

# THE VOLLRATH COMPANY, L.L.C.

## VOLLRATH SYSTEM WORK INSTRUCTION

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		<b>DATE ISSUED</b> 04/30/10
		<b>SUPERSEDES</b>
<b>SUBJECT</b>  OEM/ODM Packaging Requirements for Purchased Products		
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### 1.0 PURPOSE

The purpose of this document is to provide general guidelines and information to qualify The Vollrath Company packaged products – shipped domestically and internationally. This document details the requirements for testing, graphics, material marking, labeling and palletization, plus to help determine the package's ability to provide the desired product protection and visual clarity during distribution and shipment to customers.

### 2.0 SCOPE

This procedure applies to all packaging used by The Vollrath Company for shipping palletized product and non-palletized product thru all distribution environments. Exceptions to this procedure will be documented in the Purchase Order Process. All exceptions to this procedure must be approved by Vollrath Purchasing.

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**Packaging Guide Check List**

SECTION		FOR CONSIDERATION	Check ( X )
<b>2.0</b>	<b>General Requirements</b>		
.1		New shipping package design meets requirements	
.2		Package design accommodates accessory items	
.3		Bags used where appropriate	
.4		Modifications approved via PPAP by Vollrath QA and/or Engineering	
<b>3.0</b>	<b>Shipping Container Requirements</b>		
.1		Container size is suitable for shipment	
.2		A third party has a suitable package/carton design	
.3		Outer corrugated fiberboard is Kraft (unless otherwise specified)	
.4		Vollrath graphics printed on all outer shipping cartons	
.5		Recycled material will not adversely affect carton	
.6		Carton is sealed with suitable clear tape	
.7		Pallet and shipping container and components ISPM 15 compliant	
<b>4.0</b>	<b>Cushion Requirements</b>		
.1		Cushions are made of homogenous materials	
.2		Recycled materials will not adversely affect cushion performance	
.3		Design optimizes product protection and minimizes costs	
.4		Void filling packaging materials (packing peanuts, bubble wrap, etc) are prohibited	
<b>5.0</b>	<b>Protective Package Testing</b>		
.1		ASTM tests procedures located and determined by package type.	
.2		Test levels determined and approved by Vollrath	
.3		Damage occurring in testing compared with actual damage during distribution.	
.4		Package provides acceptable levels of protection in accordance with acceptance and damage criteria. Test report prepared and submitted with PPAP.	

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**Packaging Guide Check List (Cont.)**

SECTION		FOR CONSIDERATION	Check (X)
<b>6.0</b>	<b>Graphic Requirements</b>		
.1		Acceptance Criteria for Graphics	
<b>7.0</b>	<b>Material Marking Requirements</b>		
.1		Plastic resin identification mark embossed on material in accordance with specification	
<b>8.0</b>	<b>Labeling Requirements</b>		
.1		Product/Bar Code Label requirements	
.2		Shipping Label placement and orientation	
<b>9.0</b>	<b>Palletized Shipment Requirement</b>		
.1		Unitization, Wrapping, and Banding	
<b>10.0</b>	<b>Pallet &amp; Crating Material Treatment</b>		
.1		All Non-Manufactured Wood Packaging (NMWP) is bark free	
.2		All Non-Manufactured Wood Packaging (NMWP) is heat treated for international shipment	
<b>11.0</b>	<b>Pallet &amp; Crating Material Marking</b>		
.1		Marking Procedure, symbols, and placement	
.2		Material Classification Requirements for untreated NWWP components	

### **3.0 GENERAL REQUIREMENTS**

- 3.1** If a shipping package design does not exist at the time of Vollrath's project/product initiation, a shipping package design must be produced which addresses all the Vollrath design, manufacturing, service, reseller, marketing, environmental, sustainment and distribution objectives.
- 3.2** The shipping package design must accommodate all accessory items as identified on the Bill of Materials, i.e. manuals, hardware, power cables, trays, racks, and shelves.
- 3.3** Bags shall be used where appropriate – to contain small parts, reduce dusting, abrasion, and lost/missing parts. Antistatic bags must be used where appropriate and be amine-free. All parts within each bag shall be identified by description and supplier part number.
- 3.4** Any modification or alteration of any of the packaging components during the life span of the product must be reviewed and approved by Vollrath Quality Assurance.

### **4.0 SHIPPING CONTAINER REQUIREMENTS**

- 4.1** The final container size must take into consideration the optimization of shipment by all modes of transportation (surface, water and air) worldwide, including palletized shipments.
- 4.2** If a third party has an existing package/carton design already in place for a particular product component, utilizing the package/carton design may increase efficiency.
- 4.3** All corrugated fiberboard shipping container to be Kraft (brown – unless otherwise specified) and shall conform to specification #1234-5678: General Specification Corrugated Containers and Components.
- 4.4** Vollrath brand graphics must be printed on all outer shipping cartons – per specification #1234-5678 Graphics and Product/Bar Code Labels.
- 4.5** Recycled material used in the shipping container is desirable as long as it will not adversely affect the container's performance.
- 4.6** Clear plastic tape, of appropriate size and tensile strength, is required for sealing all corrugated shipping containers. Corrugated staples maybe used for container closure if preapproved and/or otherwise specified by Vollrath specifications.
- 4.7** Any shipping containers, components and/or pallet material constructed from wood must be ISPM 15 compliant for all import/export shipments.

### **5.0 CUSHION REQUIREMENT**

- 5.1** Cushions, if required, must be of a homogenous material to promote ease of recycling.
- 5.2** Recycled material added to the virgin cushion material is desirable providing it will not adversely affect the cushion performance.
- 5.3** Cushion design will optimize protection, and minimize material usage and cost. Cushions designed for systems that are distributed through resellers, must utilize resilient material (i.e. expanded polypropylene, extruded polyethylene).
- 5.4** Void filling cushioning materials (i.e. packing peanuts, bubble wrap, newspapers, paper wadding) are strictly prohibited unless pre- approved by The Vollrath Company.

### **6.0 PROTECTIVE PACKAGE TESTING**

- 6.1** Vollrath manufactures and sells a variety of products that vary in size, weight, and price. The package must provide acceptable levels of product protection from the distribution environment. All testing methods, procedures, and qualification can be found in document number 1234-5678 located at: <http://Vollrath.com/Pkg Test Requirements/index.htm>.
- 6.2** The test levels specified in 1234-5678 are per Vollrath and industry. The tests to be conducted and the appropriate test levels will be determined by the responsible person contracting with OEM/ODM. Please refer to check list at Appendix A.
- 6.3** The type and quantity of damage that occurs during package testing should be compared with the damage that actually occurs during distribution for similar products. This information will help to determine if alternative packaging tests and test levels are required

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#### **6.4 Acceptance and Damage Criteria:**

The package must provide acceptable levels of product protection from the distribution environment and also withstand storage stresses.

#### **Examples of general acceptance criteria are as follows:**

- Product is damage-free; no structural damage including no detached, loose, fractured or deformed materials beyond allowable manufacturing tolerances.
- Product cosmetic areas are not degraded beyond manufacturing or final acceptance criteria.
- Cosmetic damage is any abnormality that makes the product unacceptable to the customer.
- No conductive (electrostatic) particles should be generated as a result of the testing.
- The product should meet all product data sheet and manufacturing specifications and tolerances after testing. The product functions to specification.

#### **Unacceptable package degradation may be defined as, but is not limited to:**

- Any change in package condition, including fractured or deformed materials that result in product damage or permanent displacement of the product and accessories from their intended position.
- No foreign particles should be present from abrasion or other sources.
- Some cushion deformation and cracking is acceptable. Complete cushion material fracture and/or cushion damage such that adequate product protection is absent is unacceptable.
- Multiple fractured cushion pieces may cause customer concerns, dissatisfaction and possibly product returns (even if the product still functions to specification).

**Severe damage to packaging materials/mediums is not acceptable.**

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The Table below provides examples of acceptable and unacceptable containment type damage.

<b>SHIPPING UNIT TYPE</b>	<b>DAMAGE LOCATION</b>	<b>UNACCEPTABLE PACKAGE DAMAGE</b>	<b>ACCEPTABLE PACKAGE DAMAGE</b>
<b>Type 1 (Boxed)</b>	Container (External)	Edge ruptures to the extent that it can no longer contain the product or support the product's weight  Failure of closure; such that one or more flaps are free to open or cannot support the weight of the product.	Dented corners and edges from impacts on those areas.  Localized rupture of edges near impacted corner.  Localized failures in closure in area of impact (carton is still effectively closed).
	Cushioning (Internal)	Failure of bonded joints or surfaces which results in internal packaging to lose original configuration.  Fractured or deformed material which no longer maintains product position.	Small fracture or permanent deformation that still permits internal packaging to maintain product position.
<b>Type 2 (Single Product Palletized)</b>	External	Fractured wood members on pallet.  Ruptured straps that were used to hold a corrugated cover down.  Fractured bolts or other hardware used in pallet construction.	Dents in wooden pallet along impacted edges.
	Internal	Same as Type 1.	Same as Type 1.
<b>Type 3 (Multiple Product Palletized)</b>	Pallet and Retainer (External)	Unitization method (i.e. straps) allows individual cartons to leave the load.	Carton or load shift, where carton edges are no longer aligned but load configuration is stable for transport
	Internal	Same as Type 1.	Same as Type 1.

Table 1 – Acceptable & Unacceptable Containment Damage

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## 7.0 GRAPHIC REQUIREMENTS

Vollrath packaging graphics are generally Low Visibility - for commercial products that may be displayed occasionally where there is little retail presence. The Vollrath representative you are working with will advise on the correct packaging graphics design or will provide more detailed information. Vollrath branded graphics requirements can be found at: <http://Vollrath.com/Graphics and Bar Code Labeling Requirements/index.htm>

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### 7.1 Acceptance Criteria for Graphics

The tables below identify acceptable and unacceptable cosmetic defects as they relate to printing of Vollrath shipping containers

<b>TYPE OF FLAW</b>	<b>ACCEPTABLE</b>	<b>UNACCEPTABLE</b>
<b>Print Registration</b>	Misregistration of artwork to scores up to 6 mm (0.25 in)	Misregistration between colors more than 0.2 mm (0.008 in) or two rows of dots.
<b>Hickies and Spots (Dirt, Ink, Dry Grease)</b>	Up to three defects $\leq 1$ mm (.03 in) in size per panel if no graphic distortion.  One defect $> 1$ mm (.03 in) but $< 3$ per panel if no graphic distortion on minor flaps.	Any defect in the Vollrath logo.
<b>Wet Grease and Water Damage</b>	No.	Any trace.
<b>Scratches, Smears and Streaks</b>	One defect $\leq 1$ mm (.03 in) x the length of the panel or major flap per box if no graphic distortion.  One defect $\leq 1$ mm x 10 mm (.03 x .38 in) per panel or major flap if no graphic distortion.  Defect $\leq 1$ mm (.03 in) x the length of the flap on minor flaps.	Any defect in the Vollrath logo.
<b>Glue Tracks</b>	Clear glue tracks if no graphic distortion.  One track with any color, Kraft, or foreign particles $\leq 1$ mm (.03 in) in width if no graphic distortion	Any tracks in Vollrath logo.
<b>Score Checking and Score Cracking</b>	Score checking along the length of the score when box is set up.  Score cracking if $\leq 2$ mm (.06 in) for no more than 50% of the score when then box is set up, on no more than two outside edges of the box.	Score cracking is $> 2$ mm (.062 in) or $\leq 2$ mm for more than 50% of the score when the box is set up.
<b>Wrinkles</b>	One wrinkle per box if no graphic distortion.  Defects on minor flaps.	Defect in Vollrath logo.
<b>Label Tears</b>	One defect $\leq 5$ mm x 10mm (.19 x .38 in) where Kraft shows through per box if no graphic distortion.  One defect where Kraft shows through $\leq 20$ mm x 5mm (.75 x .06 in) on each minor flap.	Defect in Vollrath logo, barcode or part number.  No tears thru barcode.
<b>Label Delamination</b>	One area of label delamination that exposes the Kraft $\leq 25$ mm x 5mm (1.00 x .18 in) on the edge of each major flap long as it does not interfere with automated taping equipment.  Two areas of delamination that expose Kraft $\leq 90$ mm x 20mm (3.50 x .75 in) on each minor flap.	Defect at manufacturer's joint.
<b>Corrugated Delamination</b>	One area of liner separation $\leq 20$ mm x 5mm (.75 x .06 in) on each minor flap and inside surfaces of box.	Separation of liner from medium on all panels and major flaps.



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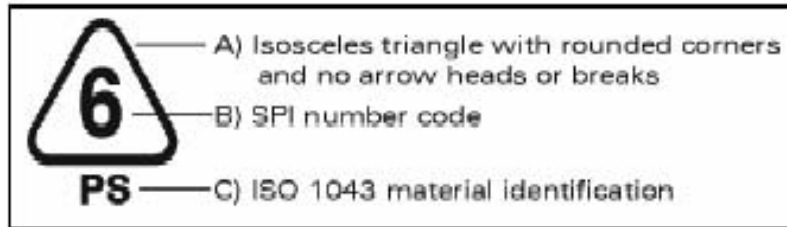
### Acceptance Criteria for Graphics - Continued

<b>TYPE OF FLAW</b>	<b>ACCEPTABLE</b>	<b>UNACCEPTABLE</b>
<b>Bent or Crushed Flaps</b>	<p>One area of damage <math>\leq 20\text{mm} \times 120\text{mm}</math> (.75 x 4.75 in) on one major flap if it does not interfere with automated taping equipment.</p> <p>One area of damage <math>\leq 20\text{mm} \times 120\text{mm}</math> (.75 x 4.75 in) on each minor flap.</p> <p>Bent hand holes.</p>	
<b>Exposed Kraft at Manufacturer's Joint</b>	<p><math>\leq 2\text{mm}</math> (.06 in) x the length of the joint</p> <p><math>\leq 3\text{mm}</math> (.12 in) up to the length of the joint.</p>	
<b>Excess Glue at Manufacturer's Joint</b>	<p>Clear glue <math>\leq 2\text{mm}</math> (.06 in) in width the length of the joint.</p> <p>Glue with any color, Kraft, or foreign particles <math>\leq 1\text{mm}</math> (.03 in) in width the length of the joint, or <math>\leq 2\text{mm}</math> (.06 in) in width up to 1/3 the length of the joint.</p> <p>There should be sufficient glue to hold the manufacturer's joint together when the box is set up.</p> <p>For specific details, see section 6 of General Specification, Corrugated Containers &amp; Components</p>	Excess glue seepage that causes the box to be glued shut or boxes to be glued together is unacceptable
<b>Variance in the Manufacturer's Joint</b>	<p>The amount of gap at the manufacturer's joint, when measured at the flap score lines, shall not vary more than one board thickness from the specified slot gap.</p> <p>Variations in the width of gap at the manufacturer's joint on the same box (skew, top to bottom) shall not exceed 3mm (.12 in) when measured at the two flap score lines.</p> <p>For specific details, see section 6 of General Specification, Corrugated Containers &amp; Components</p>	
<b>Incomplete Die Cut</b>	<p>One area of uncut top corrugated liner <math>\leq 5\text{mm} \times 2\text{mm}</math> (.19 x .06 in) on the manufacturer's joint.</p> <p>One area of uncut label and/or top corrugated liner <math>\leq 25\text{mm} \times 5\text{mm}</math> (1.00 x .19 in) on each major flap.</p> <p>Two areas of uncut label and/or top corrugated liner <math>\leq 40\text{mm} \times 10\text{mm}</math> (1.58 x .38 in) on each minor flap.</p>	
<b>Strapping Marks</b>	<p>The outer liner is not cut through more than 2mm (.06 in).</p> <p>Damage due to insufficient dunnage on the pallet if the outer liner is not cut through more than 2mm (.06 in) and meets the criteria stated above regarding hickies, spots, scratches, smears and streaks.</p>	
<b>Warp</b>	<p>Maximum is 6mm per 300mm (.25 per 11.81 in), 12mm per 600mm, and (.50 x 23.63 in) etc. The container will be measured on a flat surface as a blank so the warp rises in the middle. The distance from the middle of the container to the flat surface will then be measured.</p>	
<b>False Scores</b>	No.	Any trace.

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## 8.0 MATERIAL MARKING REQUIREMENTS

8.1 Plastic Resin Identification Marking ISO 1043 (the code for resin recycling) and the SPI resin-recycling symbol and numbering must be embossed or ink stamped on the material



Recycling Symbol

- The outline figure is an isosceles triangle with rounded corners
- The SPI number code is located inside the triangle.
- The ISO 1043 material identification acronym is located underneath the triangle. In cases where hybrid resin materials are used but are not covered or identified by ISO 1043, the base monomer or standard industry acronyms should be used, for example, RPET, PETG and HIPS.

Material	ISO 1043 Acronym	SPI Number
Polyethylene Terephthalate	PET	1
Polyethylene ø High Density (HDPE)	PE-HD	2
Polyvinyl Chloride (vinyl)	PVC	3
Polyethylene ø Low Density (LDPE)	PE-LD	4
Polypropylene	PP	5
Polystyrene	PS	6
Polycarbonate	PC	
Acrylonitrile/budadiene/styrene	ABS	

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## 9.0 LABELING REQUIREMENTS

Product labels are distinct from product information, which can be included in the printed graphics, by virtue of being data that is known at or after manufacturing. Product labels include such things as product number, version, date code, options, and serial number.

### 9.1 Product/Bar Code Label:

The Vollrath representative will advise the supplier of the Product/Bar Code Labeling requirements or will provide more detailed information. Information on the Vollrath for packaging can be found at: <http://Vollrath.com/Graphics and Bar Code Labeling Requirements/index.htm>

### 9.2 Shipping Label Placement and Orientation:

The following considerations should be addressed when determining the most appropriate location for the label:

- Interference with preprinted graphics (on the carton);
- Accessibility of location;
- Type of container (e.g. carton, pallet, truck);
- Survivability of the label;
- Label application (manual/automatic, label/tag/direct marking).

Labels should be placed no closer than 1.25 inches (32 mm) from any package edge. Label placement towards the center of the sides of rectangular, corrugated packages should be avoided due to risk of excessive abrasion damage during transportation effectively making the label useless. Labels shall be applied to the container and shall not be placed in or on the poly-pouch containing the packing list. More specific details can be found at: <http://Vollrath.com/Graphics and Bar Code Labeling Requirements/index.htm>

## 10.0 PALLETIZED SHIPMENT REQUIREMENT

The palletization requirements for inbound/outbound Vollrath and/or 3<sup>rd</sup> party shipments are detailed below. The supplier is responsible for providing Vollrath with a shipping container which is free of damage and cosmetic imperfections.

### 10.1 Unitization, Wrapping and Banding

- 10.1.1 Pallets must be unitized to provide Vollrath with a shipping container free of damage and cosmetic imperfections allowing for reshipment in the original packaging – unless otherwise specified.

*Unitize: Bringing several cartons together to form a single stable load.*

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**10.1.2** Stretch wrapping is required to secure the load and provide protection from dirt.

**10.1.3** In addition to stretch wrapping, one or more of the following methods may be required depending on the distribution environment, to ensure a damage free delivery.

- Top pallet caps shall be used to provide protection from dirt and promote better stacking of pallets
- Plastic/steel banding shall be used to stabilize the load and to prevent carriers from breaking down the pallet load. Plastic PET strapping is preferred.
- If banding is used without a top pallet cap, edge guards shall be used to prevent the banding from damaging the load.
- If required - corner guards shall be used to provide additional compressive strength and to protect the carton corners from damage.
- All inbound palletized products shall be on a 48" x 40" (1220 x 1000mm) – 4 way pallet with a maximum unit height of 56" (1422mm). No overhang on any side is permitted.

## **11.0 PALLET & CRATING MATERIAL TREATMENT**

If any non-manufactured wood is used in the construction of the pallet and/or crate, it must meet the following requirements to be certified for international use. These requirements may be superseded by International Regulations.

- 11.1** All wood components must be bark free, and otherwise meet or exceed the quality criteria of "multiple-use" as described in ASME MH1-Part 3 - Wood Pallets.
- 11.2** Non-Manufactured Wood Packaging (NMWP) made from Coniferous Species (trade term "Softwood" ) and/or Non-Coniferous Species (trade term "Hardwood"): If the pallet contains any amount of non-manufactured wood (regardless of species), those components must be heat treated to a minimum temperature of 56°C (133°F) for a minimum of 30 minutes.

## **12.0 PALLET & CRATING MATERIAL MARKING**

### **12.1 Marking Procedure**

- 12.1.1** The marking shall consist of the pest free symbol where justified (HT only at this time), (or bug free symbol), the country of manufacture, and the supplier /facility designation.
- 12.1.2** Mark the pallet, skid, crate or other wooden packaging assembly a minimum of one time on an exterior vertical surface. Duplicate information on the opposite exterior surface is recommended
- 12.1.3** Use 19mm (0.75 in) minimum high characters. Printing may be done with ink jet printing, heat stamping, paint stencil, or other similar permanent and indelible method. The default color should be black or other maximum contrasting color if appropriate. Do not use red or orange since these colors are used with labeling of dangerous goods.
- 12.1.4** If vertical surfaces provide insufficient space for the markings then scale the characters accordingly or apply them to a top horizontal surface provided that at a minimum the treatment initials and pest free symbol (if appropriate) is repeated on two opposite vertical surfaces. It is also permitted to print the information on multiple lines or break up the information, for instance spread across three separate blocks on a block style pallet.

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## 12.2 Material Classification Requirements

An item must only carry one classification regardless of how many different materials are included in the construction. Following the list below - in sequence; the item should carry the marking of the first scenario that matches exactly. Careful consideration must be given for assemblies which contain a mixture of materials as explained further:

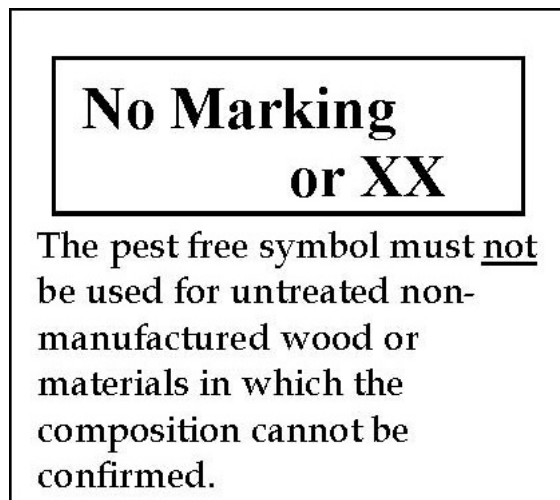
### 12.2.1 Untreated Non-Manufactured Wood Packaging (NMWP) or if Material Composition is Unknown (XX)

**Must Contain:** ANY amount of non-manufactured wood components which have definitely been untreated or the treatment history is unknown - Example: old pallets or crates or those which have been refurbished with a variety of reused pallet components.

**May Contain:** Any amount less than 100% to total composition of treated wood of any species - MWPM, and/or non-wooden material.

**Must NOT Contain:** Not Applicable.

Example:



***Important:*** Vollrath does not accept untreated non-manufactured wood in packaging used for shipments regardless of origin or destination. This is so that any pallet could be reused and re-exported if needed. Thus, this mark (XX or no mark) should only exist on inventory that predates this specification.

**Important:** Painted over symbols or no symbols at all are signals that the particular item requires additional treatment prior to export.

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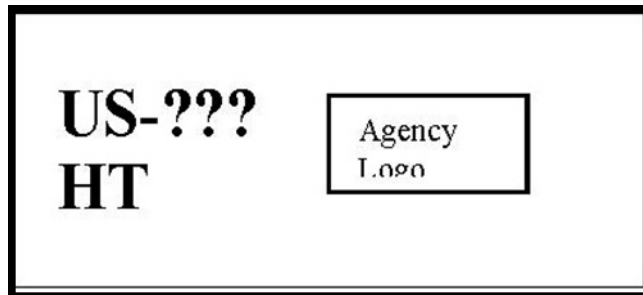
### 12.2.2 Non-Manufactured Wood Packaging (NMWP), Heat Treated (HT or HT-DB)

**Must Contain:** ANY amount of properly heat treated non-manufactured wood which by definition has been heated to a core temperature of at least 56°C (133°F) for a minimum of 30 minutes and that documentation certifying that fact has been provided by the treatment facility to the package/pallet manufacturer and can be traced to the production of that specific package, pallet, etc.

**May Contain:** Any amount of MWPM and/or non-wooden material.

**Must NOT Contain:** Any amount of untreated non-manufactured wood (Coniferous or Non-Coniferous).

Example:



**Important:** The “???” is to be replaced by the officially assigned facility code or supplier initials. Do not actually mark “???”.

*Secondary Qualification Marking: The initials “DB” should follow the mandatory treatment marking for all wood that has been “debarked” (ex: “HT-DB”). This should always be the case for Vollrath wooden pallets or crates.*

**Note:** Use of kiln dried lumbar is acceptable provided that it meets the temperature and duration requirements (56C for 30 minutes) to meet the definition of “heat treated”. Such materials are usually mill stamped “KD-HT” or “HT”. Dry lumber alone is not a reliable indication of proper heat treatment nor are materials mill stamped “KD”.

### 12.2.3 Non-Manufactured Wood Packaging (NMWP), Fumigated with Methyl Bromide (MB or MB-DB)

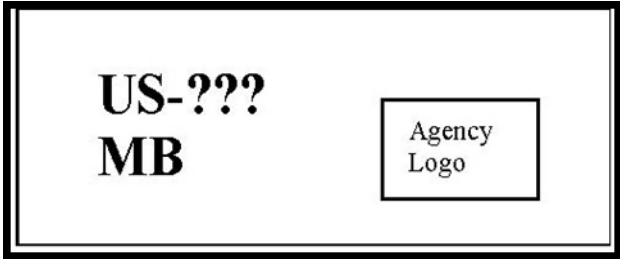
**Must Contain:** ANY amount of properly fumigated non-manufactured wood and that documentation certifying that fact has been provided by the treatment facility to the package/pallet manufacturer and can be traced to the production of that specific package, pallet, etc.

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**May Contain:** Any amount of MWPM and/or non-wooden material.

**Must NOT Contain:** Any amount of untreated non-manufactured wood (Coniferous or Non-coniferous)

**Example:**



**Important:** The “???” is to be replaced by the officially assigned facility code or supplier initials. Do not actually mark “???”.

**Secondary Qualification Marking:** The initials “DB” should follow the mandatory marking “MB” if the wood has been “debarked” prior to treatment.

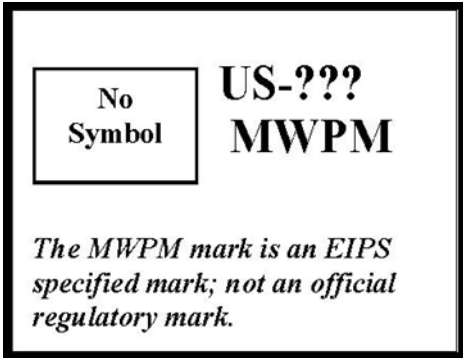
**12.2.4 Manufactured Wood Packaging Material (MWPM)**

**Must Contain:** ANY amount of manufactured/processed wood components. Example, a pallet or crate made with any amount of Oriented Strand board (OSB), plywood, strawboard, masonite, particle board, paper overlaid veneer (POV), laminated veneer lumber (LVL) or combination of these. These all meet the definition of manufactured wood packing materials as defined by the Animal and Plant Health Inspection Service (APHIS). Such materials are not regulated.

**May Contain:** Any amount of non-wooden material.

**Must NOT Contain:** Any amount of non-manufactured wood of any type whether treated or not.

**Example:**



**Important:** The “???” is to be replaced by the officially assigned facility code or supplier initials. Do not actually mark “???”.

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**Note:** Plywood/OSB/Masonite and so on are considered “manufactured wood” because it has been processed under extreme heat and pressure. It is irrelevant what wood species is used in the manufacture of these materials (can be coniferous and/or non-coniferous). Assembling a pallet from cut lumber is not considered “manufactured” with regard to pest migration regulations.

## 12.2.5 Additional Requirements

### A. Supplier/Manufacturing Facility Designation

An official facility registration number (3 characters) provided by the National Plant Protection Organization must be used if available. If this process is not yet established in your country or location, one of the following must be used instead:

- A minimum 5 character abbreviation of the supplier’s name.
- A minimum 3 digit abbreviation followed by 2 numeric digits to distinguish unique manufacturing facilities of that supplier.
- The supplier’s logo if this can be easily distinguished. The logo may also be followed by a 2 digit number to identify a specific facility of that supplier.
- The full name of the supplier if this can be accommodated in the space available.
- The name shall be that of the final assembly location which built the pallet or package and shipped it for use.

**Caution:** The code chosen must not resemble one of the material classifications.

### B. Part Number

Use the alpha-numeric part number of the pallet or crate (usually 7 characters) which is specified by the pallet purchaser/user. The part number should be 19mm (0.75 in) characters.

### C. Pest Free Symbol

Use the approved marking for regulated non-manufactured wood packing materials (NMWP) that have been properly treated by an authorized agent. Its appearance on a pallet indicates full compliance to all international regulations aimed at preventing pest migration. It shall be printed as large as practical but at least 38mm (1.50 in) (equivalent to the total height of the test portion of the markings.)

**Important:** This symbol is NOT to be used at this time for non-regulated materials even if they are inherently pest free.



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**13.0 Appendix A: Protective Package Test Check List**

<b>Product:</b>		<b>Date:</b>	
<b>No. of Units:</b>		<b>Mass:</b>	( )kg ( )lb
<b>ODM/OEM Name &amp; Contact Details:</b>			
<b>Test Requester:</b>		<b>Tel:</b>	
(Check one)	<input type="checkbox"/>	<b>Type 1 – Boxed product, not palletized</b>	
	<input type="checkbox"/>	<b>Type 2 – Single product, palletized</b>	
	<input type="checkbox"/>	<b>Type 3 – Multiple products, unitized</b>	
<b>Tests Required:</b>		<b>Per ASTM Test</b>	<b>Comments:</b>
<b>Random Vibration</b>		D880	
<b>Fixed Displacement Vibration</b>		D642	
<b>Impact/Free Fall Drop</b>		D4728	
<b>Compression</b>		D999	
<b>Rotational Edge Drop</b>		D6179 Method A	
<b>Rotational Corner</b>		D6179 Method B	
<b>Rotational Flat Drop</b>		D6179 Method C	
<b>Tip Test</b>		D6179 Method F	
<b>Tipover</b>		D6179 Method G	
<b>Field Shipment</b>			
<b>Other:</b>			