
1. PREAMBLE

These Packing and storage instructions apply, without exception, to any orders and purchases made by BERTRAMS CHEMICAL PLANTS, hereinafter referred to as "BCAG". The purpose of this document is to ensure, that the supplied equipment/material will be transported to the final destination in a safe and complete manner.

2. GENERAL

- 1) The Packer or Seller, as used in this specification, is defined as the seller of the equipment/ material, a subcontractor of the seller, or a separate contractor, who has the final responsibility for protection and packaging of the equipment/material.
- 2) The Packer shall retain full responsibility for packaging and protecting the equipment/material.
- 3) The Packer's responsibility for complete compliance shall not be relieved, in whole or in part, by anything contained in or omitted from the specification or the Purchase Order. The Packer shall refer all conflicts between the requirements of this specification and the Purchase Order, in writing, for clarification and resolution before proceeding with the packaging or protection of the affected equipment/material.
- 4) Export packing shall be suitable and adequate to protect the equipment/material against damages during ocean and inland transportation up to job site.
- 5) Packaged equipment /material, showing damage, defects or shortages resulting from improper packaging, packaging material, or packing procedures, or having concealed damage or shortages at the time of unpacking, shall be subject to rejection and replacement at no additional cost to BCAG. Extra costs which was caused by such reasons as described hereof shall be at the Packer's or the Seller's account.
- 6) Language to be described in the packing list, tag and marking shall be in English language if not defined differently in the purchase order.
- 7) All packaging equipment / material and packaging process/procedures shall be subject to inspection by BCAG, BCAG's client, or the authorized agent appointed by BCAG or the client during all stages of packing work.

3. PACKING INSTRUCTION

- 1) The package design shall enable the cargo to be stowed with the following function: cargos with the package height more than 2m can be safely stowed maximum two layers of similar goods with similar weights as the supplied package; cargos with the package height below 2m can be safely stowed max. three layers of similar goods with similar weights as the supplied package. The wooden cases, cargo pallets, and flat racks should have an even top surface.

This instruction (1.) shall be not applicable to oversized equipment packed on flat rack without top surface.

- 2) Categories of packing style for the equipment/material are defined in **Table 1** as minimum package requirements.
- 3) Unauthorized partial shipments are not allowed. Equipment shall be shipped fully assembled whenever practical. When it is not possible to ship equipment fully assembled, it shall be the Seller's responsibility to disassemble equipment so that it can be properly packed and protected, and to include instructions with the shipment for assembly of equipment after delivery to the job site. The Packer shall disassemble equipment for packaging in accordance with the instructions by the Seller.

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- 4) Initial (commissioning & start-up) spares and operational spares, if and when ordered, must always be packed in separate rate respectively.
 - 5) All packing material shall be new with highest quality and selected and applied in compliance with good engineering/manufacturing/construction practice. Second-hand case, Case(waterproof) and/or any other type of wooden packing material constructed with "used" timber are not accepted. Straw or hay in any form is prohibited to use as packing material.
 - 6) Wooden packaging material shall be treated according ISPM15 standard. On request of BCAG Seller has to provide free of charge a heat- or fumigation treatment certificate strictly complying with ISPM15 "Guidelines for Regulating Wood Packing Material in International Trade", and authorized by the local authority, for all cargos with wooden packing materials
 - 7) Wooden case/boxes shall be lined with waterproof paper/foil.
 - 8) Dimensions of case/box to be designed taking into consideration of the site of 20 and/or 40' container if the Seller receive such instructions as to ship it by container from the freight forwarder and/or BCAG.
 - 9) The use of desiccant crystals within an enclosed piece of equipment is of particular importance in high humidity and areas subject to wide venation in temperature over a twenty-four (24) hour period. Location of desiccant shall be at suitable intervals to provide uniform distribution. The quantity of dehydrating agents to be used shall be determined on the basis of the surface area of the moisture barrier, the moisture vapor transmissions rate and the volume of the enclosed space. Additional desiccant shall be used if other moisture absorbing dunnage or supporting structure are included within the enclosed volume.
 - 10) All equipment shipped utilizing dehydration materials shall be labeled or tagged with an easily observed red sign, reading: 'Caution-Desiccants materials are enclosed within this equipment. Do not operate before removing. Should the enclosure be broken before operating, the desiccant must be replaced for continued storage.'
 - 11) The Bottom of each packing must have lifting possibilities for crane and forklift according to the center of gravity.
 - 12) Goods have to be fastened irremovable to the bottom of the case. The mounting must be made with screwed joints. Skids shall be used, if applicable. If direct screw connections are not possible, additional supports / frames shall be used.
 - 13) The safety distance between the goods and the packaging shall be minimum 3cm.
 - 14) The packing has to protect the goods against vibrations.
 - 15) Packing of goods that could be damaged by vibrations, shall be equipped with appropriate shock indicators, visible from outside of the packing.

4. COUNTRY SPECIFIC REGULATIONS FOR PACKAGING

- 1) Specific packing standards and regulations of the country of destination, such as SASO Technical Regulation for Degradable Plastic Products (Saudi Arabia) have to be considered by seller. Seller will be liable for the compatibility of the packaging materials and for all consequential damages, that occur through breach of supplier's duties.

5. OVERSIZE INDIVISIBLE LOADS

- 1) Seller shall ensure that when packed any one individual dimension is less than the following:
 - a. Length 12.00 meters

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- b. Width 2.10 meters
 - c. Height 2.30 meters
 - d. Weight 20.00 metric ton

If it is necessary to exceed any one of factor as described above the Seller shall obtain BCAG's approval in writing prior to packing.

- 2) Transportation drawings must be submitted to BCAG/ the freight forwarder 2 weeks prior to the contracted delivery date.

6. HAZARDOUS MATERIAL

- 1) The Seller is responsible for ensuring that any hazardous material in his supply are packed separately and safely.
- 2) Paint and thinner shall be delivered in barrels / cans / tins of max. 25 liters or 25 Kg.
- 3) A Material Safety Data Sheet (M.S.D.S.) must be sent to BCAG. A copy of MSDS have to be attached to the packing list on each box.
- 4) Dangerous Goods cases shall be created and marked according ADR/RID / IMDG Code / IATA -DGR standard.
- 5) Packing shall be made in accordance with the instructions by the International Maritime Dangerous Goods Code. (IMDG Code). As minimum, the Seller shall be responsible to supply information on handling and to mark these material in accordance with the applicable law of the country of origin and the requirements of the shipping agency for transporting the material; whether by road, by sea, by rail, or by air.

7. MARKING INSTRUCTIONS

- 1) The marking shall be according to ISPM-Standard and shall include without exception at least the following
 - a. IPPC Logo
 - b. Approval number including the ISO country code
 - c. Treatment Mark according ISPM-15 (HT Heat Treatment)
- 2) Marking shall be stenciled on the outside of the package with appropriate instructions for the handling, transport and storage of the equipment /material in proportion to size of equipment/material or package.
- 3) All cases and Case(waterproof)s are to be stenciled in water-proof ink on top and two opposite sides in clear legible characters.
- 4) On bundles the marking is to be embossed on a metal or similar tag and wired on securely. Bundles and loose items which are not suitable for application of shipping mark direct onto bundles or pieces, must be supplied with at least two indestructible labels, one at each end, bearing shipping mark and additional data i.e. weight and size. Labels are tied to bundles or pieces with steel wires.

8. SHIPPING MARK

- 1) Shipping mark must appear on all packages, metal tags, labels and all shipping documents such as packing list, etc.
- 2) In Case shipping marking is provided by BCAG, seller shall mark the packing accordingly.

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- 3) Letter size of the shipping mark shall be larger than 5 cm square in general. The size shall be enlarged in line with the size of packages.
 - 4) Hand lettering with felt-tip markers is not acceptable.
 - 5) Marking for cargo handling care, sling wire, center of gravity, etc, shall be stenciled at proper points/places on each package.
 - 6) Cargo damages which was caused by improper marking for sling wire end centre of gravity shall be the Seller's responsibility.

9. PACKING LIST

- 1) The Seller should prepare package marking and Packing List as per the FORM, refer to **Annex-1 & Annex-2**.
- 2) The Seller must show fully itemized complete description of spare parts and accessories for item by item clearly in the packing list.
- 3) Packing list must show the full details of contents for each package if quantity of package to be delivered will be more than one.
 - a. BCAG Item No.
 - b. BCAG Project No.
 - c. Material description
 - d. Quantity
- 4) One copy of packing list shall be placed in a waterproof envelope inside of each package, and the other copy shall also be placed in a waterproof envelope and securely attached to the outside of each package as illustrated above.
- 5) If the equipment /material is shipped unpacked, the said two copies of packing lists are to be placed in a waterproof envelope and securely wired to the material with galvanized or aluminum wire or other suitable method.

10. SPECIAL HANDLING PROCEDURE

- 1) The Seller is requested to submit to BCAG and to the nominated freight forwarder a "Handling and Storage Procedure" for special goods for which special attention shall be paid during transportation and storage. Cargo damages which are caused due to missing handling and storage instructions shall be the Seller's responsibility.

Table 1 - Minimum Packing requirements

The following minimum packing requirements shall be considered if not agreed differently with the Purchase Order.

No.	Equipment	Description	Packing style /minimum requirement	Remarks
1	Falling film evaporators	Oversize / >20ton	Skid with wooden saddles	skid shall be designed (subject to approval) for Trailer and ocean transportation.
2	Falling film evaporators	Smaller size / <20ton	Case (waterproof)	Suitable for 40`container ocean transportation
3	Heat exchanger	Shell and tube type Small size	Case (waterproof)	Suitable for 40`container ocean transportation
4	Heat exchanger	Plate heat exchanger	Case (waterproof)	Suitable for 40`container ocean transportation
5	Condenser (plates)	Plate Heat exchanger Large size	Case (waterproof) shock-indicators	Suitable for 40`container ocean transportation
6	Heater, Boiler		Skid with wooden saddles	skid shall be designed (subject to approval) for Trailer and ocean transportation.
7	Tank		Skid with wooden saddles	skid shall be designed (subject to approval) for Trailer and ocean transportation
8	Prill cooler	Oversize / >20ton	Skid with wooden saddles	skid shall be designed (subject to approval) for Trailer and ocean transportation.
9	Tubes Nickel	Diameter < 100mm	Case (waterproof)	Suitable for 40`container ocean transportation
10	Tubes Nickel	Diameter > 100mm	Case (waterproof) Max 7Pcs/Case	Suitable for 40`container ocean transportation
11	Pumps for caustic lye		shock indicators	Suitable for 40`container ocean transportation

Annex 1 - BCAG Packing list

		Packliste / Packing List	Project: 8xxxxx	Xxxxxx
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Kisten Nr. Pack No	Verpackung Package	Abmessungen Dimensions L x W x H [cm]	Brutto Gewicht Gross Weight	Netto Gewicht Net Weight
	1 Case		Kgs	Kgs

Item N°	Part of	Qty	Unit	Description	Main data	Type /Material	Weight [kg]

Storage code: XX	Erstellt durch / Prepared by	Geprüft durch / Checked by	Dok. Nr./Doc. No. - Rev =File Name			
	Änderung Revision			8xxxxx-01-101-A4	00	
	Erstausgabe 1 st Issue	xx.xx.xx mosge	Blatt Sheet	1	von of	1

Annex 2 - BCAG package marking

Projekt No.: XXXXXXXX / **Project Name:** XXXXXXXX

P/O No.: XXXXXXXX

Consignee address



VIA XXXXXX **XXXPORT**

Pack-No.: XXXXX

Net. weight: xxx KGS

Gross weight: xxx KGS

Dim.: XX x XX x XX CM

**VENDOR: BERTRAMS CHEMICAL PLANTS LTD., SWITZERLAND
HANDLE WITH CARE, RIGHT SIDE UP, KEEP AWAY FROM MOISTURE**