

## Carton Specifications and Loading & Shipping Requirements

It is the responsibility of the vendor to ensure that the product is packed in a carton that will guarantee its safe arrival to the customer. Before loading, the shipper and/or vendor must check for the proper condition of the container. By accepting the container, the shipper and/or vendor recognizes its suitability for the loading and shipment of product and therefore, accepts total responsibility.

### Purpose

L G Sourcing, Inc. requires that products are packed to withstand the complete journey from the factory to the final customer. To support this objective, minimum requirements must be enforced and followed by those vendors supplying merchandise to Lowe's. These requirements outlined in this procedure include, I. Point of Sale Package Specifications. II. Master Carton Package Specifications. III. Desiccants. IV. Palletization and V. Import Containers.

### I. Point of Sale Package Specifications (Display Carton, Sealing Tape, Source Tagging, Graphics).

#### A. Point of Sale (POS) Carton

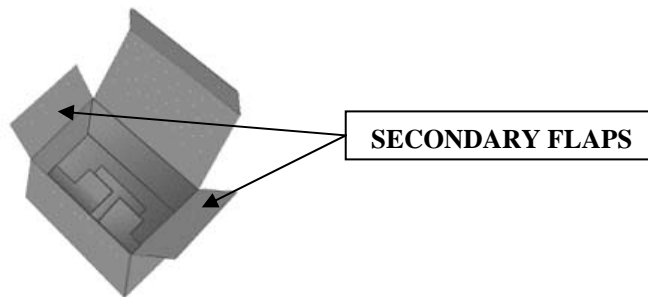
- The combination weights of the liners & mediums must be sufficient to protect the product and maintain the integrity of the POS Carton. The table below is a summary of material combinations that must be followed for POS Cartons:

Product Weight (lbs./kg.)	Maximum Outside Carton Dimensions (inches/cm)	Weight of Liners (Paper Weight) (lbs./kg. per 1,000 sq. ft.)	Burst Test (lbs./kg per sq. ft.)	Edge Crush Test (ECT) (lbs./kg per in. width)
<b>Singlewall Corrugated Boxes</b>				
20#/9kg	40"/102cm	52#/24kg	125#/57kg	23#/10kg
35#/16kg	50"/127cm	66#/30kg	150#/68kg	26#/12kg
50#/23kg	60"/152cm	75#/34kg	175#/79kg	29#/13kg
65#/30kg	75"/191cm	84#/38kg	200#/91kg	32#/15kg
80#/36kg	85"/216cm	111#/50kg	250#/113kg	40#/18kg
95#/43kg	95"/241cm	138#/63kg	275#/125kg	44#/20kg
120#/54kg	105"/267cm	180#/82kg	350#/159kg	55#/25kg
<b>Doublewall Corrugated Boxes</b>				
80#/36kg	85"/216cm	92#/42kg	200#/91kg	42#/19kg
100#/45kg	95"/241cm	110#/50kg	275#/125kg	48#/22kg
120#/54kg	105"/267cm	126#/57kg	350#/159kg	51#/23kg
140#/64kg	110"/279cm	180#/82kg	400#/181kg	61#/28kg
160#/73kg	115"/292cm	222#/101kg	500#/227kg	71#/32kg
180#/82kg	120"/305cm	270#/123kg	600#/272kg	82#/37kg

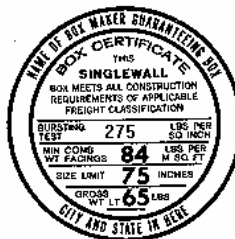
- Internal packaging must be custom sized to ensure proper protection and stability of the product and POS carton.



- Flute direction must be in the vertical position as shown (when stacked on pallet or in bulk warehousing). If the POS Carton also function as the Master Carton, it must be designed to safely withstand stacking heights of 13 feet/4m without bulging, creasing, or collapsing.
- The preferred flute size for POS Cartons is "E" Flute. "B" flute is an acceptable alternative for those POS Cartons requiring additional stability for handling.



- POS Cartons should be a full overlap (FOL) design with tuck closure as shown above. The tucked panel must be secured with tamper resistant tape. The Secondary flaps when folded together, must meet evenly in the center most point of the carton.
- Must have minimum 1.25 inch/3.2cm manufacturing joint, glued with moisture resistant adhesive.
- To prevent abrasion and damage to products with sensitive finishes, i.e., appliances, furniture, etc., coated corrugated or other non-abrasive packaging material must be used for internal protective packaging.
- If the POS Carton also functions as the Master Shipping Carton, it must pass International Safe Transit Association (ISTA) vibration and drop tests (Procedure 1A). Testing will be performed by LG Sourcing's designated corrugated supplier or Independent Test Lab and verified by the LG Sourcing QA representative.
- The POS Carton must reflect the seal of certification specifying that the carton is in compliance with Item 222 of the USA National Motor Freight Classification. (See example below):



## **B. Cellophane / Shrink Wrap**

- The use of Cellophane or other plastic shrink-wrap around individual display cartons is **NOT** permitted.

## **C. Sealing Tape**

- Although the use of adhesive carton sealing tape is not recommended, POS Cartons that require sealing tape to ensure a safe mode of delivery must follow the tape guidelines below:

All sealing tape should be a minimum of 2-1/4 in. (5.72 cm) wide (clear), with the following construction and physical properties:

### **CONSTRUCTION**

**Backing:** Biaxially oriented polypropylene  
**Adhesive:** Pressure sensitive hot melt rubber-resin

### **PHYSICAL PROPERTIES**

		<b>ASTM Testing Method</b>
<b>Adhesion to Steel:</b>	40 oz./in. width (44 N/100mm width)	D-3330
<b>Tensile Strength:</b>		
Machine Direction:	22lbs./in. width (385 N/100mm width)	D-3759
Cross Direction:	44lbs./in. width (771 N/100mm width)	D-3759
<b>Elongation at Break:</b>	160%	D-3759
<b>Thickness Backing:</b>	1.2 mil (0.030mm)	D-3652
Total:	1.9 mil (0.048mm)	D-3652
<b>Holding Power to Fiberboard:</b>	3,500+ minutes	D-3654

The tape must be resistant to aging and tolerate wide climate variations. Smooth and wrinkle-free application is required and the tape must extend at least 3" (7.6 cm) on the side panels of both the carton top and bottom.

## **D. Source Tagging**

- To reduce theft at the store level, all pre-determined products (as defined by LG Sourcing Offices) must include an EAS Source Tag Sensor and meet the following requirements:
  - Product **MUST** first be certified by Sensormatic.
  - Product **MUST** be tagged during the manufacturing or packaging process.
  - Product **MUST** be Phase II tagged (i.e. concealed inside the package within 3" of the barcode).
  - Prefer product to be Phase III tagged when appropriate (i.e. integrated into product).
  - Product larger than 36" and/or weighing more than 15 lbs. may be Phase I tagged (i.e. topically applied).

## **E. Printed Graphics Requirements**

- Printing content of POS Cartons will be specified through the Merchandiser or Marketing.
- Inks for printing must be soy-based (environmentally friendly). The varnish coating must be water-based and applied in-line (immediately after the ink application process). This is to ensure that less "drying powder" is used during the printing process and thus a better printing effect. Oil-based varnish **MUST NOT** be used.

- All printed materials (carton, labels, hangtags, etc.) must pass the Sutherland Rub Test under ASTM D5264-98, using a 4-lb/ 1.81kg weight and subjected to 100 strokes (a stroke is one back-and-forth cycle). Testing will be performed by LG Sourcing's designated corrugated supplier or Independent Test Lab and verified by the LG Sourcing QA representative.
- Minimum litho-label printing specs: 150 lines per inch and 350gm stock with a recommended brightness of 80.

## **F. Customs / Marking Requirements**

- Appropriate listing agencies (i.e. UL, etc.) must appear on the products and the packaging in a location agreed upon with the supplier and LG Sourcing, Inc.
- The bar code should be positioned at the lower right hand corner of the case, half inch/1.3 centimeters to the right edge and half inch to the bottom edge.
- Country of origin should be legible & marked in English in close proximity to the UPC and importer's name & address. This applies to **all** cartons, hangtags and the product itself. The printed size of the Country of origin must be **equal to or greater than** the size of the Distributor name and address. See example below:

### ***Made in China***

***LG Sourcing or Distributor:  
(Name, Address, Zip Code)***

**Note:** Imported products of foreign origin that include a name or marking that could lead the public to believe it was manufactured in the United States, or any other country other than the country in which it was actually manufactured, **will not** be admitted to entry by customs in the United States.

- If products are repackaged in the United States, the new cartons/packaging must be labeled to indicate the original country of origin. Importers must certify on entry that, if products are to be repackaged, they will properly mark the repackaged cartons.
- If the product will reach the ultimate purchaser in an unopened carton indicating the country of origin, the product itself does not require country of origin markings.
- The Lowe's item number should be printed directly on the display carton on all visible carton panels (four sides and top) in an area compatible with the graphics layout. The recommended font style is **Futura Condensed Bold (Print Color - Black Ink)**. This information should be printed based on the sample guidelines below:

**(Sample): Item # - 123456**

- Text (i.e. "Item #"): Print Size = 48 Point Type (1/2"-inch height).
  - Number Digits (i.e. "123456"): Print Size = 48 Point Type (1/2"-inch height).
- In summary, include the following information into your markings:  
(a) Country of Origin

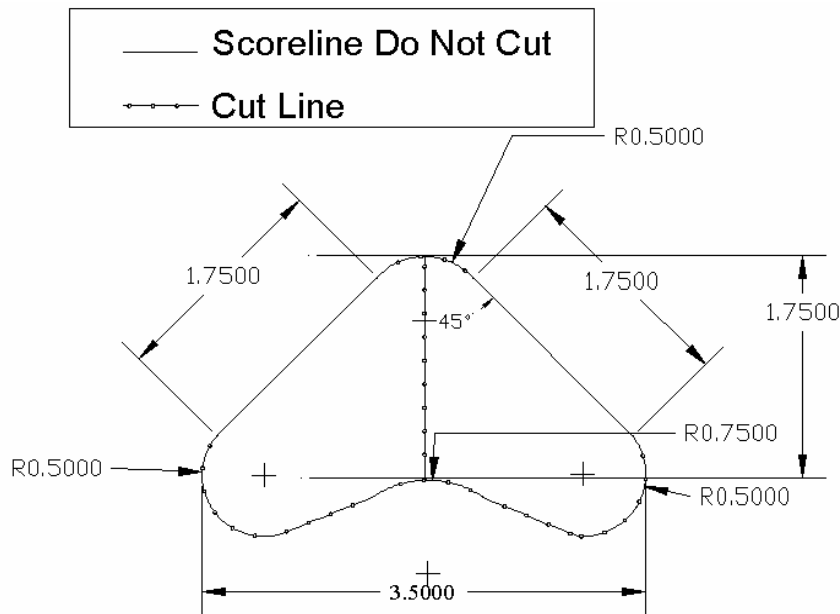
- (b) LG Sourcing Address or Distributor Name & Address
- (c) Description of Product
- (d) Quantity
- (e) Cautionary Marking and Handling Marks
- (f) Purchase Order Number
- (g) Lowe's Item Number
- (h) Manufacturing Date Code

## G. Plastic Strapping

- Strapping is to be utilized if the carton dimensions are greater than 48" x 24" x 30" (123cm x 61cm x 76cm) (L x W x H); or  
If the box gross weighs equal to or greater than 55 lbs. / 25kg.  
Minimum width = 1/2".

## H. Access Holes

- Should be located on opposing carton panels on all oversized cartons meeting the following criteria:
  1. **Access Holes Only** - If the outside carton dimensions are greater than 24" x 18" x 18"/61cm x 46cm x 46cm (L x W x H) and weighs equal to or greater than 30 lbs/13.6kg.
  2. **Access Holes and Plastic Banding (straps)** - If the outside carton dimensions are greater than 48" x 24" x 30"/123cm x 61 cm x 76cm (L x W x H) and weighs equal to or greater than 55 lbs./25kg.
- Access holes must be designed according to the specification below:



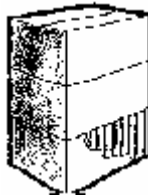
## II. Corrugated Master Carton Packaging Requirements

## A. Master Carton

- Rail Rule #41 must be followed when choosing the appropriate materials for Corrugated Master Cartons. Liner and medium combinations are determined by the weight of the box and contents as well as outside dimensions. The table below is a summary of material combinations that must be followed for Corrugated Master Cartons:

Product Weight (lbs./kg.)	Maximum Outside Carton Dimensions (inches/cm)	Weight of Liners (Paper Weight) (lbs./kg. per 1,000 sq. ft.)	Burst Test (lbs./kg per sq. ft.)	Edge Crush Test (ECT) (lbs./kg per in. width)
<b>Singlewall Corrugated Boxes</b>				
20#/9kg	40"/102cm	52#/24kg	125#/57kg	23#/10kg
35#/16kg	50"/127cm	66#/30kg	150#/68kg	26#/12kg
50#/23kg	60"/152cm	75#/34kg	175#/79kg	29#/13kg
65#/30kg	75"/191cm	84#/38kg	200#/91kg	32#/15kg
80#/36kg	85"/216cm	111#/50kg	250#/113kg	40#/18kg
95#/43kg	95"/241cm	138#/63kg	275#/125kg	44#/20kg
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<b>Doublewall Corrugated Boxes</b>				
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160#/73kg	115"/292cm	222#/101cm	500#/227kg	71#/32kg
180#/82kg	120"/305cm	270#/123cm	600#/272kg	82#/37kg

- Flute direction must be in the vertical position as shown (when stacked on pallet or in bulk warehousing). The fully packaged Master Carton must be designed to safely withstand stacking heights of 13 feet/4m without bulging, creasing, or collapsing.



- All cartons must pass International Safe Transit Association (ISTA) vibration and drop tests. Testing will be performed by LG Sourcing's designated corrugated supplier or Independent Test Lab and verified by the LG Sourcing QA representative.
- The Master Carton must reflect the seal of certification specifying that the carton is in compliance with Item 222 of the USA National Motor Freight Classification (see next page)



## B. Cellophane / Shrink Wrap

- The use of Cellophane shrink-wrap around individual display cartons is **NOT** permitted. However, durable shrink wrap (Polyethylene) is permitted based on passing ISTA transit testing.

## C. Printed Graphics Requirements

- Inks for printing must be soy-based (environmentally friendly). The varnish coating must be water-based (environmentally friendly) applied in-line (immediately after the ink application process). This is to ensure that less “drying powder” is used during the printing process and thus a better printing effect. Oil-based varnish **MUST NOT** be used.
- All printed materials (carton, labels, hangtags, etc.) must pass the Sutherland Rub Test under ASTM D5264-98, using a 4-lb/ 1.81kg weight and subjected to 100 strokes (a stroke is one back-and-forth cycle). Testing will be performed by LG Sourcing's designated corrugated supplier and verified by the LG Sourcing QA representative.
- Minimum litho-label printing specs: 150 lines per inch and 350gm stock with a recommended brightness of 80.

## D. Sealing Tape

- Master Cartons that require sealing tape to ensure a safe mode of delivery must follow the tape guidelines below:

All sealing tape should be 2-1/2 in. (6.35 cm) wide (clear), with the following construction and physical properties:

### CONSTRUCTION

**Backing:** Biaxially oriented polypropylene  
**Adhesive:** Pressure sensitive hot melt rubber-resin

### PHYSICAL PROPERTIES

		ASTM Testing Method
<b>Adhesion to Steel:</b>	40 oz./in. width (44 N/100mm width)	D-3330
<b>Tensile Strength:</b>		
Machine Direction:	22lbs./in. width (385 N/100mm width)	D-3759
Cross Direction:	44lbs./in. width (771 N/100mm width)	D-3759
<b>Elongation at Break:</b>	160%	D-3759
<b>Thickness Backing:</b>		
Total:	1.2 mil (0.030mm)	D-3652
	1.9 mil (0.048mm)	D-3652
<b>Holding Power to Fiberboard:</b>	3,500+ minutes	D-3654

The tape must be resistant to aging and tolerate wide climate variations. Smooth and wrinkle-free application is required and the tape must extend at least 3" (7.6 cm) on the side panels of both the carton top and bottom.

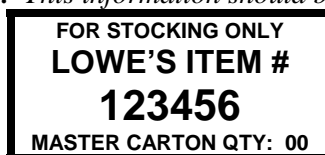
## E. Customs / Marking Requirements

- When the Master Carton also functions as the POS Carton, appropriate listing agencies (i.e. UL, etc) must appear on the products and the packaging in a location agreed upon with the supplier and LG Sourcing, Inc.
- Country of origin should be legible & marked in English in close proximity to the importer's name & address. This applies to **all** carton and hangtags. Country of origin must be on the product itself if required by specific Standard or Certification requirements (example: UL, CSA, IAPMO, etc). The printed size of the Country of origin must be **equal to or greater than** the size of the Distributor name and address. See below:

**Made in China**  
**LG Sourcing or Distributor:**  
**(Name, Address, Zip Code)**

**Note:** Imported products of foreign origin that include a name or marking that could lead the public to believe it was manufactured in the United States, or any other country other than the country in which it was actually manufactured, **will not** be admitted to entry by customs in the United States.

- If products are repackaged in the United States, the new cartons/packaging must be labeled to indicate the original country of origin. Importers must certify on entry that, if products are to be repackaged, they will properly mark the repackaged cartons.
- If the product will reach the ultimate purchaser in an unopened carton indicating the country of origin, the product itself does not require country of origin markings.
- The Lowe's Item Number should be printed directly on the Master Carton on all visible carton panels (four sides and top) in the bottom right corner. The recommended font style is **Futura Condensed Bold (Print Color - Black Ink)**. This information should be printed based on the guidelines below:



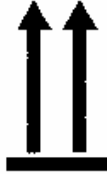
- "For Stocking Only", "Master Carton Qty."      Print Size = 28 Point Type
  - "Lowe's Item #":      Print Size = 48 Point Type (1/2" inch height).
  - Digits (i.e. "123456"):      Print Size = 100 Point Type (1" inch height).
  - Black Border Frame:      Rule Size = 12 Point Rule.
- In summary, include the following information into your markings:
    - (a) Country of Origin
    - (b) LG Sourcing Address or Distributor Name & Address
    - (c) Description of Product
    - (d) Quantity
    - (e) Cautionary Marking and Handling Marks
    - (f) Purchase Order Number
    - (g) Lowe's Item Number

(h) Manufacturing Date Code

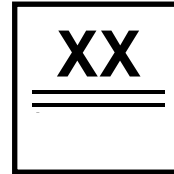
- Handling instructions should be printed in the language of the destination country. International markings must also appear. (Stack Height and Orientation arrow must be included).



Fragile



This Way Up

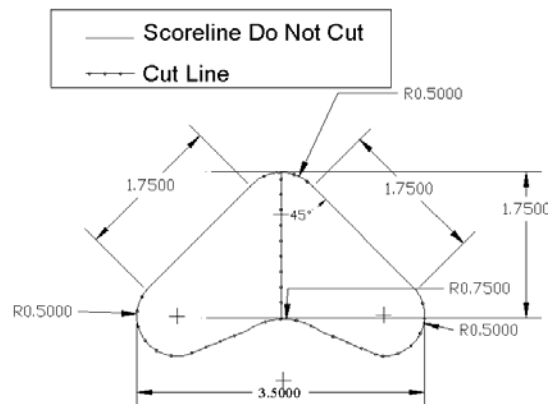


Maximum Stack height

- **Maximum Stack Height:** Insert correct stacking height in place of XX. Example: If the recommended maximum stack height is 8 high, replace XX with 8. **The recommended stack height is to be identified by the vendor.**
- If the product requires special handling, the containers should be so marked and this information should also appear on the bill of lading. Cautionary markings must be permanent and easy to read.
- When the master carton is not the selling unit, I 2 of 5 code is mandatory and should be printed or attached on both sides of the carton (the same sides with the marking). If your product is packed in a color printed master carton, the above mentioned marking can be printed at the bottom of the case.
- Opening instructions for customers must be placed on the top of each printed carton.

## F. Access Holes

- Should be located on opposing carton panels on all oversized cartons meeting the following criteria:
  1. **Access Holes Only** - If the outside carton dimensions are greater than 24" x 18" x 18"/61cm x 46cm x 46cm (L x W x H) and weighs equal to or greater than 30 lbs/13.6kg.
  2. **Access Holes and Plastic Banding (straps)** - If the outside carton dimensions are greater than 48"x24"x30"/123cm x 61 cm x 76cm (LxWxH) and weighs equal to or greater than 55 lbs./ 25kg.
- Access holes must be designed according to the specification below:



### III. Desiccants (silica gel or clay)

- To reduce moisture damage, the following product categories require a **small** desiccant bag (silica gel or clay only) be placed **inside** each individual product carton:
  1. **Electrical/Electronic Products** such as (but not exclusive to) light fixtures, ceiling fans, TV's, VCR's, Trim-a-Tree, etc.
  2. **Fabric Materials** such as (but not exclusive to) leather materials, gloves, umbrellas, etc.
  3. **Metal Products** such as (but not exclusive to) nails, fasteners, garden tools, etc.
  4. For other exposed moisture sensitive products such as wheel barrels, etc. a large (80-unit) desiccant bag should be contained with the product in a plastic bag or barrier inside the import container.

**Note:** Desiccant bags scattered loosely inside the overseas shipping container are **NOT** permitted.

### IV. Palletization

- The assembly of one or more packages on a pallet base and securing the load to the pallet. Cargo should be unitized or palletized to the attached Lowe's Companies' pallet specifications. The limit of the palletized load is 2200 pounds (1,000 kg.)

### V. Import Container Issues

#### A. Weight

- Do not exceed rated capacity of container
- Avoid concentrating heavy weights at one side or on end. Stow heaviest items on the bottom. Heavy, dense items should be boxed, crated or placed on cradles or skids to distribute weight.
- Distribute the weight evenly
- Keep the center of gravity of the cargo as near as possible to the center of the container. Longitudinally the center of gravity may be a maximum out of the middle for 20 ft/ 6m containers = plus or minus 0,60m and for 40 ft./12m containers = plus or minus 0,90m
- The maximum permissible load per meter length of container must not be exceeded in any case. (4,5 to/m in 20 foot/6m container and 3,0 to/m in 40 foot/12m container)

#### B. Mixing Product

- Avoid mixing product. Incompatible cargo that exudes odor or moisture should not be stowed with cargo susceptible to tainting or water damage.
- Items with sharp projections or awkward shape should be segregated from other cargo by the use of crating, padding or partitions.
- Cargo subject to leakage or spillage should not be stowed on top of other cargo.

#### C. Hazardous Materials

- Consult with carrier for regulations and restrictions regarding shipment of combustibles, explosives, flammable liquids, flammable solids, gaseous materials, or radioactive materials.
- After receiving information from the carrier, proceed with labeling and marking hazardous material, affix warnings to the container exterior, and record the nature of the cargo on all shipping documents.

#### D. Planning

- *Plan for ease of unloading. Stow cargo in reverse order of desired cargo discharge. Be sure that cargo for multiple consignees is physically separated by partitions, dividers, or other suitable means.*
- *Make sure that forklift openings in pallets or skids face doors.*
- *Fill the voids, but avoid wedging or jamming cargo in the container.*



Fill end voids to prevent movement of cargo. When stacking directly on top of lower boxes, keep voids at the center and immobilize by constructing partitions.

## **E. Packing the Cargo**

- *Use plywood or lumber dunnage or fiberboard dividers as decking sheets to segregate tiers of different sized fiberboard containers. Any wood used for securing purposes must have a copy of a certificate certifying that all the wood has been treated according to the respective quarantine regulations and issued by the proper authority. It should be shown in a conspicuous place inside the container.*
- *Provide plastic or water repellent shrouds over top and sides of load to protect against damage from water, ship's sweat, or leaking containers*
- *The wooden container floor can be used for anchoring with wedges and timber connectors*
- *Container corner posts are suitable for securing by bracing*
- *Bull rings and lashing bars are used as attaching points for lashing ropes, wires, chains, steel-strapping, span-sets, etc.*
- *Use dunnage or pallets on the container floor to elevate the cargo and allow for water drainage*
- *Fill all voids by bracing or using fillers (for example, inflatable bags) to prevent sliding or shifting of cargo*
- *Lumber must be clean and dry (not above 19 percent moisture content.) Use suitable hardwoods as filler, decking, blocking, and bracing and also for constructing partitions/dividers. Lumber should be free of significant splits, knots, or bark*
- *Plywood can be used for partition faces, dividers, auxiliary decking and blocking in limited spaces*
- *Heavy duty metal strapping is used to separate cargo units and for securing heavy items*

## **F. Climate and Condensation:**

- *The cargo should be dry before packing into the container. The moisture content of the product cannot exceed 12%.*
- *The timber used in packing cases and crates must be dry. A moisture content of up to 19% is acceptable in timber. Wooden pallets, skids, and dunnage boards when used in packing containers must also be seasoned and dry*
- *There are instances where corrugated boxes will not be suitable for containers. This is due to the loss of compressive strength up to one- half of normal strength due to high humidity. In such instances, the supplier will discuss carton options with a representative of L G Sourcing, Inc.*
- *Bare metal parts can be well protected by either chemical coatings or modern VCI papers.*
- *Plastic foils should completely cover the cargo and no source of moisture must be allowed to be inside the wrapping.*

- *Desiccants (silica gel, etc.) scattered loosely inside the shipping container provide no protection benefits to the product or package and must **NOT** be used.*

## **G. Completing The Stow and Sealing:**

- *Provide water damage protection by covering cargo adjacent to doors with plastic or waterproof paper sheets to protect cargo from possible water entry via door gaskets*
- *Be sure all locking cams are engaged. Affix locks and seals (on units with side and end doors, be certain to check both.) Record seal number and enter on shipping documents.*
- *Once loaded, containers must be sealed.*
- *A distribution log indicating to whom seals have been released identified by number of similar coding is a recommended control device.*
- *Place a copy of the packing list inside the container.*

## **H. Inspection:**

- *During the inspection process and prior to the shipment of the product, a L G Sourcing, Inc. representative will examine selected containers for compliance to the loading and shipping program.*
- *A package showing exterior damage, although cosmetic in nature, can cause the goods to be rejected and/or not paid for.*

## **I. Compliance:**

- *The supplier is liable for ensuring that the product is appropriately cartoned and loaded.*
- *Failure to comply results in rejection of the order, penalties, and can result in termination of the business relationship.*