sealed in aluminum sandwich film (BAAINBw TL 8135-0003:2018-11 or equivalent film) with addition of appropriate desiccant. Table 1 shows the items of the container bottom.

The bottom or sledge shall be suitably designed both for loading as unit load on a break bulk ship and for container utilization. When containers are used, the system-inherent restrictions on dimensions and weight shall be considered.

Goods Corrosion-sensitive machine-building and electric materials, prefabricated pipe lines
Guaranteed durability: None

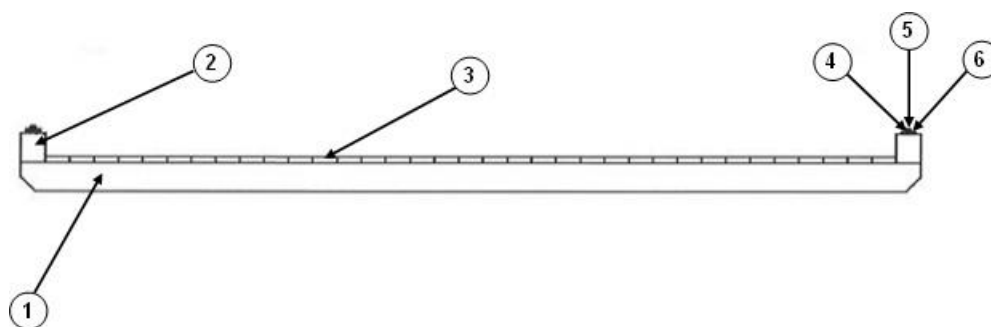


Figure 2 - Container floor (typical example)

Table 1 - Container floor

Item	Designation
1	Longitudinal runners
2	Square end wall joist
3	Flooring
4	Pin
5	Disks
6	Nut

5.2.10 Tarpaulin packaging (VCI foil) of category 14

Goods are packed with VCI foil.

Goods: Machine components without electrical components

5.2.11 Heavy goods packaging (*special packaging*) of category 15

Packaging which requires a special bottom structure with steel girders).

Goods: Heavy goods, goods which are particularly bulky or with special position of the center of gravity so that particular measures need to be taken with regard to protection of the goods and load distribution.

5.2.12 Add-on packaging of category 13

Goods: Components which are loaded with the lifting tackle applied directly to the goods.

5.3 Packing aids

5.3.1 Nails

The nails shall be either round wire nails as per DIN EN 10230-1:2000-01 or special nails as per DIN 1052-10:2012-05.

5.3.2 Mushroom-head bolts

The bolts used shall be mushroom-head bolts according to DIN 603:2017-05.

5.3.3 Nuts

The nuts shall be hexagon nuts according to DIN EN ISO 4032:2013-04.

5.3.4 Disks

The washers shall be square washers as per DIN 436:1990-05 or washers with square hole as per DIN 440:2001-01.

5.4 Quality and strength of the packing materials

5.4.1 Basic specifications

Specific requirements of the buyer's country concerning type and nature of the materials are defined in the applicable version of the Consular and Standard Regulations of the Hamburg Chamber of Commerce (K und M).

5.4.2 Wood

Strength values and design features according to DIN 1052-10:2012-05 and DIN EN 1995-1-1:2010-12.

The packagings of the categories 1 to 8 and 11 to 13 (load-bearing parts) shall be made of coniferous wood according to DIN 4074-1:2012-06 - S 10 - TA/FI - dry. For non-load-bearing structural elements inside the barrier sheathing of cases the use of timber according to DIN 4074-1:2012-06 - S 7 TA/FI - dry is allowed.

The following material is allowed for surface cladding:

- Timber according to DIN 4074-1: 2012-06 -S7-TA/FI - semi-dry.
- Plywood according to DIN EN 315:2000-10 and/or DIN EN 13986:2015-06 -BFU 100, min. thickness 12 mm for cases of designs 1 to 3.
- Plywood of the type APA RATED SHEATHING and type APA RATED STURD-I FLOOR, bonding method EXTERIOR;
- Min. thickness 12 mm with vertical fiber orientation for the designs 1 to 3. For cases of design 1, a min. thickness of 9 mm is also allowed.
- OSB/3 boards according to DIN EN 300, min. thickness 12 mm only for cases of designs 1 to 3.

5.4.3 Heavy goods packaging made of steel structures

For the packaging of category 15, steel structures shall be designed according to DIN EN 1993-1-1:2010-12.

6 Packaging

6.1 Basic specifications

For packages exceeding one of the following values

Length = 1190cm, width = 240 cm, height = 240 cm, weight = 20,000 kg

the packer shall, upon request, draw up transport/package sketches and hand them over to SMS group before packaging starts.

If required, packages with weights ≤ 20 t shall be provided with appropriate lashing points (lashing eyes).

For air freight, the maximum package dimensions shall be agreed with SMS group in each individual case. It is absolutely necessary to observe the regulations of the LBA (Luftfahrt-Bundesamt/Federal German Aviation Office).

Within the scope of the incoming and outgoing-goods inspection, the preservative applied to the goods by the supplier shall be checked by the packer for damage on the outer surfaces and if damaged shall be properly repaired using a preserving agent according to SN 200-7.

6.2 Joining of packaging good(s) and packaging

6.2.1 Preservation methods

6.2.1.1 Basic specifications

During transport, the packed goods may be exposed to particular loads and stresses that will make it necessary to apply additional corrosion protection. The method of preservation used shall be coordinated with the specific properties and future requirements of the packed goods. Here it is necessary to observe the circumstances and duration of the storage, the subsequent intended use and the further treatment of the packed goods. For the required type of preservation please refer to the currently applicable version of the Manufacturing Instructions of SMS group (SN 200 Part 7).

Within the scope of the incoming and outgoing-goods inspection, the temporary corrosion protection applied to the goods by the supplier shall be checked by the packer for damage on the outer surfaces and if damaged shall be properly repaired according to SN 200-7. One of the following methods shall be applied for the protection of the packed goods:

- Desiccant method
- VCI method (VCI is short for volatile corrosion inhibitor)

6.2.1.2 Desiccant method

Depending on the durations of transport and storage, the goods shall be protected against corrosion by adding desiccants and heat-sealing the goods in plastic film.

The following materials are used as barrier films:

- Polyethylene film according to BAAINBw TL 8135-0019:2019-09 or equivalent film
- Aluminum sandwich film according to BAAINBw TL TL 8135-0003:2018-11 or equivalent film

Barrier enclosures shall be designed to allow the proper opening and re-closing of the enclosure for two times. If desiccant is used, it shall be replaced completely after every opening of the packaging.

Projecting parts and sharp edges shall be properly padded to prevent wearing through or piercing of the film. The volume of air inside the barrier enclosure shall be reduced to a minimum.

Openings in the barrier sheathing such as areas pierced by fastening elements shall be sealed vapor-tight with seals and sealing compound applied on both sides of the barrier film, see Figure 3.

The necessary desiccant quantity shall be calculated according to DIN 55474:2015-03 for a maximum permissible ultimate humidity of 40%. The water vapor permeability shall be established using the procedures specified in DIN EN ISO 15106-3:2005-05; the films shall be checked both in as-delivered and in aged condition.

When hygroscopic material has to be enclosed for reasons of packaging, the necessary quantity of desiccant units shall be calculated using the calculation formula below. The factors and calculation values can be taken from Table 2.

The desiccant bags of the low-dust type shall be placed in the upper section of the film enclosure and properly secured against falling. The desiccant bags shall be fastened in such a way that they permanently withstand the loads resulting from transport, handling, and from weight increase due to the absorption of moisture. Direct contact between desiccant and packaged goods is not allowed.

Formula:
$$n = \frac{1}{a} (V \times b + m \times C + A \times e \times WDD \times t)$$

Table 2 - Desiccant unit

Factor	Meaning	Calculation value		
n	Number of desiccant units	-		
a	Water volume to be absorbed by each desiccant unit to comply with the permissible max. air humidity in the enclosure	Permissible ultimate	20%	40%
		Factor a	3	6
e	Correction factor related to the permissible ultimate humidity	Factor e	0.9	0.7
V	Inside volume of the package in m ³	-		
b	Humidity content of the entrapped air in g/m ³	e.g. at 20 °C and 85% relat. humidity b = 15 g/m ³		
m	Mass of the hygroscopic packaging aids (in kg)	-		
C	Factor for the humidity content of the hygroscopic packaging aids in g/kg (‰)	C = 80 for wood, air-dry = 18 % water content		
		C = 80 for wood and cardboard 80 for padding elements on organic basis		
A	Surface area of barrier enclosure in m ²	-		
-	-	Exemplary values of suitable films		
WDD	Water vapor permeability (WDD) of the barrier enclosure for the climate to be expected, in g/m ² × d, measured according to DIN 53122-1:2001-08 or DIN EN ISO 15106-3:2005-05	Type of film	Testing atmosphere	
			20/85	38/90
		LD – Pe 0.2 mm thick	0.4	2.0
		Aluminum sandwich	< 0.1	0.1
t	Total duration of transport and storage in days	-		

Hexagon nut according to DIN EN ISO 4032:2013-04

Washer as per DIN 436:1990-05 or DIN 440:2001-03

Rubber pad

Transverse member

Mushroom-head bolt according to DIN 603:2017-05

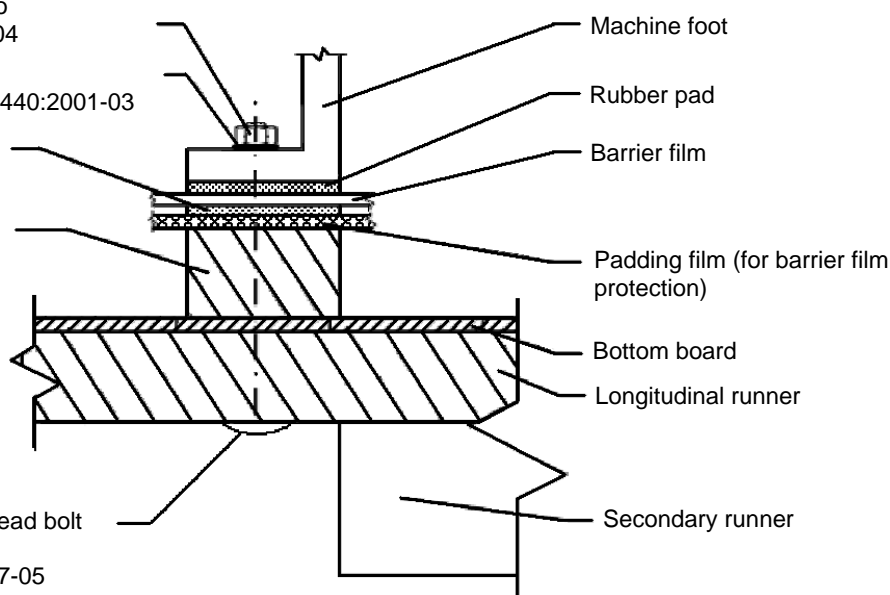


Figure 3 - Penetration of the barrier film

6.2.1.3 VCI method

With regard to compatibility, preservation using the VCI method with at least one appropriate carrier material (paper, film, foam pack, etc.) is also possible, but requires previous consultation with and approval by SMS group. According to HPE 2018, the following shall be observed for the VCI method:

- Use of VCI according to maker's quantity indication
- Observance of pre-contact time of the various VCI products (maker's specifications)
- Clarification of VCI compatibility with a previously applied preserving agent
- The distance between VCI and material to be protected is assumed to be max. 30 mm (rule of thumb)

6.2.2 Nailing of wooden battens

Nailing shall be made as specified in DIN EN 1995-1-1:2010-12 chapt 8.3. Nailing of end-grained wood is applied only for the fixing of case components.

Figure 4 shows a sample sketch of the nailing of wooden battens. The battens shall be fixed with at least 2 nails in every board.

Shortest applicable distances between nails:

- 5 d from unloaded edge
- 10 d from loaded edge

d = nail diameter

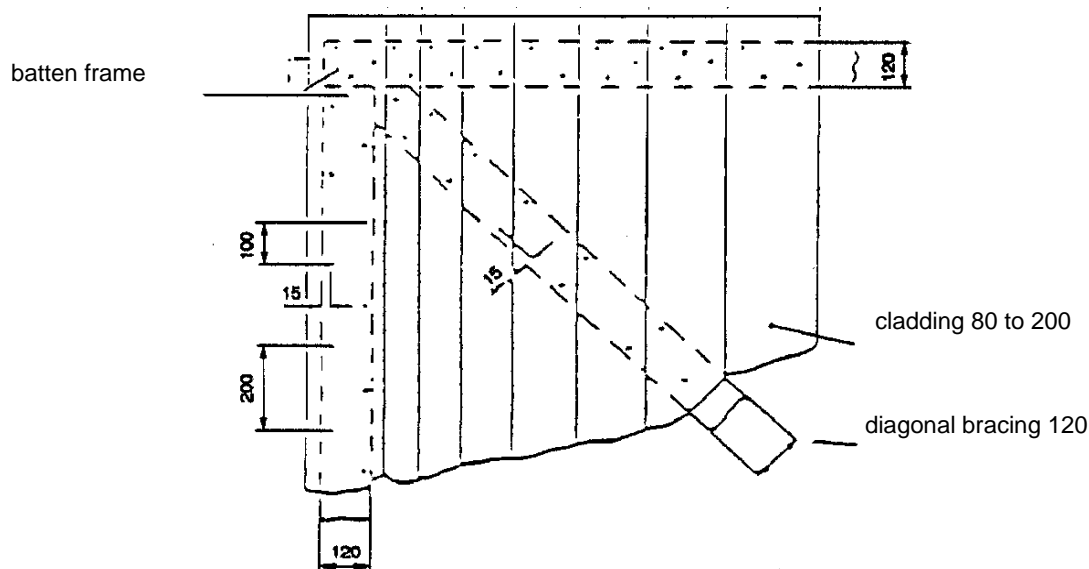


Figure 4 - Nailing of wooden battens - sample sketch -

6.3 Marking of the package

6.3.1 Case marking

The marking consists of lettering, handling instruction, IPPC (International Plant Protection Convention) marking (if necessary) and the company logo.

The packages shall be provided with light-fast and sea-water resistant contrast color (preferably black RAL 9005) using a template or with lettering signs. The materials of the signs shall be resistant to heat, cold, UV radiation and sea water. When parts are not packed or when sledge structures are used, the marking may be applied to the goods themselves.

The package marking shall be requested from the Logistics department of SMS group when the cases are ready for shipment. In addition, the package shall, if necessary, be provided with the necessary marking relating to properties and condition, hazards and storage class of the goods.

6.3.2 Labels

The lettering is project-related and part of the shipping instructions. SMS group will make these shipping instructions available to the contractor in due time.

If there are no regulations to the contrary, all letterings shall be in Arabic numerals and Latin capital letters.

The size of the lettering shall be adapted to the size of the case and the space remaining near the handling symbol and instructions. The lettering shall be applied so as to ensure that the handling marking is not covered, in particular when signs are used.

The lettering shall be applied to at least two sides of the package; if lettering on 4 sides is required, this will be communicated to the contractor in due time.



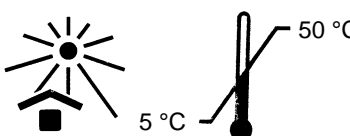
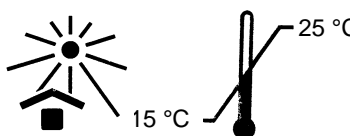
Packages of cylindrical shape shall be provided with marking on two opposite faces.

6.3.3 Marking of the handling instructions

The packages shall be provided with the relevant pictorial marking of the handling instructions according to DIN EN ISO 780:2016-05. The marking of the handling instruction shall be made in the usual letter sizes specified in DIN EN ISO 780:2016-05. The marking of the center of gravity and of the slinging point for lifting gear shall be made on all packages as appropriate for the size and weight of the package and the position of the center of gravity. The type of storage shall be marked using the pictorial marking shown in Table 3.

The type of storage shall be chosen as appropriate for the most sensitive of the goods. If no stipulations are made by SMS group, the respective type of storage shall be defined by the manufacturer or supplier of the goods.

Table 3 - Types of storage

Type of storage		Graphical symbol ^{a) b)}
Cons. no.	Explanation	
1	The package shall be kept in a dry place. Outdoor storage under tarpaulin or roof.	
2	The package shall be protected against sunlight, kept e.g. in a closed building without temperature control (indoor storage).	
3	The package shall be stored protected against frost and sunlight in a bay within a temperature range from 5 °C to 50 °C .	
4	The package shall be stored protected against sunlight in an air-conditioned bay within a temperature range from 15 °C to 25 °C and at an air humidity between 40 % and 60 %.	
5	Special storage area for dangerous goods.	<p>Dangerous goods within the meaning of the Ordinance on Hazardous Substances for the respective type of transport (GefahrgutRVÄndV 8, GGVSEB, IATA-DGR) shall be provided at least with the following additional marking:</p> <ul style="list-style-type: none">- Lettering: UN No. (expert committee of the United Nations) and technical designation of the goods.- Marking of the storage class with class symbol and class figure; in case of more than one dangerous property, the class symbols for the dangerous goods shall be shown in addition; see table 11. <p>The size of the marking shall be at least 100 x 100 mm, on containers, 250 x 250 mm.</p> <ul style="list-style-type: none">- When packages are combined to form loading units, markings and symbols of the individual packages must be fully and clearly visible, otherwise the loading unit shall be provided with new marking.

^{a)} Pictorial marking according to DIN EN ISO 780:2016-05

^{b)} Hazardous substances marking, see section 6.3.6

a) Pictorial marking according to DIN EN ISO 780:2016-05

b) Hazardous substances marking, see section 6.3.6

6.3.4 IPPC marking

Wooden cases as well as all parts of the packaging made of natural wood, including e.g. wood for bracing and fixing in the container, wooden thrust blocks or wooden dunnage shall be marked with the IPPC stamp. This stamp gives information on treatment methods, country of origin, and the competent phytosanitary authority, and contains the registration number of the company which has carried out treatment and packaging. The IPPC stamp shall be applied to at least 2 sides.










6.3.5 Company logo

All cases shall be provided with the SMS group company logo using a template. The template and letter size shall be chosen as appropriate for the size of the case. The company logo shall be arranged on all sides and on every side in central position at the top edge.

6.3.6 Hazardous substances marking

According to the hazardous substances ordinance CLP/GHS, all packages containing a hazardous substance shall be provided with pictorial marking as per Table 4 on at least two sides.

Table 4 - CLP pictogram

Meaning	Symbol	Explanation
Gas under pressure		Contains gas under pressure; risk of explosion when heated. Contains cryogenic gas; risk of cryogenic burns or injuries.
Explosive		Unstable, explosive Explosive; risk of mass explosion Explosive; high risk of splinters and fragments projected Explosive; risk of fire, blast, splinters and fragments projected, risk of mass explosion in case of fire
Oxidizing		May cause or intensify a fire; oxidizing agent May cause fire or explosion; strong oxidizing agent
Flammable		Extremely flammable gas Flammable gas Extremely flammable aerosol Flammable aerosol Liquid and steam highly flammable Liquid and steam flammable Flammable solid
Corrosive		May be corrosive on metals Causes severe chemical burns to the skin and severe eye injuries
Health hazard		May irritate the respiratory tract May cause sleepiness and drowsiness May cause allergic skin reactions Causes severe irritation of the eyes Causes skin irritation Detrimental to health when swallowed Detrimental to health at skin contact Detrimental to health when breathed in Detrimental to health in general and to the environment by ozone destruction in the upper atmosphere
Acute toxicity		Danger to life when swallowed Danger to life at skin contact Danger to life when breathed in Toxic when swallowed Toxic at skin contact Toxic when breathed in
Serious damage to health		May be fatal when swallowed or at ingress in the respiratory tract Causes damage to organs May cause damage to organs May impair fertility or cause harm to the unborn child May presumably impair fertility or cause harm to the unborn child May cause cancer May presumably cause cancer May cause genetic defects May presumably cause genetic defects May cause allergy, asthma-like symptoms or breathing difficulties when breathed in
Dangerous to the environment		Very toxic to aquatic organisms with long-term effect Toxic to aquatic organisms with long-term effect

6.4 Checking

6.4.1 Basic specifications

The packer shall inform SMS group in due time (i.e. at least two days) before packaging starts. SMS group has the right of its own presence during packaging or of that of a representative. In any case, SMS group reserves the right of inspection of the packaging.

If, during inspection of the packages, there is reasonable doubt concerning proper preservation, marking or packaging, the authorized representative of SMS group will decide as to whether opening of the packages and possibly opening of the barrier enclosures is required.

If the opened packages are found to be unacceptable, the representative of SMS group will decide whether additional opening of twice the number of packages opened for the previous inspection shall take place.

Such additional inspection will be repeated till all packages of an additional inspection have been found to be fully acceptable. The packer shall be responsible for correct execution of packaging and for the perfect quality of the packing material. The packaging inspection does not relieve the packer from its warranty obligations and liability.

6.4.2 Testing atmospheres

The testing atmospheres to be used shall be chosen as appropriate for the country of destination. If no climate data are indicated, climate B according to DIN 53122-1:2001-08 shall be used. If no particular proof of water vapor permeability (WDD) has been furnished, the max. permissible water vapor permeability factor (mean value of as-delivered and aged condition) stated in the relevant technical term of delivery shall be used.

The test results shall be proven in an inspection certificate type 3.1 or 3.2 according to DIN EN 10204:2005-01.

7 Handling/loading

7.1 Basic specifications

The securing of the load is a combination of operation-safe loading and transport-safe loading. Operation-safe loading is in the responsibility of the carrier. He must ensure that the loaded vehicle fulfills all road-traffic requirements (StVO = road traffic regulations, StVG = road traffic act) at any time. The party dispatching the goods is responsible, among other requirements, for transport-safe loading in conformity with Section 407 ff of the German Commercial Code (HGB). According to the power to enact secondary legislation for loading and unloading (HGB = commercial code) in its applicable version, the dispatching party is obliged to load, stow and fasten (load) the goods/units in a transport-safe manner. In addition, it shall also be ensured that the goods can be unloaded in a safe way. The regulation VDI 2700 for the securing of loads on road vehicles shall be complied with. Should the Supplier ascertain, or be informed, that the load securing does not conform to the requirements, he must ensure that the transport may only be performed when the due and proper load securing has been carried out. Failure to comply with the securing of the load in an SMS group-organized transport shall be reported immediately to the person indicated in the ordering documents.

7.2 Load securing

7.2.1 Assumed load

The forces of gravity which are relevant for the securing of the goods result from the actually occurring acceleration and deceleration values.

To this end, the specifications for acceleration forces of road vehicles, railways and seagoing vessel according to the HPE Guidelines must be complied with, see excerpt Table 5. The forces resulting from the accelerations can be calculated by multiplying mass (packaged goods or unit) with acceleration:

$$F = m \times g.$$

Other acceleration forces may occur.

Table 5 - Assumed loads for different modes of transport (excerpt from HPE Packaging Guideline 2018)

Type of transport	Forward acceleration	Backward acceleration	Lateral acceleration	Vertical acceleration	
				Static	Dynamic
Road transport	0.8 g	0.5 g	0.5 g	1.0 g	-
Railway transport					
Shunting traffic	4.0 g	4.0 g	0.5 g	1.0 g	± 0.3 g
Combined transport ^{a)}	1.0 g	1.0 g	0.5 g	1.0 g	± 0.3 g
Maritime transport					
Baltic Sea	0.3 g	0.3 g	0.5 g	1.0 g	± 0.5 g
North Sea	0.3 g	0.3 g	0.7 g		± 0.7 g
Worldwide	0.4 g	0.4 g	0.8 g		± 0.8 g
Air transport	1.5 g	1.5 g	1.5 g	1.0 g	± 2.0 g

^{a)} Railway wagons with containers, swaps, semi-trailers, trucks and complete trains, UIC (International Union of Railways) and RIV (Regolamento Internazionale Veicoli, agreement governing the exchange and use of coaches in international traffic).

7.2.2 **Fixation of goods**

The goods shall be bolted to the case bottom structure using load-distributing transverse wooden members. The number of bolts and their dimensioning shall be calculated according to figure 9. It shows the permissible load of the connection of the cup head square neck bolt for force application in direction of grain in terms of N. The minimum bolt spacing and the minimum bolt distance from the loaded edge in grain direction shall be 7 d, but at least 100 mm. Securing in place of movable parts of the goods shall be made in the same quality as the fixation of the goods on the bottom of the case.

If screw-fastening/bolting of the merchandise to the case bottom structure is impossible or possible only to a limited extent, appropriate intermediate layers, padding elements, supports or blocking elements shall be used to avoid slipping of the goods in the case.

The following measures are appropriate:

- Jamming of the goods using wooden thrust blocks and threaded rods (min. bolt diameter see Figure 5).
- Lashing of the goods using pre-stretched wire and turnbuckle (proof of sufficient wire cross-section is required).
- Textile straps and textile belts with pertaining locking devices with due consideration of the supplier specifications and qualities.
- All goods fixation devices shall be used in conjunction with appropriate edge guards.
- Sensitive parts or surfaces shall be protected with suitable materials.

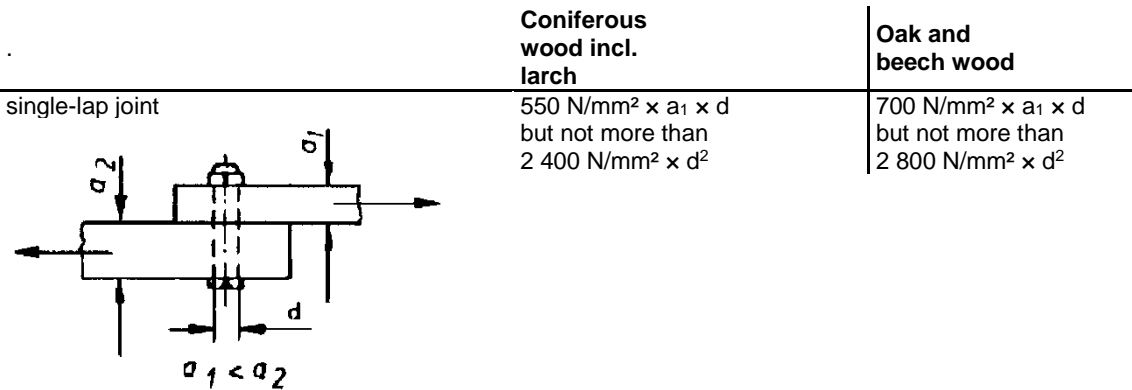


Figure 5 - Connection of the mushroom-head bolts

8 Transport

8.1 Basic specifications

The supplier is obliged to store the packages made available for transport until the arrival of the carrier in such a way that they are protected against damage, soiling and environmental influences. For transportation, proper accompanying documents (e.g. delivery notes, safety data sheets etc.) according to SN 200-9 shall be handed over to the carrier. For loading/unloading of the means of transport observe section 7.

8.2 Delivery and incoming goods

The goods shall be delivered to the Incoming Goods department at the address indicated in the ordering document. Unloading of the delivery at other places on the works premises is only allowed after consultation with the staff in the Incoming Goods department.

8.3 Oversize parts and heavy parts

For the transport of oversize parts and heavy parts, appropriate precautionary measures shall be taken. Oversize parts and heavy parts shall be announced at the latest 6 weeks before delivery. The transport categories are specified in Table 6.

Table 6 Transport category

Max. length	Max. width	Max. height	Max. load in t	Transport category
13500	2400	2400	24	Standard transport
13600	2500	2500	≥ 24 – 90	Heavy goods transport with obligation to obtain authorization
16000	3000	3000	24	Special transport with permanent authorization
≥ 16000 - 18000	≥ 3000 - 3200	≥ 3000 - 3500	30	Large capacity transport with obligation to obtain authorization
≥ 18000	≥ 3200	≥ 3500	≥ 30 – 50	Large-capacity and heavy-goods transport with authorization obligation
			≥ 50 – 90	
	≥ 4000	≥ 4500	≥ 50 – 90	Large-capacity and heavy-goods transport with authorization obligation
			≥ 90	
				Extremely heavy goods transport

8.4 Dangerous goods

The applicable versions of the obligations governing hazardous goods - as stipulated in the Carriage of Hazardous Goods Act and the regulations pertaining to it - must be observed and fulfilled accordingly.

Furthermore, all laws and statutory specifications concerning hazardous goods in the applicable version shall be adhered to. Written notification of the transport of hazardous goods shall be given to the Incoming Goods department at the delivery address indicated in the order document no later than 4 weeks prior to delivery with transmission of the safety data sheets (in German and English).

Annex A (Normative) Definition of terms

A.1 System of the concepts

Figure A.1 shows the relationship between the concepts.

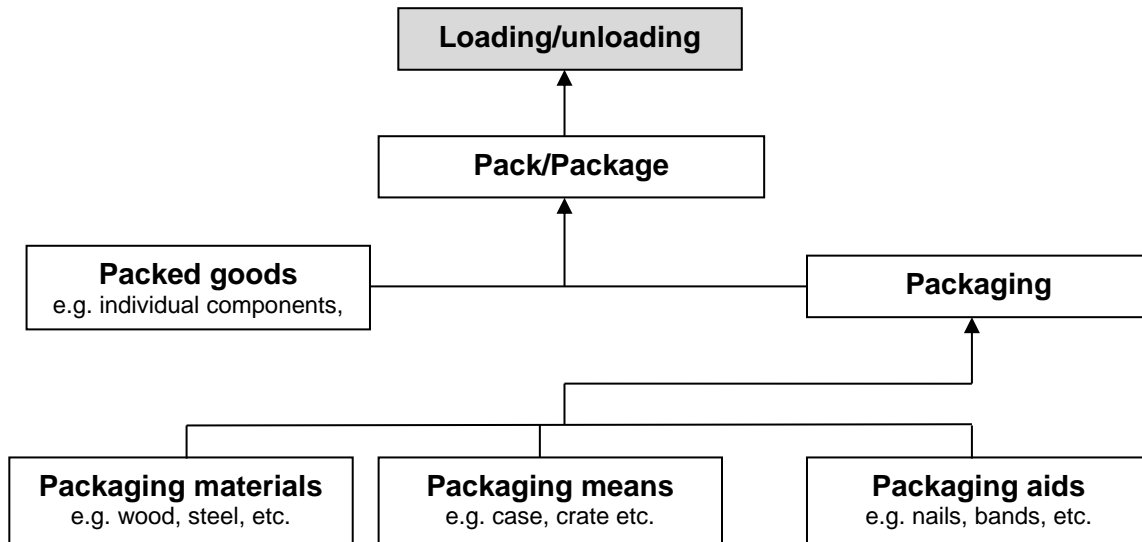


Fig. A.1 – System of the concepts

A.2 Terms and definitions

The terms are listed in alphabetical order; the source is indicated in []:

A.2.1

Freight container [CTU code:2015-05]

A transport vessel of permanent nature and hence strong enough and suitable for repeated use; it is specially designed to facilitate the transport of goods by one or more carriers without transshipment; designed such that it can be secured and/or easily transshipped and provided with corner fittings for his purpose. It must have been approved on the basis of the international convention for safe containers (CSC) of 1972 in its applicable version. The term “freight container” includes neither vehicles nor the packaging, but freight containers transported on container chassis are included.

A.2.2

Hazardous goods packaging [DIN 55405:2014-12]

Shipping packaging in conformity with the traffic law regulations for the transport of hazardous goods

NOTE

Also refer to Note 3 on Packaging.

A.2.3

Shipping Logistics

all activities in connection with the planning and documentation of shipment

A.2.4

Case [DIN 55405:2014-12]

Dimensionally stable, rectangular or polygonal solid-walled packaging means with top (lid)

A.2.5

Order picking

all activities from the compiling to the marking of materials/products for subsequent process steps like assembly, shipment etc.

NOTE

The result of order picking as part of the shipping process is the packaging good (goods to be packed).

A.2.6

Packed good [DIN 55405:2014-12]

good which is to be packed or which is packed

NOTE

Packed good can be any unpacked good or a pack produced in a preceding packaging process. The packed good imposes the packaging to be used for the protecting function which is mainly determined on the basis of

- the nature and condition of the good (unit load, bulk/pasty good, mixed good, liquid incl. gaseous liquid, gases/gas mixtures),
- the assignment of the good to a product category (food, pharmaceutical product, chemical, hazardous good, heavy good),
- the specific properties of the individual good. Goods which can usually be filled in a packaging means from above are called flowable goods. The German DIN standard replaces the previously used term "Verpackungsgut" with the new term "Packgut" (packed good).

A.2.7

Packaging aids [DIN 55405:2014-12]

Packaging component which, in conjunction with the packaging means, yields the total of the functions of a packaging.

NOTE 1

The term refers to parts which are used in addition to the packaging means and yield/fulfill supplementary functions like closing, marking and furnishing, securing and protecting, handling, removing.

The German DIN standard replaces the previously used term "Verpackungshilfsmittel" with the new term "Packhilfsmittel" (packaging aids).

NOTE 2

From the viewpoint of the hazardous goods regulations, packaging aids which are not part of the packaging means (transport unit) are considered to be loading aids.

A.2.8

Package [DIN 55405:2014-12]

Packing which is particularly suitable for transport

NOTE by SMS group:

The term "packing" is used when no special requirements are made on the packaging. The German DIN standard uses the term "Packstück" (package) for a transport unit in which the packaging must fulfill particular requirements.

A.2.9

Packung (packing) [DIN 55405:2014-12]

Product of the packaging process resulting from the joining of packed good and packaging

NOTE

There are various intended purposes of a Packung (packing). For this reason the basic term has to be stated more precisely by adding e.g. a packaging good designation or a word designating a particular function.

A.2.10

Packaging means [DIN 55405:2014-12]

Packaging component which is the main component of the packaging and intended for the inclusion of packed goods. The packaging means serves to enclose, either in part or completely, or to contain the goods to be packaged

NOTE

As the main item of the packaging, the packaging means has decisive influence on the fulfillment of the packaging's functions (protection, rationalization, communication), cost and environmental compatibility. The packaging means are made available for the packaging process at different degrees of prefabrication depending on what is required for the integrated packaging procedures. There are packaging means with a low degree of prefabrication which take their shape during the packaging process, and packaging means with high degree of prefabrication made available as hollow bodies ready for filling, or available in flat condition and erected to their shape ready for filling. The intended use or the property of the packaging means can be stated more precisely with the help of specific designations by adding the designation of a functional determiner to the main term or to the terms for individual types. In conjunction with a particular packaging material, the packaging means can be characterized by adding the designation of the packaging material (like glass bottle for a bottle made of glass). The connection of the term packaging means with a particular packaging good shall be avoided as such connection is usually only reasonable for the packaging in the entirety of its constituents. Dimensionally stable packaging means with a high degree of prefabrication such as bottle, can, jerrycan, barrel, box and case are designated as containers. The German DIN standard replaces the previously used term "Verpackungsmittel" with the new term "Packmittel" (packaging means).

A.2.11

Heavy goods packaging [DIN 55405:2014-12]

Transport packaging designed for particularly heavy goods.

NOTE

Weight limits may be defined in tariffs and transport regulations.

A.2.12

Technical dispatch

all activities in connection with the practical execution of shipment (dispatching).

A.2.13

Transport [DIN 30781-1:1989-05]

Transport is the movement of persons and/or goods from one place to another with the aid of manual or technical means.

A.2.14

Means of transport [DIN 30781-1:1989-05]

Means of transport is a means used for the movement of persons and/or goods from one place to another.

A.2.15

Transport packaging [DIN 55405:2014-12]

Packaging which facilitates the transport of goods, protects the goods against damage in transit or is used for reasons of transport safety and which are used at the place of packaging. [Packaging Ordinance]

Transport packagings or tertiary packagings, i.e. packagings which facilitate the handling and the transport of two or more sales units or outer packagings in such a way that direct contact with them and damage in transit are avoided. Containers for transport by road, rail, ship and air are not considered as transport packagings. [Directive 94/62/EC]

A.2.16

Strapping [DIN 55405:2014-12]

Forming of a closure, reinforcement or securing of packages or forming of bundles in which mainly strap-like closing aids are used.

A.2.17

VCI film [DIN 55405:2014-12]

with additives to prevent corrosion of metal surfaces of the packed goods by releasing these additives during transport and storage

NOTE

VCI is short for volatile corrosion inhibitor.

A.2.18

Loading

of the conveying and storing procedures for the putting of goods/packages on a means of transport.

A.2.19

Packaging (activity)

joining of the goods to be packed and the packaging to form a packed unit.

A.2.20

Packaging (object) ([DIN 55405:2014-12]

Entirety of all packaging elements, in particular packaging means and packaging aids, for the fulfilment of a packaging task

NOTE 1

It serves to protect the goods, man and environment, serves the purpose of rationalization in handling during production, the presentation and consumption of the goods and of information on and advertising for the goods.

NOTE 2

The terms refers to the necessity of packaging as an element of quality assurance of the goods with the necessity of packaging resulting from the fact that the place of production and place of consumption are not the same, to the rationalization of the distribution and disposal processes by means of effective distribution systems and forms of trade, for safe flow of information incl. publicity and for the enhancing of the utilization value of the goods by simplified handling, safe application of the goods, their safe and space-saving storage, and the promoting of the development of new products and habits of utilization. The packaging fulfills a variety of different functions. For this reason, the main term shall be stated more precisely by specific designations. To make reference to a particular intended use of to a property of the packaging, the corresponding functional determiner shall be added to the main term. The connection of the term packaging with a particular packaging material shall be avoided as such connection is usually only reasonable for the its constituents.

NOTE 3

For specifications deviating from this, see Packaging Ordinance (Annex B), Directive 94/62/EC (Annex B); for hazardous goods, refer to ADR/RID 1.2.1.

A.2.21

Shipment (dispatch)

all activities from order picking to the putting of the goods on a means of transport, inclusive of the securing of the goods/materials on the means of transport.

NOTE

Dispatch is subdivided into Commercial Dispatch and Technical Dispatch on the one hand and in internal dispatch and external dispatch on the other hand.

A.2.22

Crate [DIN 55405:2014-12]

Wooden packaging means in the form of a three-dimensional framework structure made with boards, cleats or battens and usually reinforced with diagonal cleats and/or cleats/battens arranged parallel to and at a distance from one another.

NOTE 1

The corners are usually in the form of three-way corners.

NOTE 2

Crates can be either in the form of open crates or closed crates; closed crates are crates lined inside with e.g. plywood, chip or fiber boards.

Annex B
(normative)
case types

B.1 Case designs

- Cases of the categories 1 to 4 can be in 3 different designs. The following case designs shall be used:
- Design 1 (corresponds to HPE design B3) for packed goods (OSB/3 boards / plywood) from 500kg, see figure B.1 and table B.2
 - Design 2 (corresponds to HPE design B2) for packed goods (sawn timber cladding) from 500kg, see figure B.2 and table B.3
 - Design 3 (corresponds to HPE design A5) for packed goods (cases with circumferential battens), up to 500kg see figure B.3 and table B.4

The case designs are classified into type classes according to the weights to be packaged, see 0.
The resulting construction of case bottom, side parts, end parts and top is shown in section B.2.3 and B.2.4.

Table B.1 – case type

Case design	Class type class	Packed goods Net weight kg
3	-	up to 500
1 and 2	1	from 500 up to 1 500
	2	1 500 up to 5 000
	3	> 5 000 up to 10 000
	4	> 10 000 up to 25 000
	5	>25 000 up to 50 000
	6	> 50 000

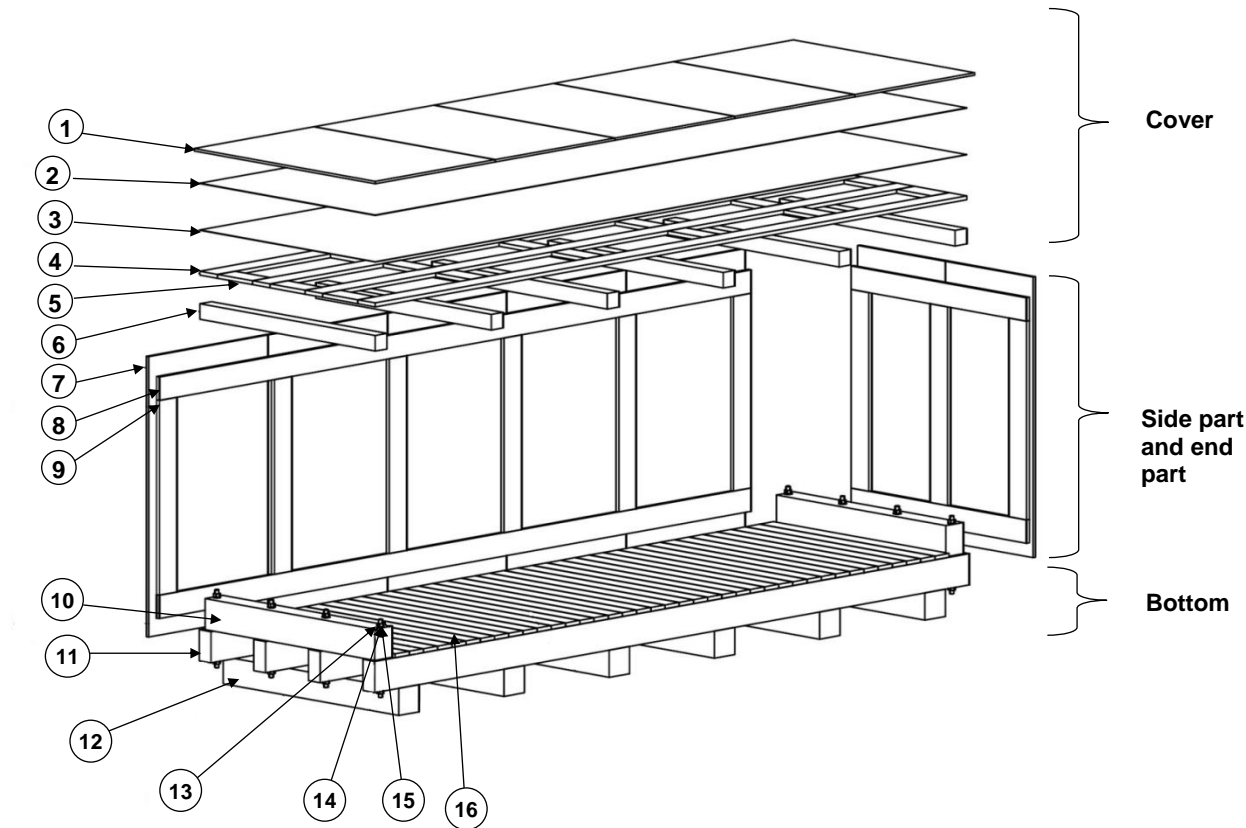


Fig. B.1 - Example: case of design 1

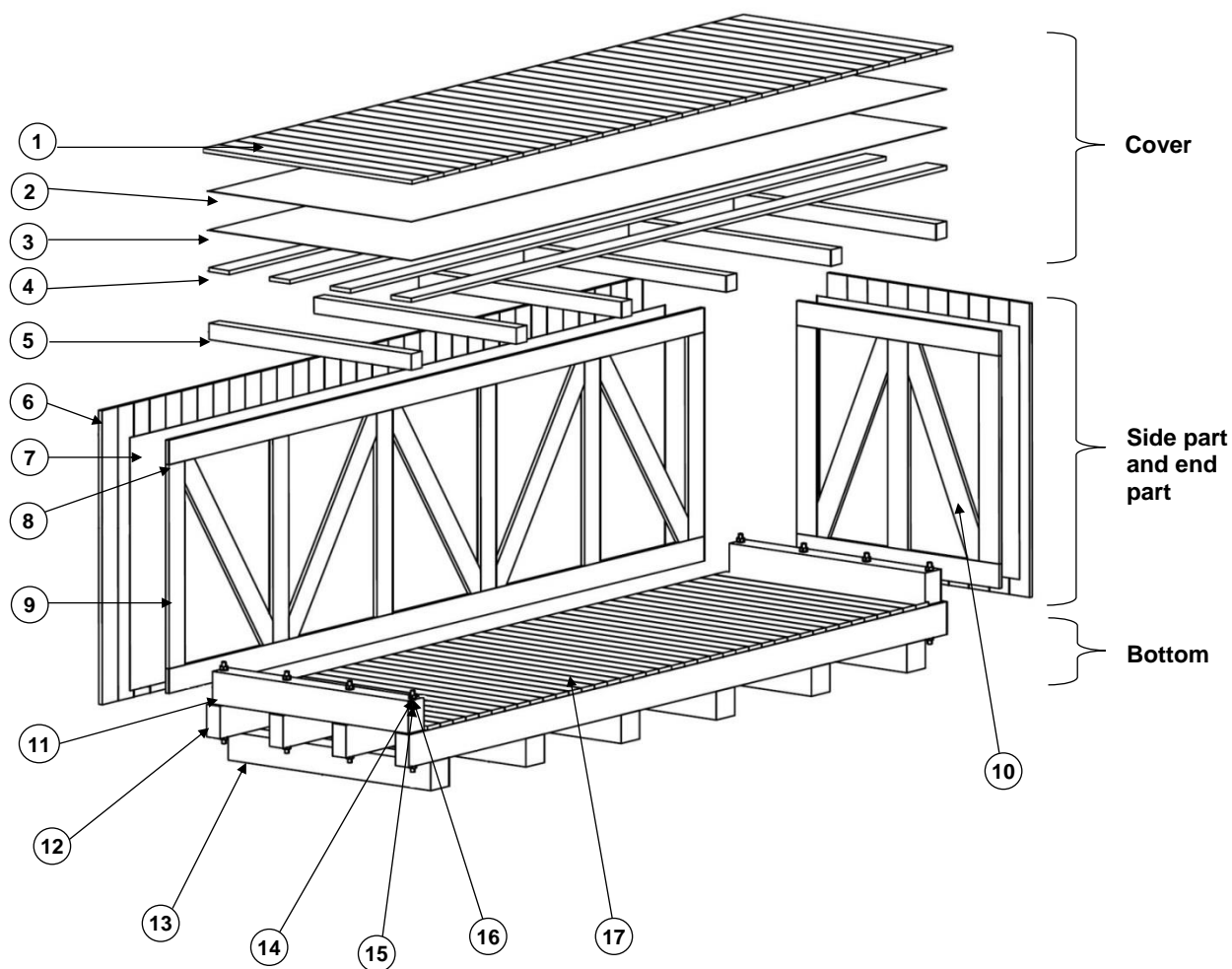


Fig. B.2 – Example: case of design 2

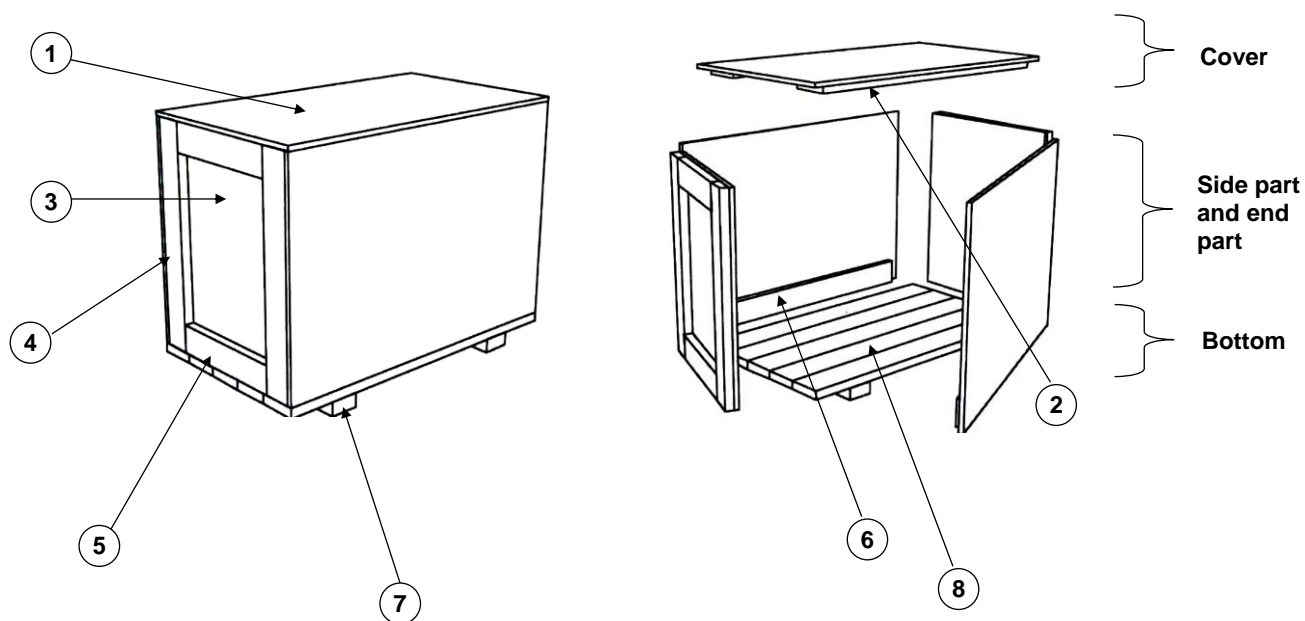


Fig. B.3 - Example: case of design 3

Table B.2 - Case of design 1

Item	Designation
Cover	
1	OSB/3 board/plywood
2	Slide
3	Barrier layer
4	Longitudinal top cleat
5	Cleat (intermediate liner)
6	Square timber bars
Side part and end part	
7	OSB/3 board/plywood
8	Batten (horizontal)
9	Batten (vertical)
Floor	
10	Square end wall joist
11	longitudinal runner
12	Transversal runner
13	Mushroom-head bolt
14	Disk
15	Nut
16	Flooring

Table B.3 - Case of design 2

Item	Designation
Cover	
1	Sawn timber
2	Slide
3	Barrier layer/web board
4	Longitudinal top cleat
5	Square timber bars
Side part and end part	
6	Sawn timber
7	Jute-pitch paper
8	Batten (horizontal)
9	Batten (vertical)
10	Batten (diagonal)
Floor	
11	Square end wall joist
12	longitudinal runner
13	Transversal runner
14	Mushroom-head bolt
15	Disk
16	Nut
17	Flooring

Table B.4 - Case of design 3

Item	Designation
Cover	
1	OSB/3 board/plywood
2	Longitudinal top cleat
Side part and end part	
3	OSB/3 board/plywood
4	Batten (outside, vertical)
5	Batten (outside, horizontal)
6	Batten (inside, horizontal)
Floor	
7	Transversal runners
8	Flooring

B.2 Construction of cases of designs 1 to 3

B.2.1 Vertical supports for cases of goods up to 500 kg

When a case of design 3 for goods up to 500 kg is used, a single entry opening for the forklift is allowed, secondary runner thickness min. 100 mm. When vertical supports are used, they shall be fixed, see figure B.4.

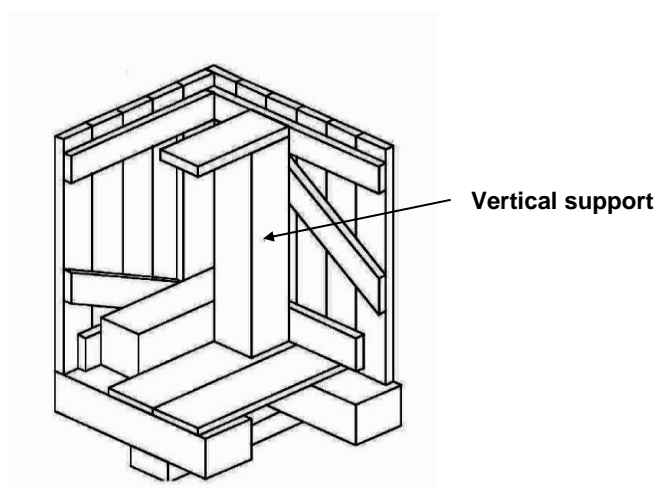


Fig. B.4 - Example: Vertical support mounted on top joist

B.2.2 Cases for packed goods of 500 kg and more

When cases of designs 1 to 2 for goods of 500 kg and more are used, they shall be constructed in such a way that:

- they have at least two entries for the forklift.
- the cases and crates can be stacked in conventional loading up to a stacking impact pressure of 10 kN/m².
- cases with a gross weight of 5 t and more are provided with heavy-lift corners at the rope sling points and with edge guards at the tops.
- the packages withstand the tying-up forces occurring in transshipment.
- handling with hoisting gears and/or industrial trucks is possible.

B.2.3 Side parts, end sections and tops

The side and end faces shall be provided with vertical planking. The number of side part and end section panels of the designs 1 and 2 is according to table B.5 and table B.6. For cases of design 2, various constructions of the panels with diagonal bracing are possible, see Figure B.5.

The tops of the cases shall be sealed against ingress of moisture with appropriate sealing elements arranged at the bottom side of the top. The sealing element shall be placed between the planking and the batten frame. Vertical openings of the goods with diameters > 500 mm shall be covered with plywood panels of 5 to 6 mm thickness. These panels shall be fixed in their positions.

Table B.5 - Number of side-part and top panels for designs 1 and 2

Length of case in cm	≤ 300	301 to 500	501 to 700	701 to 900	> 900
Number of panels	1	2	3	4	5

Table B.6 - Number of end face panels for designs 1 and 2

Case length in cm	≤ 200	> 200
Number of panels	1	2

B.2.4 Bottom

The bottom according to table B.7 shall be designed as required for the case type. All square end wall joists shall be bolted up with the longitudinal runners with mushroom-head bolts, for case type 6 double bolted joints are required.

Table B.7 - Number of square timber bars (longitudinal runners) for designs 1 to 3

Bottom width in cm	≤ 100	101 to 180	181 to 240	241 to 300	301 to 350
Min. number of square timbers	2	3	4	5	6

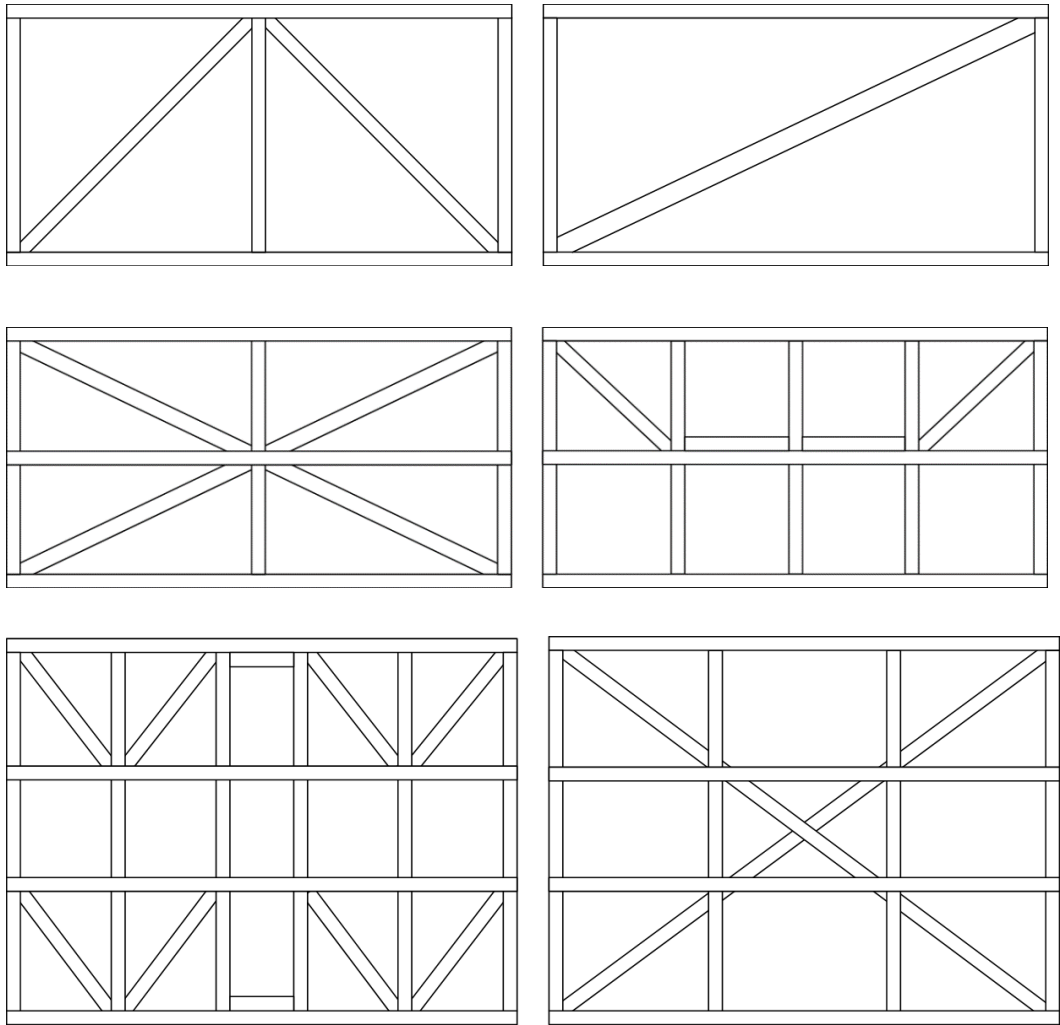


Fig. B.5 – Panels with diagonal bracing for cases of design 2

Revisions

Amendments made in comparison with SN 200-8:2016-05 and -9:2016-05:

Editorial revision	Part 8 and part 9 of the edition 2016-05 have been summarized and updated;
4.3.3	The listing on the shipping label must show the following contents, has been replaced by extension of Fig. 1 - example of a SMS group shipping label with barcode;
5.2.2.2.2	Table 5 - plate thickness of heavy-lift corners/edge guards has been eliminated;
5.2.2.2.3	Table 8 - dimensioning of the top joists for designs 1 to 3 has been eliminated;
	Table 9 - Board, panel and cleat thicknesses of the side parts, end sections and tops for designs 1 to 3 have been eliminated;
5.2.2.2.4	Table 10 - Bottom construction for designs 1 to 3 has been deleted;
been eliminated;	Table 11 - Number of square timber bars (longitudinal runners) for designs 1 to 3 have been eliminated;
	Table 12 - Board, panel and cleat thicknesses of bottom for designs 1 to 3 have been eliminated;
5.4.2	Table 14 - supplements to DIN 4074-1:2012-06 have been eliminated;
6.3.1	Commercial dispatch has been changed to Shipping Logistics;
Annex C (normative)	Permissible stresses for wood have been eliminated;

Previous editions

SN 200:1971-09, 1975-11,1978-01, 1981-01,1985-01, 1992-03, 1996-03, 1999-09, 2003-09, 2007-02, 2010-09
SN 200-8: 2016-05
SN 200-9: 2016-05