Base Load Power Hub (BLPH)

PACKING PROCEDURE
For Sea Water Lift Progressive Cavity Pumps (P-50001 A/B)

Document Number: 1724000936-QC-PRO-00032

Document Class: 3

ROSETTI MARINO

1	APPROVED - WORK MAY PROCEED
2N	REVISE AND RE-SUBMIT - DO NOT PROCEED
2Y	REVISE AND RE-SUBMIT - WORK MAY PROCEED
3	REJECTED
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	22/10/2024

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PCM | keep it moving

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00	Issue for Information (IFI)
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1 DOCUMENT SCOPE

This document aims at describing how pumps will be packed according S.E.I. 4C (Seaworthy packing)

Due to the long length, pumps will be packed dismounted in several elements:

- Pump head parts including pump discharge body
- Sealing system (API Plan 51)
- Casing elements
- Shaft elements
- Stators

1.1 REFERENCES

Doc. No.	Description
1724000936-QC-PRO-00033	PRESERVATION PROCEDURE
1724000936-MAC-DS-00012	PUMP DATA SHEETS INCLUDING WEIGHT DATA SHEET
1724000936-MAC-DA-00004	GENERAL ARRANGEMENT AND DIMENSIONAL OUTLINE DRAWINGS
1724000936-MAC-DD-00006	PUMP CROSS SECTIONAL DRAWING AND BILL OF MATERIAL
S.E.I.L.A	Union of Industrial Packaging and Associated Logistics

Table 1 - Reference Documents

1.2 DEFINITIONS AND ABBREVIATIONS

COMPANY or Client (CPY):	Crosswind
CONTRACTOR (CTR):	ROSETTI MARINO S.p.A.
PROJECT:	HOLLANDSE KUST NOORD WIND PARK Project
VENDOR:	PCM
COG:	Center of Gravity

Table 2 - Definitions and Abbreviations

2 IDEA PACKING PROCEDURE (PCM SUB-SUPPLIER)

Packing is done by our sub-supplier IDEA according to SEI 4C (section 6.1.4 of below procedure). The seaworthy packing consists of crates with closed joints and physical-chemical protection. The corrosion protection is guaranteed by a vapor and corrosion inhibitor wrapping and by addition of desiccant bags (number depending on the crate size – Datasheet on last page).

The parts are cleaned, dried, and protected before the packing.

Caps are used to ensure the protection of the pumps discharge nozzles.

The bolting & loose parts are distributed into dedicated boxes as per Packing list if any.

During initial packing, full pictures report will be made and available for information.

Marking will include as minimum on top, side & end crate sides:

- Country of destination
- PCM Manufacturing order N°
- Net & Gross Weight (kg)
- Dimensions (cm)
- COG Location
- Crate N°

IDEA	**EN - INSTRUCTION** **GENERAL SPECIFICATION** **INDUSTRIAL PACKAGING** **CUSTOMER PCM**	Site : IEN – prestation PCM Date d'application : 17/04/17 1/34

Written by : S. Jaumouillé On : 02/04/17	Verifed by : C. Lafoucrière On : 13/04/17	Approved by : O. Renaud On : 17/04/17

Original validé

No individual protection equipments, it's about a technical instruction

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1 INTRODUCTION

1.1.Objective

1.1.1 Subject

This specification aims to specify the conditions of protection, packaging, marking and transport of the equipment ordered by the CUSTOMER'S customers.

1.1.2 Field of application

It takes up the Industrial Packaging syndicate specifications which, unless stated otherwise in the purchase order, constitutes the minimum required for the packing and marking of the equipment

1.1.3 Specific demands

The packaging considers the transportation conditions (road, rail, boat or air), as well as the conditions of transfer, handling and storage in compliance with professional use.

Not any previsible damages due to transport, handling or climatic conditions are to be excluded from this specification.

For any material not specifically described in this document, IDEA will have to supply the most adequat packaging, according to the industry's codes of practise as well as cost efficiency.

The NIMP15 / ISMP15 shall be applied as far as wood for international packages is used.

1.2 Industry Applicable Codes, Standards

S.E.I.L.A.	Spécifications Techniques des méthodes d'emballage des matériels industriels et applications diverses
EN 13 307-1	Classification for plywood – Part1 General terms
EN 635-2	Classification for plywood – Part2 Hardwood
EN 635-3	Classification for plywood – Part 3 softwood
EN 635-5	Classification for plywood – Part 5 according to the surface appearance
ISO 16 979	Wooden panels. Determination of moisture contents
ISO 445	Pallets for handling and transport – a glossary
ISO TR 11444	Quality of the wood used in the making of pallets.
NF B 53-664	Wooden pallets - Moisture contents- assessment methods for one pallet or estimated for a batch.
NF H 00-310	Heat-weldable and soft materials with low water stream transmission coefficient. (P< 0,3 g/m^2.24 hrs).
NF H 00-310-1	Heat-weldable soft materials. Polyethylene monosheet with a water stream transmission coefficient (P) between 1g/m^2.24h <_ 4 g/m2.24
NF H 00-321	Dessicant bags
NF H 20-008	Holding devices for ready-to-ship packages to be handled individually
ISO 780	Packages: markings and symbols related to the handling of goods
ISO 668	Containers: classification, dimensions and weights.
ISO 7000	Symbols
US MIL-P-116	US military: Method to preserve the materials used
US MIL-STD-2073-1	US military: Military packing standards

2 SECURITY AND LATENT DEFECTS

2.1 The manufacturer will have to guarantee satisfactory performance under general terms of use, and for the values mentioned in the documents specific to the project or according to the Manufacturer's specifications when agreed by the CUSTOMER.

The SEI guarantee is valid during the entire time of transportation the packaging is aimed for, from the day it was completed till its opening, the overall period should not exceed12 months. In case the transportation of the goods should be interrupted, the SEI guarantee stops when the packaging is opened.

2.2 In case the goods and materials should be damaged, the packer guaranties should not be appealed when:

- **A:** When the packaging method or technique have been imposed totally or partially by the user or customer.
- **B:** When the customer imposed, applied or provided a part or all the materials or goods used to protect, wrap or package.
- **C:** In case wrong or incomplete information have been provided about the goods or materials to be packaged.
- **D:** When the information about the transportation of the materials are incomplete, wrong or hidden.
- **E:** In case the damage occuring results from rust or oxidation, and when the customer has not accepted an extra antirust wrap
- **F:** When the damage results from the material itself
- **G:** In unforeseen circumstances cases

3 GENERALITIES

3.1 Foreword to the packaging process

Customer goods features

WEIGHT

DIMENSIONS
FRAGILITY

MEANS OF TRANSPORT FEATURES

By plane: the packaging has to be light (cardboard)

By sea: strong packaging, protection ag. High humidity

By road : Strong packaging

UNLOADING METHODS / FLOW

Folding cases: Easy opening - screwing

Re-usable cases

Storage duration

Final destination country features

Climatic factors (Protection type choice and dessicant bags)

Ismp 15 norm: marking and requirement acc. to the country

->> Packaging type definition

+

->> Protection type definition

3.2 Packing suggestions

3.2.1 Generalities

The inside and outside of the packing must comply with the Seila general specification.

Packing takes into account the transport conditions, transshipment, handling and storage, according to professional use. It can't avoid unforeseeable risks due to transport conditions, handling and environmental conditions.

3.2.2 Packaging requirements

Any packing such as crates, cases, of wood or any other structures will have to be made so as to protect efficiently the equipment of partial or total deterioration against advert weather conditions, storage movement, mechanical constraints, and handling related to transport operation. When possible, all packing from the same order and shipping operation will be consolidated by the packer.

All packaging must be made following the same instructions:

- Final clients requirements
- The ratio cost / packaging and main transport
- Avoid wasted space in a parcel
- Design parcels fit for transport ans handling

Equipment originating from different orders must not be packed together (Except final client's preliminary approval)

3.3 Spare Parts

Spare parts have to be packaged and placed in cases different from the ones containing the main equipment.

4 PACKING OPTIONS

4.1 Climatic conditions

The equipment may suffer constraints due to various climatic environments between the making and the first use. Therefore the analysis of the packing will take into account:

- The logistic chain
- The climatic conditions during the transport of the goods
- The constraints undergone by the materials
- The length of time these constraints may apply

4.2 Weight and dimensions

4.2.1 Standard sized parcels

During the making of the parcel, the dimensions will be reduced to their most & the weight controlled so as to limit the size of the parcel to an average size parcel, according to the domestic & international standards to: 11, 80 x 2, 30 x 2,30 m — gross weight : 3 000 kg or according to the transport regulations in use for the origin & destination countries.

If the parcel did exceed one of the measures mentioned above, the PACKER will have to warn the CUTOMER & will have to supply the following information:

a) Overall dimensions of the parcel during transport
b) Gross weight & net weight in kg
c) Centre of gravity lengthways & sideways if off centre
d) Type of packing for the purpose of transport

4.3 Packaging options

The equipment will be packed according to the specifications of the project & the category of packing required for the equipment concerned.

4.4 Specific requirements

The making of the packing will have to be reasonably cost efficient while allowing for handling, transport & storage of the equipment as well as taking into account the specifications of the end customer.

The making of the packing will have to, on top of its protective capacities, allow the handling of the parcel, would it be by crane with anchor points, fork lift truck with prongs access, & other means of handling, and this in all safety for the workforce as well as the goods.

4.5 Packing List

A copy will be placed in a waterproof envelope fixed to the outside of the parcel. The type of packing list to be used will be defined by the CUSTOMER on a case to case basis.

4.6 Checking parcels

No parcel will be closed with prior agreement from the CUSTOMER.

The PACKER will have to allow the order to be inspected by a Surveyor commissioned by the CUSTOMER, or the principal and will have to allow access to the workshop during the inspection.

The PACKER will also have to provide the staff & the equipment necessary to the inspection.

Please note that an Inspector is in his full right to request to check the reference number of a part, the contents of a parcel against the packing list, the protection of the part or parts, dunnage, marking, and to control the dimensions, weight as well as the quality of the packing.

5 PACKING INSTRUCTIONS

5.1 Generalities and particularities

.

The following instructions represent guidelines for packing & protecting the equipment purchased. The CUSTOMER agrees that it is the PACKER's responsibility to respect the packing instructions.

These instructions will be the bare minimum to help protect the equipment bound for export, transport & storage.

The equipment that is moisture sensitive (instrumentation, electric components, etc...) will have to be packed in a watertight cover; heat sealed & shrink wrapped with the addition of desiccant bags.

The inside of the parcel will be made so as to provide an efficient barrier against rodents.

It is the PACKER's responsibility to pack the small size & fragile equipment into boxes supplied to this aim so as to guarantee the maximum possible protection.

Any loose piece of equipment will have to undergo adequate wedging.

The CUSTOMER must inform the PACKER in case some corrosive repellant substance has been applied to the equipment; if necessary a cleaning method will have to be supplied.

5.2 Packing and Marking

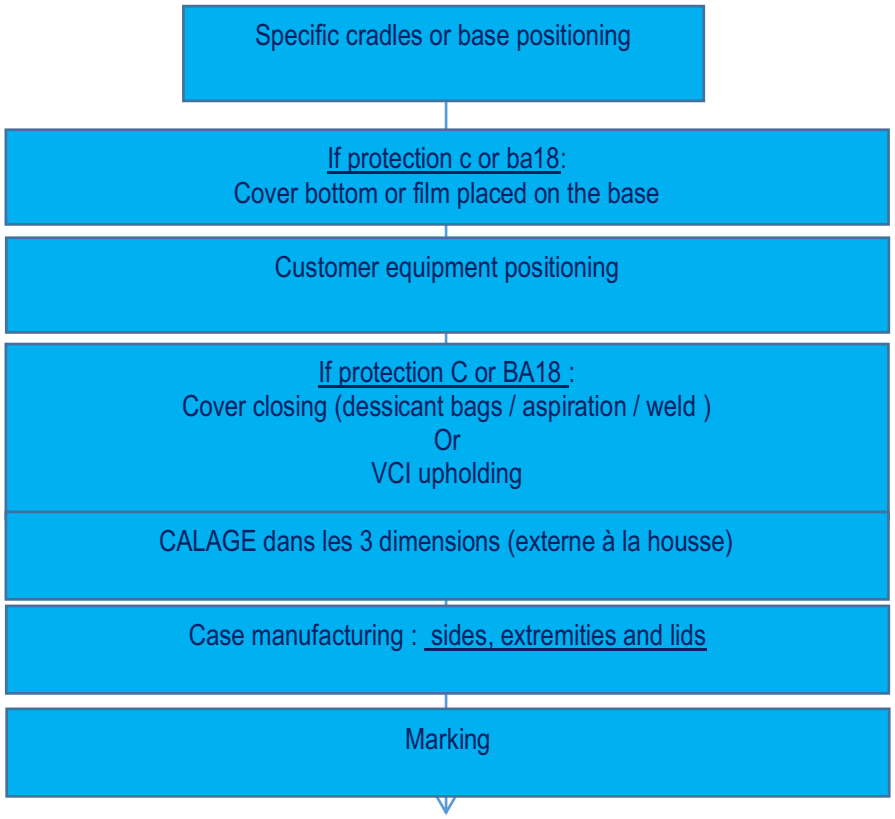
5.2.1 Definition

This section covers the methodology of packaging protection of sensitive instruments and other electrical components against atmospheric and physical shocks that may occur during transport or as a result of storage for a period of 1 year.

5.2.2 General

This section is only the guidance for the CLIENT; the PACKER is responsible for the choice and use of the appropriate packaging materials.

5.2.3 Methodology



- Securing the packaging

  Prior to packaging the equipment, the customer must check that all the spare parts are wedged and secured and that all the openings are plugged.

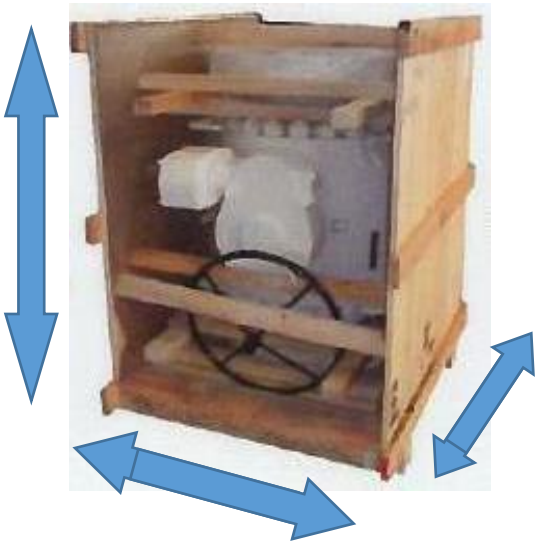
  The customer must check that the equipment have been correctly labeled for material ID.

5.2.4 Wedging

5.2.4.1 Wedging principles

⇨ Facing the package, you have to wedge the equipment according the 3 axes of possible shifting.

Up/Down + forward / backward +t o the right / to the left



⇨ **Wedge the equipment upright standing on the base in priority**

Important :

1- THE EQUIPMENT MUST BE STOWED TO THE BASE

2- NO CONTACT PACKAGE/EQUIPMENT

3- NO WOOD WEDGES INSIDE THE COVERS

The wedges placed inside the cover must be non hygroscopic. The use of wood is limited, avoided if possible.

5.2.4 Packaging material

- Selected wood meets the choice 3 of the lumber grading standards. (EN 1611-1).
- A particular attention is paid to the quality of the used wood
- The wood causing metal corrosion, such as oak, red cedar, chestnut must not be used.
- The platforms will be sole or skating.

5.2.5 Securing the panels inside the wooden box

Panels will be wedged and secured with wooden reinforcements and equipment in accordance with the equipment' 'fragility. This protection aims at realizing a non-deformable package, avoiding the equipment to warp during transportation, storage or handling operations. Wedges are the interface between the equipment and the package. To ensure the coherence of the whole, all moving or cantilevered parts inside an inside an item of the product must be immobilized or supported by means provided by the manufacturer

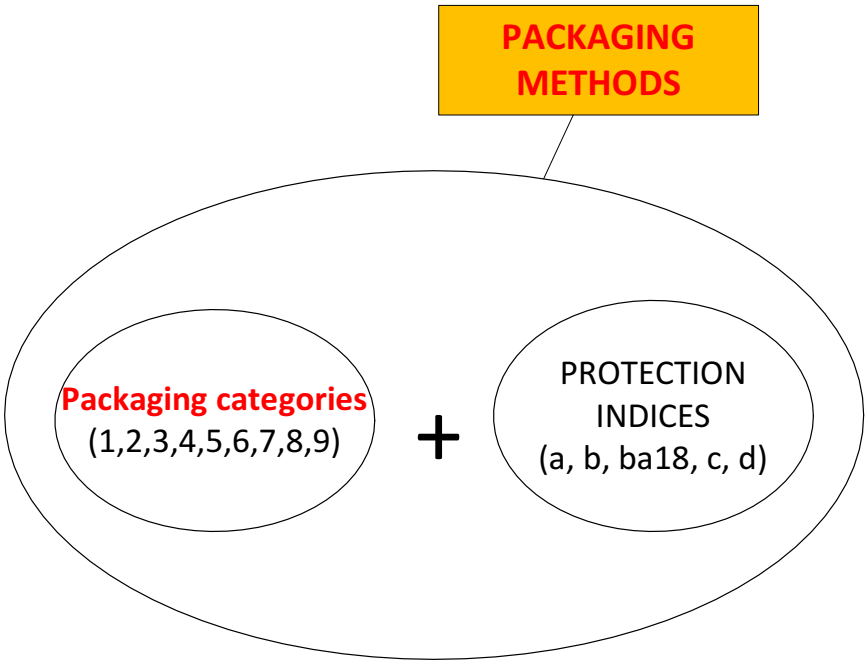
a) The fibers of wood or any other hygroscopic materials should not be used
b) Straw and Hay should not be used

5.2.6 Marking of the Packaging cases

- The package will be marked according to the client's instructions

6 PACKAGING METHODS

$$M = C + P$$



CATEGORIES	TYPES
1	Saddles - Bases
2	Wooden pallets
3	Crates
4	Wooden box
5	Cardboard boxes
7	Reels
8	Container
9	Covering and cladding

PROTECTION	TYPES
a	Contact protection
b	Watertightness
ba18	Antirust film
c	Dessicant bags
d	Anti- shock and vibration devices

6.1 Main protections

6.1.1 a protection (contact protection)

Contact protection will be provided by the client such as paint, oily film, protective varnish…

6.1.2 b protection (rain-tightness, waterproof)

This protection is waterproof. It is applicable when the material is water sensitive but unsensitive to vapour or when it bears a temporary contact protection but this protection does not stand up to rain-tightness

6.1.3 BA 18 protection (Corrosion proof oily film)

Corrosion –proof oil having rust inhibiting properties in the vapour phase.
Corrosion-proof substance leaving a waxy film after the evaporation of a solvent inside the packaging.

6.1.4 c protection (Dehydrating)

This protection is mainly used in wooden box to avoid ripping the protective cover.

.

The equipment which is sensible to corrosion must be wrapped in a protective cover.
Various covers' qualities are available according to the client's need.

The choice is made according to:
Need of rain-tightness (permeability criteria) – It determines the quantity of dessicant bags needed.
Solidity: Use of a reinforced cover – Mainly used for the bases.
Customer's specificity: a special product demand

It will be imperative to wrap with a heat sealed plastic cover of 0.2 mm the equipment sensitive to corrosion. When choosing the type of protective cover to be used (polyethylene or aluminium composite) the conditions of transport, storage & the final destination country will have to be taken into account when deciding. The cover must comply with NF H 00-310 or US MIL B 131 standards. Any spout, socket or other tubing and piping will have to undergo protection suitable to their shape. The emptying & drying of circuits are the responsibility of the CUSTOMER or the equipment manufacturer, the PACKER must ensure this operation has been correctly performed.

The dessicant bags placed inside the wrap are efficient for 1 year and NF H 00-320, NF H 00-321 ou DIN55473 or US MIL D 3464 standards.

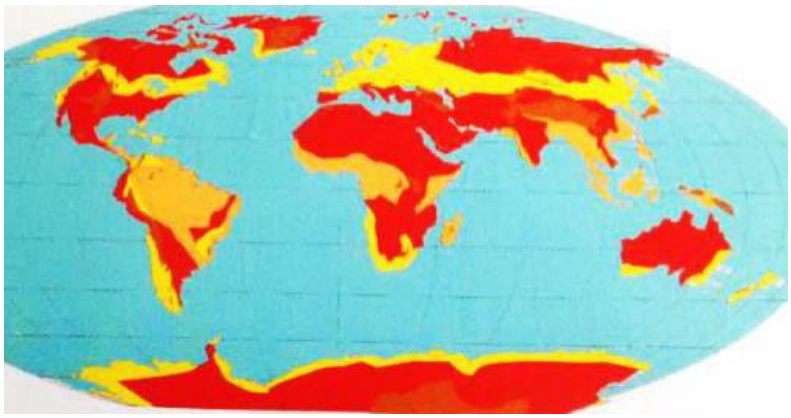
Inside the cover, dessicant bags are placed equally. The number of units of dessicant is calculated using a defined formula:

⇨ **Detailed formula :**

$$nU = 0{,}7p\,STF + XK$$

= 0 if there is no wood in the case

nU :Is the French Number of Units of dessicant bags
p: Is the permeability of the material expressed in g/m²/24 hours, measures at 38° and at 95% relative humidity
S: Is the area of the barrier in m²
T : Is the period of storage in years
F : Is the climatic factor taken from the appended figure (yellow=1,red = 1.5, orange=2.5)



6.1.5 d protection from impacts and vibration

This protection is aimed to attenuate impacts or vibrations during the handling of the packaging

It can be elastic materials:
- Foam
- Plates, blocks
- corners
- Brace, matresses
- Rubber cushions

Or mechanical devices
- Straps
- Traction springs
- Etc …

In a similar case, a fairest preliminary mechanical and rate proposition will be supplied.

6.2 CONSTRUCTION MATERIALS

6.2.1 Treated wood

6.2.1.1 Used materials

WOOD	
Type	**Dim. in mm**
Planks	18*100
Planks	18*150
Planks	27*100
Planks	27*150
Planks	27*TL
Planks	32*150
Planks	38*150
Planks	38*TL
Rafters	50*100
Rafters	63*80
Rafters	75*100
Planks	63*160/ 63*150/ 63*175
Planks	75*225 / 75*200

Wood Quality

Features of the wood to be used:

a) Variety of wood : scotch pine, Douglas, poplar, beech, ash, oak

b) No knot or defect exceeding 1/3 of the width of the planks

c) No wood split over 25 cm

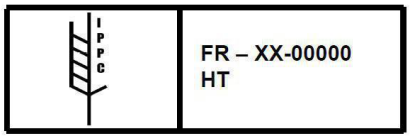
d) Planks with defects are acceptable as far as the mechanical resistance of the package and equipment is guaranteed.

e) The minimum width of the planks is 10 cm for 200 kg and above. No damages plank must be used.

6.2.1.2 Treated Wood

The woods to be used to produce the cases, the wedging and other needs will imperatively have to be treated according to NIMP 15 or ISMP 15 (I.E kiln-heated to 56°c at the core of the wood during 30 minutes)
The agreement of the IDEA site is delivered by the DRAF of its county (Direction de l'Agriculture et de l'Alimentation Française) The plant is audited every 2 years to check the storage rules, the treatments certificates filing are well respected.
A number ISMP 15 corresponding to the plant' agreement will be marked on the wood packages.

The marking is the only legal guarantee. Example:



It is compulsory for exportation

This norm concerns only the « simple » wood materials, and not panels because their fabrication process (heat / glue) removes the risk.

6.2.2 PLYWOODS/OSB

6.2.2.1 Materials used

Plywood and OSB	
Type	**Thickness in mm**
Plywood	9
Plywood	12
Plywood	15
Plywood	18
OSB	9
OSB	12
OSB	15

A) **Plywood** is a sheet material manufactured from thin layers or "plies" of wood veneer that are glued together with adjacent layers having their wood grain rotated up to 90 degrees to one another

THICKNESSES - SIZES		
NOMINAL	TOLERANCES	MIN. NUMBER OF PLIES
10	8,7 to 10 mm	3
12	11,1 to 12,5 mm	5
15	14,3 to 15,8 mm	5
18	17,5 to 19 mm	7

B) **Oriented strand board** (**OSB**), also known as flake board, sterling board and aspenite in British English, is a type of engineered lumber similar to particle board, formed by adding adhesives and then compressing layers of wood strands (flakes) in specific orientations.

NF EN 300 norm classifies the OSB panels in 4 categories, class 3 and 4 are the only ones used for the packing of industrial equipments.

OSB PANELS MUST NOT BE USED TO MANUFACTURE LIDS AND HOODS

6.3 PACKAGING MAIN CATEGORIES

6.3.1 CATEGORY 1 (saddles and bases)

Usually manufactured with thick wood planks

Metal hinges, flats, plats or slings cling the equipment

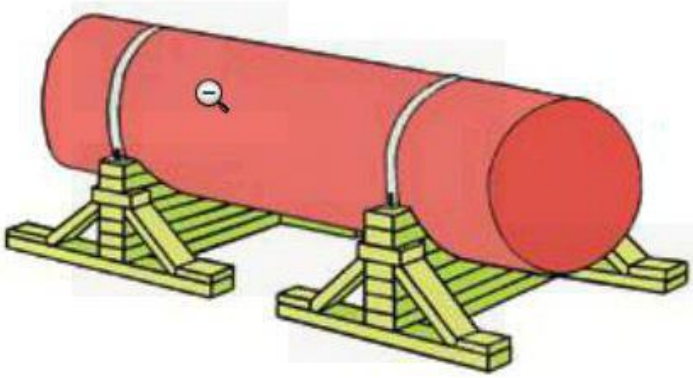
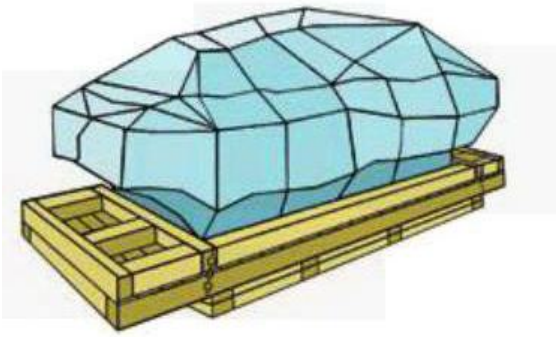


Figure 1 Single cradle with 45 ° reinforcements

Figure 2 Trey + Base



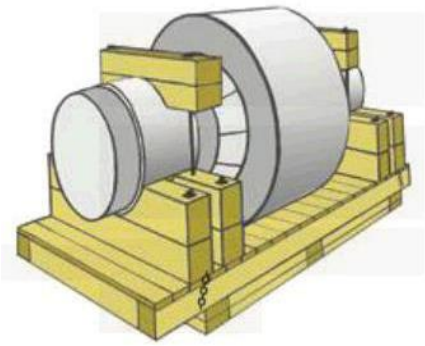


Figure 3 Trey + cradles

6.3.2 Category 2 (bundles and palletization)

The bundle will be preferred for slender parts having structures not likely to be damaged during normal handling

Pallets will be preferred for the grouping of small items not vulnerable to crushing.

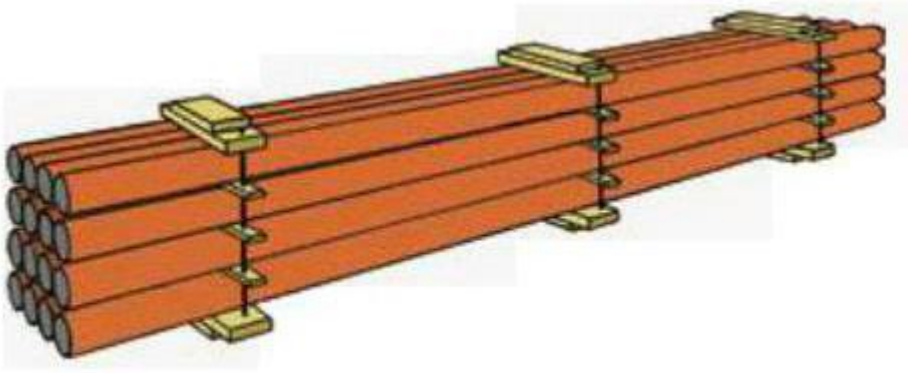
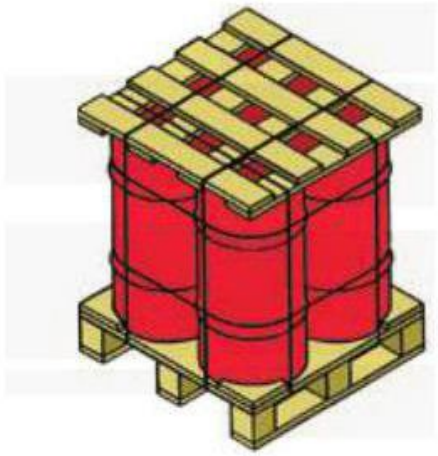
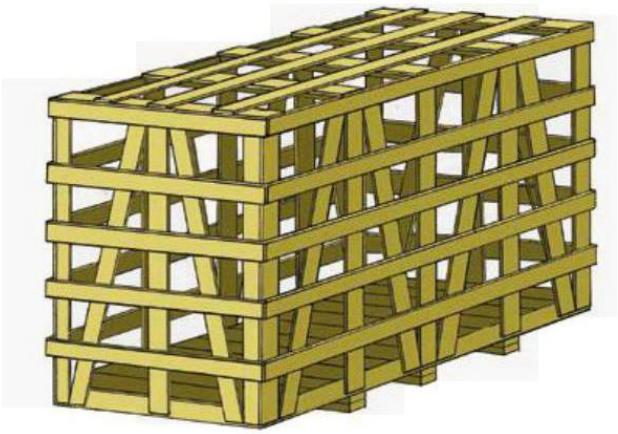


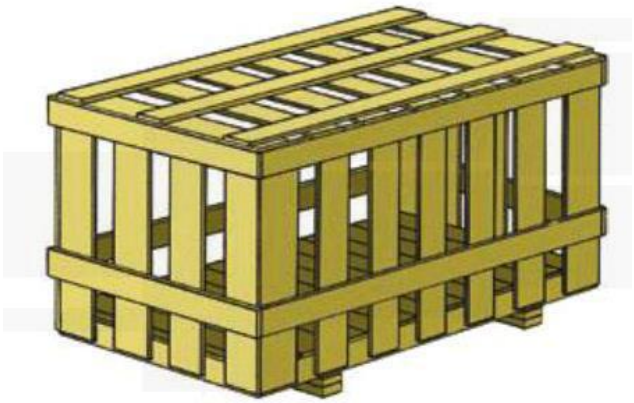
Figure 4 Bundle bounds with wooden blocks and tie rods



6.3.3 Category 3 (packaging in crates)

Crates are used to package complex fabricated equipments and non fragile equipments, wedged,on bases for « door to door « by container, or road transport.





6.3.4 Category 4 (Packing cases)

The packing case is made of unpaned wood with closed joints, of plywood or OSB and used for any assembly needing mechanical or physico-chemical protection…

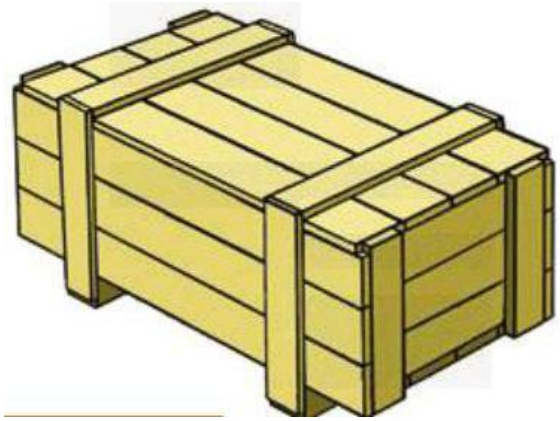
6.3.4.1 Sawn timber cases

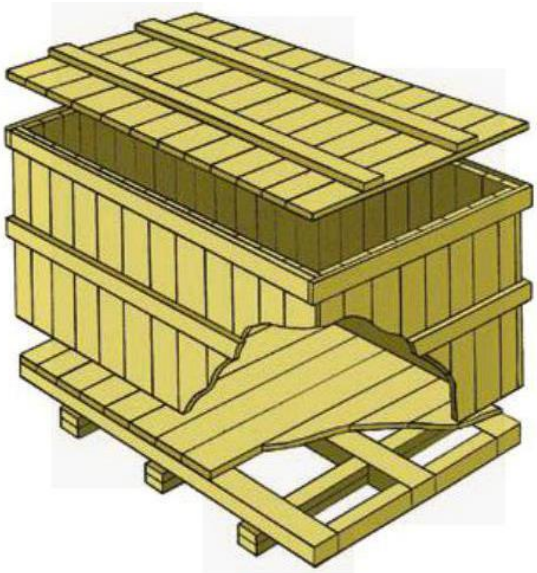
Wood cases / required minimum

NET WEIGHT OF EQUIPMENT	THICKNESS(*) OF BOARDS BEFORE PLANING	THICKNESS(*) OF BATTENS BEFORE PLANING
Up to 500 kg	≥ 18 mm	≥ 18 mm
From 500 to 2000 kg	≥ 22 mm	≥ 22 mm
From 2000 to 5000 kg	≥ 22 mm	≥ 25 mm
From 5000 to 10000 kg	≥ 25 mm	≥ 25 mm
From 10000 to 15000 kg	≥ 32 mm	≥ 32 mm
Over 15000 kg	≥ 38 mm	≥ 38 mm

Each type of case has its own characteristics :

- Timber sawn wood nailed cases
- Simple case
- American type case
- Framed ends cases
- Cleated packing case

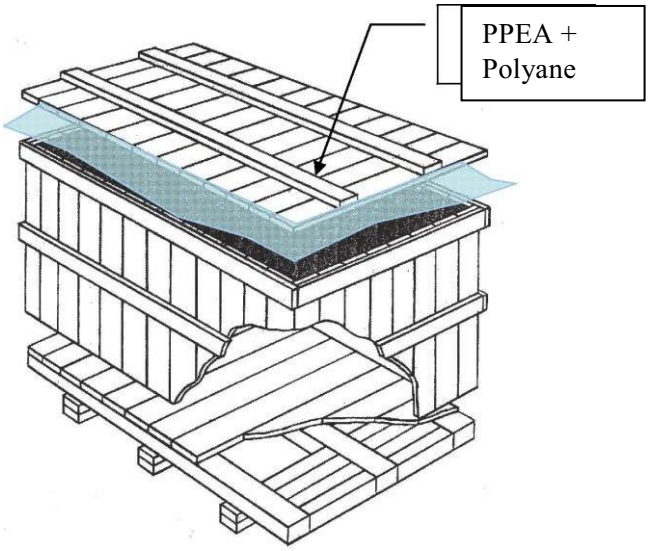




The size of the planks used to manufacture the lids or panels will be between 100mm to 200 mm and a thickness of ≥ 25 mm. . The lid will be screwed to the beams of the case

No planks with holes, cracked or knotty beyond acceptable standards is accepted in the making of the crates.

The lid of the case will have to be designed so as to protect the case from any water seeping in. To achieve this, the lid requiring joints will include polyethylene or AKYLUX (PPEA) sheeting.

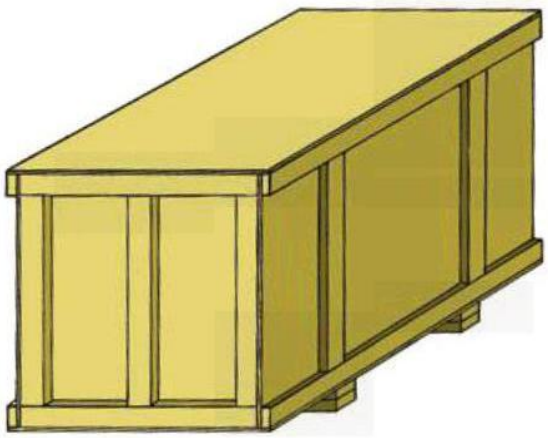


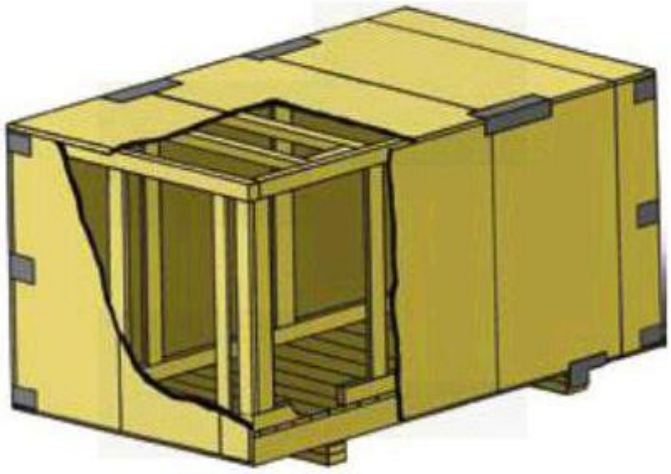
6.3.4.2 WOOD, PLYWOOD OR OSB CASES

Wood, plywood or OSB cases, minimum required

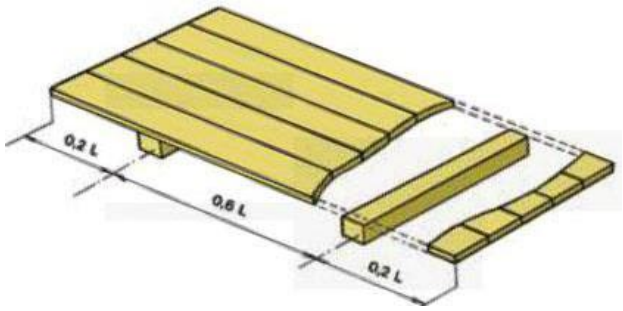
PREFERRED SIZES		
NET WEIGHT OF EQUIPMENT	THICKNESS (*) OF PANELS	THICKNESS (*) OF BATTENS
Up to 500 kg	≥ 6 mm	≥ 18 mm
From 500 to 2000 kg	≤ 10 mm	≥ 22 mm
From 2000 to 5000 kg	≥10 mm	≥ 25 mm
From 5000 to 15000 kg	≥ 12 mm	≥ 38 mm
Over 15000 kg	≥ 15 mm	≥ 38 mm

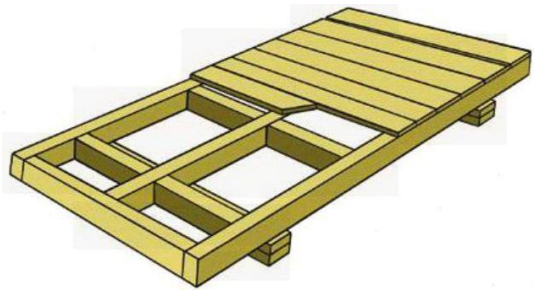
- The plywood or OSB cases manufaturing is different from sawn timber cases.
- The plywood cases' structure has to be studied according to :
- The type and volume of the equipment.
- The type of wedges
- The thickness of the panels used
- It can be cleated inside or outside



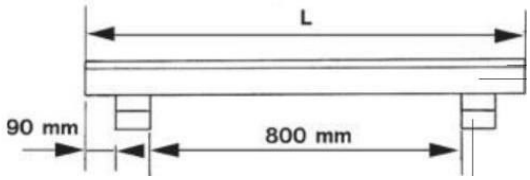


6.3.4.3 WOOD





⇨ minima 590 mm for fork lift slots



- **Fork lift slots :**

⇨ Fork lift slots 100mm mini

⇨ Fork lift slots de 800 mm mini

⇨ minima 590 mm for fork lift slots

Skids are compulsory if gross weight > 5 tons

GRIPPING DEVICES		
GROSS WEIGHT OF PACKAGE	MEMBER	
	HEIGHT (mm)	WIDTH (mm)
From 100 to 5000 kg	H ≥ 95	Width must be at least equal to height
From 5000 to 15000 kg	H ≥ 120	
Above 15000 kg	H ≥ 140	

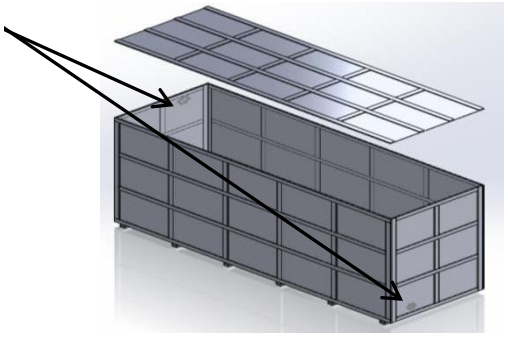
6.3.4.4 VENTILATION SURFACES

Ventilation surfaces must be provided except for small cases (less than 1.5 m3)

They should be placed on the top and at the bottom of the case (no insert should block the ventilation surfaces)



Ventilation surfaces



N case bottom has open joints, the ventilation surfaces at the bottom of the vertical panels may be eliminated if the open joints are not blocked by in the insert.

Ventilation surface size : 20cm² min.

Ventilation surfaces number: 2 each 10 meters

Never, as much as possible, store cases outdoors. If neither shed nor warehouse is available, the parcels will have to be covered with a tarpaulin.

6.3.5 Category 5 (Carboard cases)

Cases are only used for small and medium equipment, the collective or grouping packages or shipping parcels.

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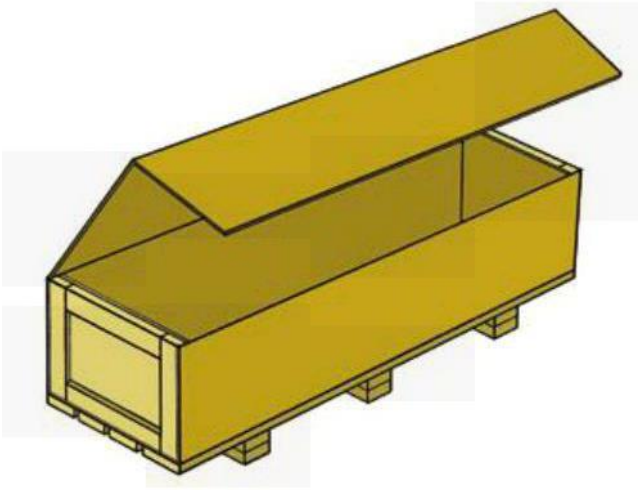
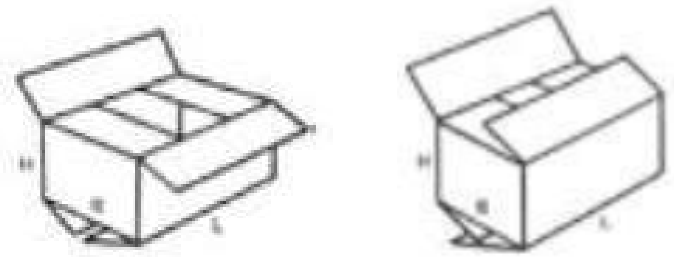
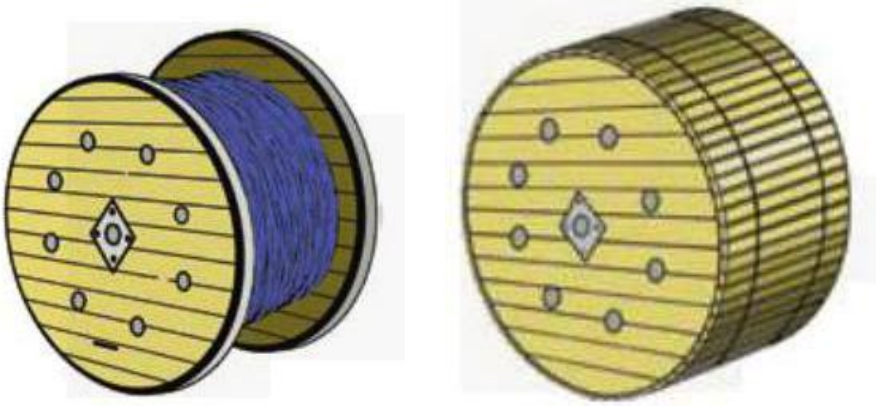


Figure 5 wrap around on cardboard



6.3.6 Category 7 (REELS)

This category concerns all cables delivered on wood or plywood reels bu the supplier. It may be grouped in packaging cat n° 3 or 4.



6.3.7 Category 8 (containers)

An **intermodal container** is a large standardized shipping container, (International Standardization Organization: ISO)

EXAMPLES OF MARITIME CONTAINERS								
I.S.O. container		20' x 8' x 8'6"	40' x 8' x 8'6"	20' x 8' x 8'	20' x 8' x 8'6"	40' x 8' x 8'6"	20' x 8' x 8'6"	40' x 8' x 8'6"
Size and type		**20 OT**	**40 OT**	**20 GP**		**40 GP**	**20 PL**	**40 PL**
Interior dimensions								
Length	L1	5867	11998	5867	5867	11998	5840	12040
Width	l1	2330	2330	2330	2330	2330	2060	2060
Height	h1	(1)	(1)	2197	2350	2350	2170	1950
Door opening dimensions								
Width		2286	2286	2286	2286	2286		
Height		2261	2261	2134	2261	2261		
Height under siderail		(1)	(1)					
Maximum gross weight (kg)								
Containers built after 1986		24000 kg	30480 kg	24000 kg	24000 kg	30480 kg	24000 kg	30480 kg
(1) These dimensions are not standardised. Standard ISO 668 specifies they must be as large as possible.								

MARITIME CONTAINERS FOR GENERAL PURPOSE: GP					
GP: General Purpose container		I.S.O. container			
		20" x 8" x 8"	20" x 8" x 8"6	40" x 8" x 8"6	40" x 8" x 9"6
Size and type		**20 GP**		**40 GP**	**40 HC (**)**
Interior dimensions (1)					
Length	L1	5867	5867	11998	11998
Width	l1	2330	2330	2330	2330
Height	h1	2197	2350	2350	2600
Door opening dimensions					
Width	l2	2286	2286	2286	2320
Height	h2	2134	2261	2261	2560
Maximum gross weight (*) (kg)					
Containers built after 1986		24000 kg	24000 kg	30480 kg	30480 kg
(1) These dimensions are not standardised. Standard ISO 668 specifies they must be as large as possible.					
(*) Codes may vary according to country.					
(**) HC: Height Club or Jumbo (containers with extra height).					

The packer must follow these instructions :

- Respect the max weight authorized
- Choose the dimensions of the parcel so as to optimize container stuffing

The packer being responsible for the stowing inside the container, he has to take all necessary precautions so that the crates of goods are wedged and the proper stowing carried out.

The container must be sealed with certified leads (ISOPSAS 17712 NORM)

6.3.8 Category 9 (Covering-cladding)

This category defines a packaging process when the material to be package is delivered with a structure.

This structure most of the time allows the handling of the equipment, it can be cased with plywood, planks, covers or any other type of protection.

These panels will protect the equipment visibly or against projections.

7 MARKING

7.1 EXTERNAL MARKING

The outside marking aims at:

- Allowing to ID the parcel to avoid risk of loss, delay or mishipment.
- Drawing attention onto possible precautions to take during handling, transport and storage operations as well as unpacking prior to use of the equipment.

The marking must bear various inscriptions, **visible and legible**:

- ID marking, shipping, routing
- Markings and symbols related to handling, transport and storage of the goods
- Markings and symbols related to wood processing

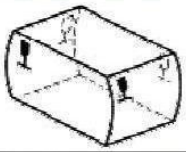
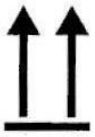
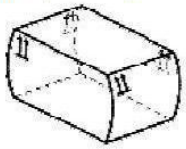
7.2 Minimum Standards

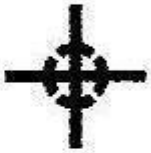
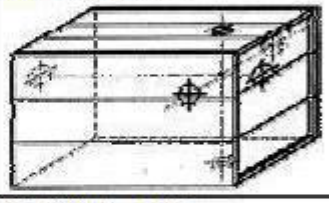
In case the equipment requests specific packaging related to the packing they need, or if using a container, marking by stenciling or by sticky labels is required.

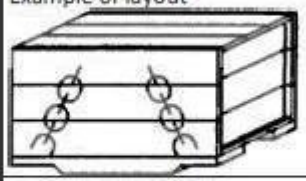
- Marking of crates will be done on plywood 3 mm thick minimum so as to be big enough to have the whole markings displayed on it.
- The marking of bundles will be done on the packing itself as far as possible In all the other cases a plywood support will have to show on the bundles for the marking required.
- The marking of the pallets is done fixing a piece of cardboard under a layer of shrink wrap layer on two opposite sides.
- The packer guarantees the marking comply to the quality standards.

7.3 MARKING AND SYMBOLS

On all crates, cases, bundles cradle the centre of gravity and lifting points will be clearly and distinctively marked. All cases containing equipment to handle with care will be marked with the international corresponding symbols. Al markings will comply with Iso 780 standard so as to readily understood.

No.	Instruction /Information	Symbol	Meaning	Reference / Remarks
1.	FRAGILE		The contents inside the packing are fragile and must therefore be handled with care.	ISO 7000, No. 0621 Example of layout: 
2.	DO NOT USE HOOKS		Hooks are forbidden for the handling of the shipping cases	ISO 7000, No. 0622z
3.	THIS WAY UP		Indicates the correct upwards position for the packing cases.	ISO 7000, No. 0623 Example of layout: 

No.	Instruction /Information	Symbol	Meaning	Reference / Remarks
4.	KEEP AWAY FROM LIGHT AND SUN		The packing cases must not be exposed to sunlight	ISO 7000, No. 0624
5.	NOT WATERPROOF		The packing must be kept away from rain.	ISO 7000, No. 0626
6.	CENTRE OF GRAVITY		Indicates the centre of gravity of the case to be handled as a single unit.	ISO 7000, No. 0627 Example of layout: 
7.	DO NOT ROLL		The packing must not be rolled.	ISO 7000, No. 2405
8.	HANDLING BY HANDTRUCK ON THIS SIDE IS FORDIDDEN		A hand truck must not be positioned on this side for the handling.	ISO 7000, No. 0629
9.	USE OF FORKLIFT TRUCK FORBIDDEN		The packing cases must not be handled by a forklift truck.	ISO 7000, No. 2406
10.	SIDE HANDLING BY CLAMPS ALLOWED HERE ONLY		The clamps must be placed on the sides indicated for the handling on the packing case.	ISO 7000, No. 0631

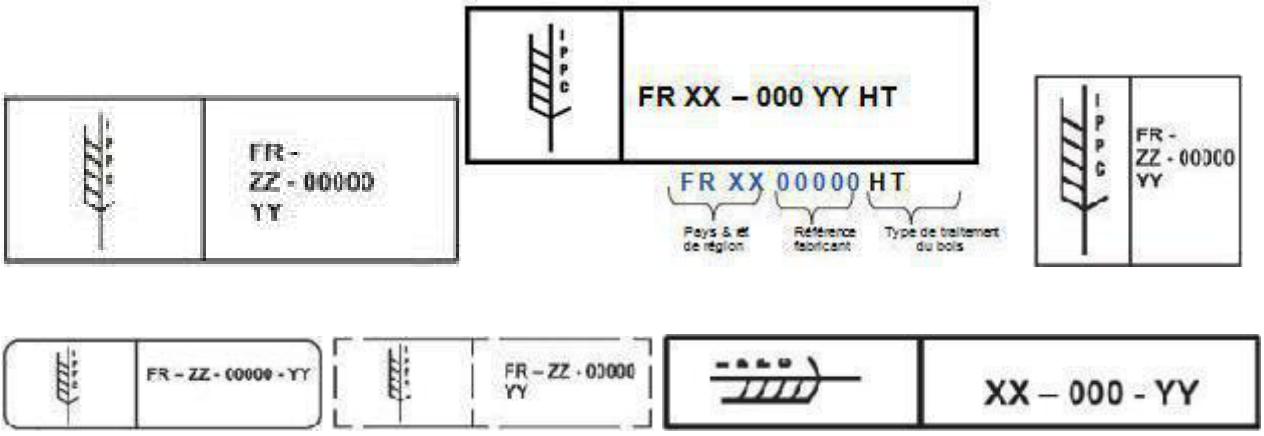
No.	Instruction /Information	Symbol	Meaning	Reference / Remarks
11.	DO NOT GRAB SIDEWAYS		The packing case must not be handled by clamps on the sides as indicated.	ISO 7000, No. 2404
12.	LIMITED STACKING		Indicates the stacking payload maximum allowed on this packing case.	ISO 7000, No. 0630
13.	STACKING LIMITED		Maximum number of similar packages that can be stacked on top of each other, where « *n* » is the limit.	ISO 7000, No. 2403
	DO NOT STACK		Stacking is forbidden and no loads must be placed on top.	ISO 7000, No. 2402
	SLING HERE		Where the slings must be positioned for lifting og the packing case.	ISO 7000, No. 0625 Example of layout 
	LIMIT OF TEMPERATURE		Indicates the limits of temperature the packing cases must not be kept above and handled	ISO 7000, No. 0632 Example of layout:  ...°C Min ...°C Max

Fragile symbol

The parcels containing « Fragile » Equipment will be packed accordingly and marked on 3 opposite sides with the mention "Fragile – Handle with care" and "This side Up" or the appropriate symbol.

7.4 MARKING OF TREATED WOOD

The wood to be used for the making of the packing will be treated wood in compliance with the standards NIMP15 or ISMP15 annex I, as described in paragraph 5.12 and the wood will be marked/stamped with the official mark as indicated below:

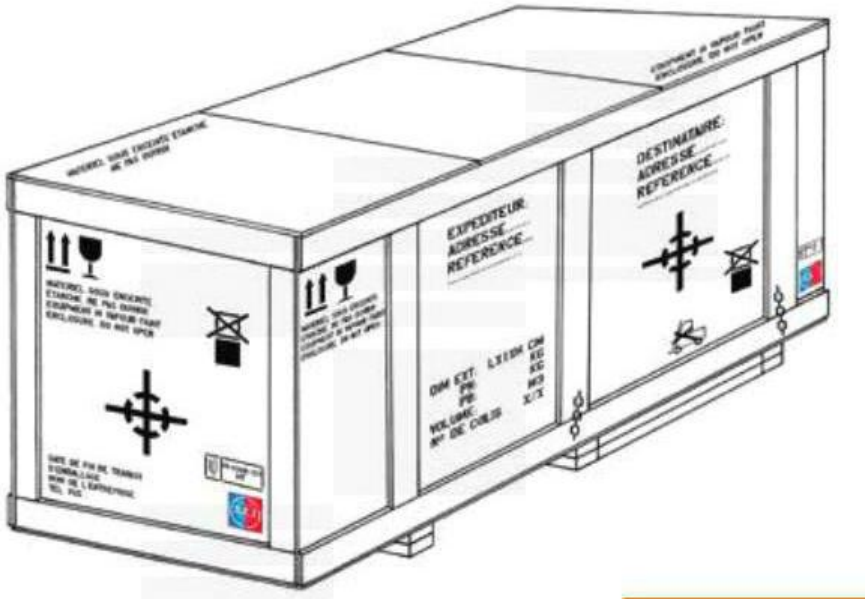


The ISMP 15 markings must be:

- Identical to the exemples above
- Legible
- Indelebile and non transferable
- clearly marked on two sides of the treated packages

Red or orange colours have to be avoided

Recycled re -conditioned or repaired wood packaging materials have to be certified, and marked again. Every component of such material must be treated.



Evolution and Diffusion

Date	Modified Pages	Description et raison de la modification
17/04/17	/	Création of the document

Date of diffusion	Name	Signature

DESICCANT BAGS

Edition Date June 26, 2023 Edition Number

Desi Pak® Bentonite Clay and Sorb-It® Silica Gel Desiccant Moisture Adsorbing Bags

Product Description

Our Desi Pak® bentonite clay, Sorb-It® silica gel, and Tri-Sorb® molecular sieve desiccant bags are highly active desiccants packaged in porous materials that allow them to effectively adsorb, sometimes commonly referred to as "absorb," moisture inside packaging or storage containers helping protect packaged goods from moisture damage.

Benefits

- Desiccant bags effectively adsorb moisture in product packaging to combat its damaging effects, including corrosion, mold, and degradation.
- Desiccant bags meet Mil-D-3464E (Mil-Spec) Types I, II, and III, as well as comply with JEDEC for semiconductor packaging (dry pack, dry packing).
- Desiccant bags meet various global specifications: German DIN 55473 and TL 6850-0008, French specification AFNOR NF H 00321, and MIL-D3464E (Mil-Spec).
- Clariant offers desiccant bags that meet relevant U.S. FDA specification for use in food and drug.
- Desiccant bags are a simple, dependable, and economical solution for preventing moisture damage in enclosed packages.
- Available in a variety of fills, including Desi Pak® bentonite clay, a natural, sustainable desiccant solution, Sorb-It® silica gel desiccant, and Tri-Sorb® molecular sieve.

Call or connect with us

For more information about our **desiccants**, cargo desiccants, oxygen absorbers, or humidity indicator cards and plugs, please call us or email desiccants@clariant.com

Join us on:

YouTube

Why do I need a desiccant bag?

Moisture can quickly affect the value or even destroy many types of valuable goods, causing rust, corrosion, mildew, mold and device malfunction. By sealing goods inside packaging with the appropriate desiccant, goods can be protected from moisture and maintain long shelf lives.

The desiccant reduces the humidity inside a sealed package as soon as they are placed inside.

The absorption capacity is dependent on the relative humidity (r.h.) of the surrounding air.

Desiccant Industries

Placed within a sealed package or container, desiccant bags will protect any number of products, including:

- aircraft storage
- laid-up ships (lay-up vessels)
- stacked rigs (mothballing)
- automobile parts
- electronics
- electronic components (example: surface mount devices, integrated circuits, circuit boards, capacitors, and resistors) used in dry pak per JEDEC J-STD-033
- engines
- semiconductors
- food
- leathers
- packaged foods - cartons, cans, boxes
- machinery
- medical devices
- metals
- military goods
- textiles
- 3D Printing Filament

Available Configurations

Desiccant bags are available in a variety configurations. Standard bag sizes range from 1/6 unit to 80 units (5½ grams to 2,640 grams).

One Unit of desiccant is equal to 26 grams of silica gel or 33 grams of bentonite.

- **Standard Heat Sealed Bags:** Clariant offers one of the most comprehensive lines of quality heat-sealed desiccant bags.
- **String-sewn Bags:** Tie bags include bags made with a sewn string or non-woven strap, ideal for protecting large items from rust, corrosion or other moisture damage. They can be hung on large equipment for transport or storage.

- **Kraft Bags:** Needed for some applications, Clariant offers a full line of desiccant bags packaged in Kraft (Crepe) material.
- **Netted Bags:** Clariant offers netted desiccant bags to protect powdered products, bulk solids, metals, and foods. Covered with a red, food-grade netting, the bags can be dropped directly into powdered products and are easily identified and discarded once the product is ready to be used.
- **Speciality Bags:** Clariant provides packaging services for customized desiccant bags incorporating humidity indication and special adsorption qualities.

Specifications

Clariant offers desiccant bags that meet many of industry's most rigorous specifications, including military specification Mil-D-3464E (Mil Spec). Mil Spec bags are classified as Type I (general use), Type II (non-dusting) and Type III (durability). Clariant's Desi Pak® and Sorb-It® bags are available to meet Type I requirements, and specific Tie-Bags are available to meet Type III specifications. Clariant's Desiccant Bags also meet Method II Packaging Standards, as described in Mil-P-116-E, which covers the basic requirements of military packaging methods of preparation. Designated Mil-Spec bags are rechargeable using bag-specific instructions printed on each bag.

Desiccant bags comply with the most significant industry specifications including:

- **Mil-Spec:** Clariant is listed on the Qualified Products List (QPL) as complying with the Mil-D-3464E as tested and qualified by the U.S. Department of the Navy.
- **DIN / AFNOR:** Clariant's desiccant bags comply with German DIN 55473 and TL 6850-0008 French specification AFNOR NF H 00321.
- **JEDEC:** Clariant Desiccant Bags, along with its Humitector™ Humidity Indicator Cards, meet the requirements for the dry packaging, dry packing, applications for semiconductors.
- **Food & drugs:** Clariant offers desiccant bags that meet relevant U.S. FDA specifications for use in food and drug applications.

Contact Us;
Please contact us for safety and regulatory details or the Material Safety Data Sheet (MSDS).

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