

# Electronics Industry Pallet Specification

## Draft Updated 9/27/2000

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### Objectives:

This document is meant to establish "standardized" parameters and guidelines for usage by pallet designers and manufacturers when specifying and building material handling pallet for use in the electronics industry with primary emphasis at this time on the computer industry.

The purpose is to reduce total supply chain costs by improving the quality and consistency of pallets used within the **computer industry** integrated supply chain. It is intended that this will be achieved through the application of this VOLUNTARY specification by the organizations which are part of this supply chain; including, but not limited to the following entities:

Component Suppliers --> Manufacturers --> Resellers / Distributors --> Retailers --> Reverse Logistics

a. **Component Suppliers:** Companies which are key to the process since they are often the originator of the pallet that should be used throughout the pipeline. They ship parts, subassemblies, and/or finished goods to other manufacturers or direct to selling organizations. Examples: Solectron, Liebert, AMP, and [Intel](#)

b. **Manufacturers/OEMs:** These are the major computer manufacturers or companies contracted by them to manufacture finished goods from parts either supplied or built themselves. Examples: IBM, HP, Compaq, Apple, Micron, Dell, Acer, Solectron, Celestica, USI, STK, [Intel](#), and so on.

c. **Resellers / Distributors:** Organizations who buy large quantities of goods from Manufacturers and reconfigure per customer order. Examples: Ingram Micro, Magirus, CompuNet, Aslan, MicroAge

d. **Retailers:** Organizations that receive finished goods from manufacturers mostly in customer ready condition. Examples: Circuit City, Best Buy, Sears, CompUSA.

e. **Reverse Logistics:** Organizations involved in lease returns, salvage operations, and so on. These organizations may be branches of the large manufacturers or vended operations controlled by them. They may be involved in the end-of-life management of the pallet, reuse, or recycling and so on.

### Terminology:

Following are common terms used in the pallet industry which may or may not be included in this specification.

Term	Definition
Banding Notch	See "strap slot"
Block	Rectangular, square, or cylindrical deck spacer, often identified by its location within the pallet -- corner block, end block, edge block, inner block, center or middle block
Block Pallet	A type of pallet with blocks between the pallet decks or beneath the top deck
Butted Deckboard	An inner deckboard placed tightly against an adjacent lead deckboard.
Bottom Deck	Assembly of deckboards comprising the lower, load bearing surface of the pallet.
Captive Pallet	A pallet intended for use within the confines of a single facility, system or ownership; not intended to be exchanged.
Chamfered Deckboards	Deckboards with edges or one or two faces beveled, either along the full or specified length of board or between the stringers or blocks, allowing easier entry by pallet jack wheels.
Closed Distribution System	Shipping system restricted to moving goods between specified plants and facilities.
Deck	One or more boards or panels comprising the top or bottom surface.
Deck Mat	Assembly of deckboards and stringerboards, forming the deck of a block pallet.
Deckboard	Element or component of a pallet deck, oriented perpendicular to the stringer or stringerboard.
Deckboard Spacing	Distance between deckboard supports (stringers, stringerboards, or blocks)
Deflection	The amount of deformation or bending in a pallet or pallet component under load

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Double Face Pallet	A pallet with top and bottom decks
Drive Screw Nail	Helically threaded pallet nail
Exchange Pallet	A pallet intended for use among a designated group of shippers and receivers where ownership of the pallet is transferred with the ownership of the unit load; common pool pallet.
Expendable Pallet	A pallet designed for a single trip to the receiver wherein it is disposed ("one way").
Fastener	A mechanical device for joining pallet components such as nails, screws, bolts, or staples.
Flush Pallet	A pallet with deckboards flush with the stringers or blocks along the sides of the pallet.
Fork Entry	Opening between the decks, beneath the top deck or beneath the stringer notch to admit forks.
4-Way Block Pallet	A pallet with openings at both pallet ends and along pallet sides sufficient to admit hand pallet jacks; full four-way entry pallet.
Free Span	The distance between supports in a warehouse rack.
4-way Entry (Full)	Implies that it is a block style vs. Stringer style pallet.
4-way Entry (Partial)	Implies that it is a stringer style pallet with fork notches in the stringers.
Full Perimeter Base	A pallet which has bottom deckboards on all four sides on the outside edges of the pallet. See also Uni-Directional base.
Hand (wheel) jack opening	Space provided in the bottom deck to allow pallet jack wheels to bear on the floor.
Hardened Steel Nail	Heat treated and tempered steel pallet nail with a MIBANT angle between 8 and 28 degrees.
Hardwood	Wood from deciduous or broad leaved species of trees. This does not mean that it is actually harder than some species of softwoods.
Helically Threaded Nail	Helically (continuous spiral) threaded pallet nail. See also drive screw nail
Joint	Intersection and connection of components, often identified by location within the pallet as the end joint, center joint, and corner joint.
Length	Refers to the stringer or stringerboard (in block pallets) length; it also refers to the first dimension given to describe the pallet. I.e. 48" x 40", where 48" is the pallet stringer / stringerboard length.
MIBANT Angle	The bend angle in a fastener shank when subjected to a MIBANT test.
MIBANT Test	Morgan Impact Bend Angle Nail Tester: a tool used in the lumber industry as an indication of impact bend resistance of nails and staples.
Non-Reversible Pallet	A pallet with bottom deckboard configuration different from the top deck and therefore should not be inverted for use.
Notch	Cutout in lower portion of the stringer to allow entry for the fork tine, usually 9" in length and 1-1.5" in depth.
Notched Stringer	A stringer with two notches spaced for fork-tine entry. A pallet made with these is considered a partial 4-way entry pallet.
Opening Height	The vertical distance measured between decks, or from the floor to the underside of the top deck, or from the floor to the top of the stringer notch.
Overall Height	The vertical distance measured from the floor to the top of the pallet.
Pallet Jack	Hand-propelled, wheeled platform, equipped with a lifting device for moving palletized unit loads.
Racked Across Deckboards	Maximum load carrying capacity and deflection of a pallet where the rack frame supports the pallet only at the ends of the deckboards.
Racked Across Stringers	Maximum load carrying capacity and deflection of a pallet where the rack frame supports the pallet only at the ends of stringers.
Recycling / Refurbishment	The process of repairing a discarded and salvaged pallet.
Returnable / Reusable Pallet	A pallet designed for multiple cycles requiring infrequent maintenance (Pool Pallets are returnable / reusable).
Reversible Pallet	A pallet with identical top and bottom decks.
Skid	A pallet having no bottom deck.
Softwood	Wood from coniferous or needle bearing species of trees. These are not

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	necessarily softer or lower density than some hardwood species.
Solid Deck Pallet	A pallet constructed with no deckboard spacing.
Span	The distance between stringer or block supports.
Strap Slot	Recess or cutout on the upper edge of the stringer or the bottom of the top deckboard to allow tie-down or a unit load to the pallet deck with strapping / banding. Also called the banding notch.
Stringer	Continuous longitudinal solid or notched beam component of the pallet used to support deck components.
Stringerboard	In block pallets, the solid board member extending for the full length of the pallet perpendicular to deckboard members and placed between deckboards and blocks. The length of the stringerboard defines the length dimension of the pallet.
Two-Way Entry Pallet	A pallet with unnotched solid stringers allowing entry only from two opposite ends.
Uni-Directional Base	A pallet with bottom deckboards on two parallel outside edges and perhaps in the center and open to the floor on the adjacent sides. (typical of the "Euro Pallet").
Wing Pallet	A pallet which has deckboards which extend beyond the edge of the stringer.

### Preferred Sizes:

**Standard Sizes:** The following deck sizes are believed to provide the greatest overall efficiency and minimum adverse impact to the computer industry supply chain. The default dimensions shall be **1200x1000mm (or 1000x1200mm)** but industry partners may specify the **800x1200mm** dimension (Euro Pallet) if necessary for their operations. **Note:** The first dimension listed indicates the stringer board length. It is expected that the 1200x1000mm dimension will be the prevailing size in the US, Latin America, Asia, the UK and most other parts of Europe and therefore will be used to the greatest extent. The 800x1200mm "Euro Pallet" may be the prevailing size and style in some major industrial countries in Europe.

**Custom Sizes:** Other deck dimensions are approved providing that these dimensions reduce the cost of the supply chain by ensuring better fit to cargo containers relative to the size of packaging placed on the pallets and if performance attributes match that of the standard pallets. Custom pallets should be reserved for situations wherein the pallet load consists of a single package or product or for point to point closed loop situations managed separately from the International Pool System. For bulk shipping or general purpose palletization the preferred sizes highlighted above should be used. Industry partners are to accept shipments from each other on certified pallets of the preferred size and style without question.

### Preferred Styles:

~~Our preference is the full 4-way entry, non-reversible, 9 block style. The uni-directional style with the open side on the short side of the pallet; or, the 3 bottom decks are same length as longest pallet dimension. This style has the greatest versatility with regard to access for mechanical equipment worldwide. Full perimeter base style is also acceptable but this restricts access for some types of mechanized lift equipment (especially in Europe). However, full perimeter base styles are generally more stable in warehouse racking and stacking situations and protect cartons slightly better than uni-directional styles and are therefore also acceptable. It is the intent of this group to migrate toward the block style (vs. stringer style) in the interest of true 4-way entry and versatility with regard to handling convenience.~~

The following pallet styles are acceptable and preferred globally:

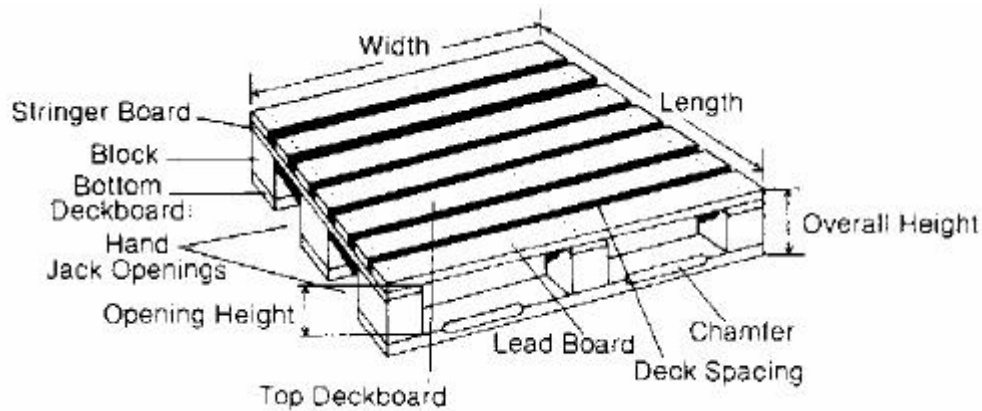
- Preferred: Full 4-way Entry, Non-Reversible, 9-block, with full perimeter bottom deckboards
- Acceptable: Full 4-way Entry, Non-Reversible, 9 block, with uni-directional base and bottom decking.

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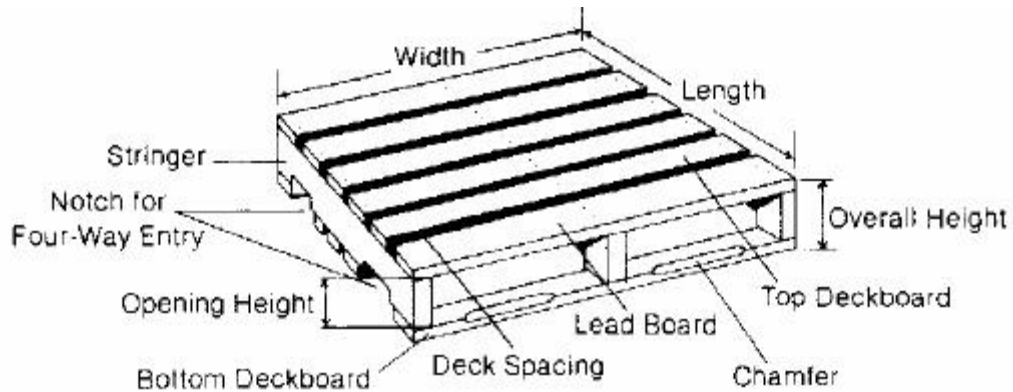
**Block Pallet (Flush): Full Perimeter Base Style**



**Block Pallet (Flush): Uni-Directional Base Style**



**Stringer Style Pallet (ref): Not Preferred**



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### Minimum Access Dimensions for Lift Equipment:

Pallets should be designed to ensure maximum flexibility with regard to mechanical equipment used for lifting and moving the load. Fork lifts, motorized pallet jacks, and manual pallet jacks should all be able to lift and move the load. ~~We believe the following limits will ensure success in that regard.~~

### ~~Custom Pallets for Top Heavy Items:~~

~~When one of the preferred general use pallets cannot be used because of the unusual size or shape of the product then a custom pallet is required. However, the same principles apply with regard to construction quality, access dimensions and so on. A key point regarding pallets for top heavy items (defined as anything exceeding a height to width ratio of xxx or overbalance tilt angle of xxx) is that the fork access positions only be available in the most stable lifting position. The design should force the fork lift operator to widen the position of the forks and the forks should be surrounded on all sides to prevent tipover incidents. This may preclude any fork access the short side.~~

### Expendable vs. Reusable Pallets:

It is preferred that pallets be designed to ensure reusability. The pallet should be capable of surviving at least one complete cycle through the supply chain, not merely one trip to your customer. It is the intention of this committee that pallets be designed in such a manner that scrap pallets be minimized and that the vast majority of pallets be standard such that they can be reused with confidence. Arrangements for the return and reuse of standard and custom pallets should be made where economical and all partners to this effort should be willing to cooperate on a reverse logistics process where appropriate.

### Preferred Materials:

While solid wood continues to be the economical choice there are compelling reasons to consider other types of materials for pallet construction. This becomes even more critical if we agree to a worldwide reusable pool system for our industry. Solid wood has many drawbacks including gaps in the decks, nails, splinters, infestation, moisture, mold, and so on. This committee prefers an alternative material that would otherwise meet all the objectives regarding quality and cost effective performance. We recognize that the purchase price of the pallet may be higher than a typical wood pallet but that the cost per use will be viewed as the key measure.

### Weight:

The minimum weight within the established performance criteria is the goal. 23kg (50 lbs.) is a target maximum weight for the 1200 x 1000mm and 800 x 1200mm sizes.

### ~~Alternative Shipping Platforms (such as Slip Sheets): (out of scope)~~

~~Use of palletless shipping platforms must be approved in advance by the customer. It is the opinion of this committee that such alternatives are desirable and that as an industry we should try to influence greater use of these alternatives. However, we need greater acceptance of them by the carrier networks (air, ocean, and surface) which requires considerable investment in handling equipment. This is viewed as second phase of this cooperative effort after settling on the pallet standardization issue.~~

### Certification:

~~Pallets intended for use as general pallets within the industry which meet the test standard will be marked accordingly (ref. Chemical Industry method CP1, CP2, etc.). Should a similar approach should be used for certified custom pallets or only those used for general purposes?~~

~~Pallets intended for general usage with the electronics industry which meet the design and performance parameters defined herein may be certified by the pallet manufacturers, and may be marked as such. Nont-standard pallets should not be marked as being certified.~~

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Prior to usage of any certification markings on a given pallet design, detailed specifications, drawings, and test results for pallet to be certified shall be submitted to EIPS for approval.

### Approved Testing Facilities:

<p><b>Virginia Tech University</b> Center for Unit Load Design Blacksburg, Virginia</p> <p>John Clarke 540-231-5370 E-Mail: <a href="mailto:unitload@vt.edu">unitload@vt.edu</a> <a href="http://www.unitload.vt.edu/">http://www.unitload.vt.edu/</a></p>	<p><b>Michigan State University</b> School of Packaging East Lansing, Michigan</p> <p>S. Paul Singh, Phd. 517-355-9580 E-Mail: <a href="mailto:singh@msu.edu">singh@msu.edu</a> <a href="http://www.pkg.msu.edu">http://www.pkg.msu.edu</a></p>	<p><b>San Jose State University</b> College of Applied Sciences San Jose, California</p> <p>Jorge Marcondes, Phd. 408-377-3210 E-Mail: <a href="mailto:marconde@sjsuvm1.sjsu.edu">marconde@sjsuvm1.sjsu.edu</a> <a href="http://www.sjsu.edu/depts/packtech/index.htm">http://www.sjsu.edu/depts/packtech/index.htm</a></p>
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### Environmental Considerations:

In concert with the generally accepted environmental hierarchy of "reduce, reuse, recycle" the pallets should incorporate a relatively high degree of recycled content, preferably post-consumer. Secondly, the designs should be capable of reuse. Lastly, the designs should consider the ultimate disposal and recycling of the materials used to construct the pallet. Avoid permanent commingling of dissimilar materials unless it can be demonstrated that it will not inhibit recycling of the pallet at the end of its useful life. Pallet manufacturers are expected to demonstrate "product stewardship" and be an active partner in the eventual recovery and recycling of the pallets.

Furthermore, the construction or manufacturing processes shall not include the use of CFC's, HCFC's, or halogenated flame retardants, or intentionally introduced heavy metals (mercury, lead, hexavalent chromium, or cadmium). ~~Furthermore that~~ The total composition **must** not include in excess of 100ppm (0.01%) of incidental amounts of these heavy metals, ~~which may be introduced due to recycled content.~~

### References and Related Publications:

This list is provided only for convenience and does not necessarily imply that any individual document is a part of this specification unless otherwise specified herein. ~~We can trim it down after we're done.~~

Document Number	Description / Title
ISO 3676	<a href="#">Packaging -- Unit Load Sizes -- Dimensions</a>
ISO 3394	<a href="#">Dimensions of Rigid Rectangular Packages, Transport Packages</a>
JIS Z 0161	<a href="#">Dimensions of Unit Load Sizes</a>
DIN 15 146	<a href="#">Euro Pallet Specification</a>
ASTM D1185	<a href="#">Pallets and related structures Employed in Materials Handling and Shipping</a>
ASME MH1.1.2	<a href="#">Pallet Definition and Terminology</a>
ASME MH1.1.2M	<a href="#">Pallet Sizes</a>
ASME MH1.4.1.M	<a href="#">Procedures for Testing Pallets</a>
ASME MH1.6	<a href="#">Standard Procedures for Determination of Durability of Wooden Pallets and Related Structures</a>
ASME MH1.7M	<a href="#">Driven Fasteners for Assembly of Pallets and Related Structures</a>
ASME MH1.9	<a href="#">Export Pallets</a>

#### Legend / Sources:

ISO = International Organization for Standardization (<http://www.iso.ch>),  
 ASTM = American Society of Testing and Materials (<http://www.astm.org>), 610-832-9585  
 ANSI = American National Standards Institute, (<http://www.ansi.org>),  
 ASME = The American Society of Mechanical Engineers, (<http://www.asme.org>),  
 JIS = Japanese Industrial Standard, 1-24, Akasaka 4, Minato-ku, Tokyo 107 Japan  
 DIN = Deutschland Institute for Normalization (Germany)

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### Appendix A: Minimum Performance Requirements

Any pallet which otherwise meets the general objectives and the minimum requirements listed in this section will be considered acceptable for use within the [electronics](#) industry. We do not intend to exclude any materials or inhibit creative invention. These tests and performance criteria will ensure that the pallets used within the industry are rugged and capable of multiple uses without damage to the products carried on them or resulting in safety concerns. Independent laboratories ([ref. Appendix B](#)) are available to conduct these tests at the expense of the pallet manufacturer. Only pallets meeting the test standards and certified are to be used where compliance with this voluntary specification is required.

**Table A1: Core Requirements: Applicable to all standard pallets**

1	Pallet Size	1200 x 1000mm or 1000 x 1200mm	800 x 1200mm only
2	Base Configuration	Full Perimeter	Uni-Directional
3	Reversible?	No	No
4	Rackable?	Yes	Yes
5	Accessibility (Fork Lifts, Pallet Jacks)	Full 4-way Entry	Full 4-way entry
6	Top Deck Coverage	60% min.	60% min.
7	Bottom Deck Coverage	35% min.	35% min.
8	Minimum Vertical Clearance Under Top Deck	95mm (3.75")	95mm (3.75")
9	Maximum Vertical Clearance Under Top Deck	156mm (6.14") ??	156mm (6.14") ??
10	Maximum Width of Center Posts or Stringers	160mm (6.3"), 100mm (4" preferred if possible)	160mm (6.3"), 100mm (4" preferred if possible)
11	Minimum Width between outer Posts/Stringers	720mm (28.3")	720mm (28.3") on 1.2m 590mm (23.2") on 0.8m
12	Maximum Overall Height	165mm (6.5")	165mm (6.5")
13	Target Maximum Gross Weight	22.7kg (50 lbs.)	22.7kg (50 lbs.)
14	Fasteners (if used)	Meet minimum criteria in ASME, MH1, part 3	Meet minimum criteria in ASME, MH1, part 3
15	Racking Performance per ASTM D1185	454kg (1000 lbs.), Max. Deflection 13mm (0.5")	454kg (1000 lbs.), Max. Deflection 13mm (0.5")
16	Forklift Tine Performance per ASTM D1185	454kg (1000 lbs.), Max. Deflection 13mm (0.5")	454kg (1000 lbs.), Max. Deflection 13mm (0.5")
17	Static Stacking Performance (Warehouse) per ASTM D1185	1800kg (4000 lbs.), Max. Deck Deflection 6mm (0.25")	1800kg (4000 lbs.), Max. Deck Deflection 6mm (0.25")
18	Conveyor Performance per ASTM D1185	454kg (1000 lbs.), Max. Deck Deflection 6mm (0.25")	454kg (1000 lbs.), Max. Deck Deflection 6mm (0.25")
19	Coefficient of Friction: Top Deck with Cartons	0.40 minimum	0.40 minimum
20	Coefficient of Friction: Under Deck with Forks	0.40 minimum	0.40 minimum
21	Coefficient of Friction: Bottom deck on Steel	0.40 minimum	0.40 minimum
22	Coefficient of Friction: Stacked Empty Pallets	0.40 minimum	0.40 minimum
23	Inertness (related to Infestation Problems): Preference is for constructions not requiring chemical treatments or APHIS certifications to comply with international pest regulations	Required	Required
24	Fire Safety (related to Fire Marshal Reqmts): Preference is for constructions not requiring unusual facilities requirements for fire safety	Required	Required
Note: The suggested load for all strength tests is corrugated boxes (400x600mm) to fill out the pallet completely and stacked 5 layers high. Dead loads may be used for the stack test.			

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**Table A2: Durability Requirements for Reusable (Pool Type) Pallets**

Requirement	1200 x 1000mm or 1000 x 1200mm	800 x 1200mm only
a. Corner Drop	12 drops at 1m (40"), Maximum Diagonal Deformation of 1.5%	12 drops at 1m (40"), Maximum Diagonal Deformation of 1.5%
b. Tine Tip Impacts on Block or Stringer Ends	3 impacts at 30cm (12"), no failures	3 impacts at 30cm (12"), no failures
c. Tine Heel Impacts on Lead Edges	3 impacts at 120cm (48"), no failures	3 impacts at 120cm (48"), no failures
Note: The suggested load for all strength tests is corrugated boxes (400x600mm) to fill out the pallet completely and stacked 5 layers high. Dead loads may be used for the stack test.		

**Table A3: Durability Requirements for One-Way Disposable Pallets**

Requirement	1200 x 1000mm or 1000 x 1200mm	800 x 1200mm only
a. Corner Drop	3 drops at 1m (40"), Maximum Diagonal Deformation of 1.5%	3 drops at 1m (40"), Maximum Diagonal Deformation of 1.5%
b. Tine Tip Impacts on Block or Stringer Ends	3 impacts at 15cm (6"), no failures	3 impacts at 15cm (6"), no failures
c. Tine Heel Impacts on Lead Edges	3 impacts at 60cm (24"), no failures	3 impacts at 60cm (24"), no failures
Note: The suggested load for all strength tests is corrugated boxes (400x600mm) to fill out the pallet completely and stacked 5 layers high. Dead loads may be used for the stack test.		

**Table A4: Pallet Use Conditions, applicable to all standard pallets**

1	Temperature Range (Distribution Environment)	-40C to +60C (-40F to +140F)	-40C to +60C (-40F to +140F)
2	Stacking (Dynamic / In Transit)	2.5m (100 inches)	2.5m (100 inches)
3	Stacking (Static / Warehouse Storage)	5.0m (200 inches)	5.0m (200 inches)
4	Transportation Modes	Air, Ocean, Truck	Air, Ocean, Truck
5	Food Contact / Refrigerated Storage	No	No
6	Material Handling: Conveyors	Yes	Yes
7	Material Handling: Cranes / ASRS	Yes	Yes
8	Material Handling: Lift Equipment	Yes	Yes
9	Warehouse Storage: Open Racks	Yes	Yes
Notes:			



# Updated Marking Procedure for Wooden Packaging

## Appendix B

This marking procedure shall be used to mark pallets certified as meeting this specification.

<b>Scope</b>	<del>All packing materials</del> Pallets made from any amount or any combination of solid wood and/or processed wood components.
<b>Applicability</b>	<del>All IBM operations worldwide, including Other Equipment Manufacturers (OEM's) and other vendors performing work for IBM or under contract by IBM. It also includes packing for procured parts from suppliers bound for IBM Manufacturing or Field Service locations worldwide.</del>
<b>Purpose</b>	<del>To ensure minimal delays or rejected shipments associated with compliance to International Phytosanitary regulations designed to combat pest migration.</del>
<b>Objectives</b>	To implement a common marking procedure globally and to identify and use only approved and properly treated materials as required for exports to regulated countries.
<b>Achieved By</b>	<del>Providing clear markings on the regulated articles so that shippers can confidently apply the correct declarations or required certificates.</del>
<b>Marking Procedure</b>	Mark the pallet, skid, crate, or other wooden packaging assembly a minimum of one time on a visible vertical surface, using <b>19mm (0.75")</b> minimum characters which are permanent and indelible. This may be done with ink jet printing, heat stamping, paint stencil, or other similar method. Mark the information as specified below. If possible, it is recommended to make the font larger and bolder for the material classification than the other data elements (as shown in the examples below). However, this is not required if it prevents a simple one pass printing application. In all cases, the material classification marking shall be equal or larger in size than the other data elements. Redundant markings on the opposite side of the pallet/crate is recommended but optional. 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 material classification is repeated on a vertical surface. It is also allowed to print the information on multiple lines or break up the information, for instance spread <b>the information</b> across three separate blocks on a block style pallet.
<b>Material Classification Markings</b>  (only one applies to any given pallet)	<p>A given item shall only carry ONE classification regardless of how many different materials are included in the construction. Follow this list in sequence, the item should carry the marking of the first scenario that matches exactly. Even if the majority of the construction consists of non-SWPM components, the marking shall relate to the solid wood component that exists (if any) and any permanent treatment that was done.</p> <p><b>"SW"</b> (Softwood): <del>Items</del> Pallets marked with this abbreviation contain ANY amount of solid, <u>untreated and unprocessed</u> conifer (<i>aka</i> "softwood", or needle bearing type species of wood) even if combined with treated components. <del>Items with this symbol can technically be exported to non-regulated countries but it is suggested that these not be exported at all (in anticipation of global ban).</del></p> <p><b>"HW"</b> (Hardwood): Items marked with this abbreviation contain ANY amount of solid <u>untreated and unprocessed</u> deciduous wood (<i>aka</i> "hardwood", or leaf bearing species of wood) and <b>no conifer</b> even if combined with treated components. <del>Items with this marking technically can be exported to China but we still have had problems with it at certain border crossings.</del></p> <p><b>"HT SOFT"</b> (Heat Treated Softwood): Items marked with this abbreviation contain ANY amount of solid, properly heat treated conifer (<i>aka</i> "softwood", or needle bearing type species of wood) which by definition means that it has been heated to a core temperature of at least 56C (133F) for a minimum of 30 minutes and that documentation certifying that has been provided by the treatment facility to the <u>package/pallet</u> manufacturer and can be traced</p>

# Updated Marking Procedure for Wooden Packaging

	<p>to the production of that specific <del>package, pallet, and so on</del>. This also must not contain any amount of untreated softwood. Note: Only use lumber that meets the temperature and duration requirements above.</p> <p><b>“HT HARD”</b> (Heat Treated Hardwood): The same heat treatment rules as with conifers (temperature, duration) except when done for deciduous or “leaf bearing” species of wood.</p> <p><b>“CT SOFT”</b> (Chemical Treated Softwood): For conifers that have been permanently treated with chemicals. Does not include fumigation treatment. <del>Avoid chemically treated softwood since it cannot be recycled or incinerated.</del></p> <p><b>“CT HARD”</b> (Chemical Treated Hardwood): For hardwoods that were permanently treated with chemicals. Does not include fumigation treatment. <del>Avoid chemically treated hardwood since it cannot be recycled or incinerated.</del></p> <p><b>“NO-SWPM”</b> (No Solid Wood Packing Material): Items marked with this abbreviation may appear to be made of wood and must contain ANY amount of processed wood components but no solid wood of any type whether treated or not. Example: A pallet or crate made with any amount of Oriented Strandboard (OSB), plywood, strawboard, masonite, <del>Paper-Overlaid-Veneer (POV)</del>, particle board, or combination of these and meeting the definition of non-solid wood packing materials as defined by the Animal and Plant Health Inspection Service (APHIS) <b>and which is totally free of solid wood</b>. Note: Plywood is not considered “solid wood” because it has been processed under extreme heat and pressure.</p> <p><b>“XX”</b> Items marked with the XX abbreviation would be items in which the composition cannot be affirmed such as with refurbished pallets. Existing markings may also be covered up with this as needed. This would be a signal that this particular item may require fumigation or other approved treatment. Additional “X’s” are optional (more than 2 if needed is acceptable).</p> <p>Note: There is no marking for fumigation since this is a temporary treatment. Fumigation, if done must be documented with certificates of fumigation generally issued by the fumigator and endorsed by a Government approved Agency..</p>
<p><b>Supplier Designation</b></p>	<p><b>Required:</b> To identify the final assembly supplier of the pallet, package, crate and so on in some manner. This may be done in any <b>one</b> of these ways....</p> <ol style="list-style-type: none"> <li>1. A minimum 5 character abbreviation of the supplier’s name... -or-</li> <li>2. A minimum 3 digit abbreviation followed by 2 numeric digits to distinguish unique manufacturing facilities. -or-</li> <li>3. The supplier’s logo if this can be easily distinguished. The logo can also be followed with a 2 digit number to identify a specific facility if needed. -or-</li> <li>4. The full name of the supplier if this can be accommodated in the space available.</li> </ol> <p>The name shall be that of the final assembly location which built the pallet or package and shipped it <del>to IBM</del> for use. Take care to ensure that the code chosen does not resemble one of the material classifications.</p>
<p><b>Country of Origin or Manufacture of the Wooden Item</b></p>	<p><del><b>Optional / Restricted:</b> It is expected that this would infrequently if ever be denoted on a wooden pallet but may be denoted on . This is an important change from the original program. This is because the regulations apply to the source of the <u>shipment</u>, not necessarily the source of the raw lumber or the wooden package assembly. It is also not necessary for shipper declarations or certifications. Therefore, a designation of the country of manufacture of the wooden item may only cause more confusion and delays than it would</del></p>

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	<p>eliminate.— If it becomes important for other reasons to denote the country of manufacture (for instance, reusable items) then these are the rules by which this must be done....—</p> <p>1.— If country of origin of the pallet is included in the wood marking procedure, it must be prefaced with the phrase: "Pallet (or Container) made in xxx", where xxx is the full English name of the country in which the pallet was made;</p> <p>—</p> <p>2.— If the country where the pallet was made is not the same country in which the pallet was treated, the following phrases must be shown: "Pallet made in &lt;full English name of the country in which the pallet was made&gt;", "Pallet treated by &lt;supplier name&gt;&lt;supplier ISO code&gt;".</p> <p>Clearly, these restrictions and requirements force us beyond what could be achieved in a single line of text which is the goal of this marking procedure.—</p>
<b>Date of Manufacture</b>	<b>Required:</b> Format may be MM-YYYY or YYYY-MM. The specific day is not required. A four digit year is considered important since in some parts of the world the year precedes the month when dates are printed.
<b>Part Number</b>	<b>Optional:</b> The 7 digit alphanumeric part number of the pallet package assembly assigned by the pallet designer. <b>Required</b> for IBM designed and specified items, <b>optional</b> for supplier items.
<b>Engineering Change Number</b>	<b>Optional:</b> The six digit alphanumeric "EC" number which may distinguish a different design for items with the same part number. This may be important to some locations and it is their prerogative to specify if it if they wish. If the EC level is included, use the prefix "EC" in front of the number to identify it.
<b>Reusable Pool System Symbol</b>	<b>Optional / Restricted:</b> For instance, the familiar "EUR" symbol associated with the European pool system pallets (aka "Euro Pallets") or any other similar program previously established or future program. This marking to be placed as specified by that system. Only pallets meeting the design and construction requirements of the marked pool system are to carry that symbol. Note: Unless the material type is marked on a "Euro Pallet" it should not be exported to a regulated country.
<b>EIPS Certification Symbol / Logo</b>	<b>Required:</b> Graphical symbol provided by the EIPS committee of the Institute of Packaging Professionals (IoPP). Design to be determined.
<b>Example Marking of an IBM Stringer Pallet</b>	<b>HT SOFT</b> <u>    </u> <b>ONG12</b> <u>    </u> <b>06-2000</b> <u>    </u> (Matl. Classification) (Part No.) (Supplier) (Date) Underscore shown to demonstrate spacing between elements, it is not marked
<b>Example Marking of an IBM Block Style Pallet</b>	<b>HT SOFT</b> <u>    </u> <b>ONG12</b> <u>    </u> <b>6038887</b> <u>    </u> <b>06-2000</b> <u>    </u> (Matl. Class and Part No.) (Supplier and Date) <u>    </u> First Block <u>    </u> Second Block
<b>Example Marking of a Supplier's Wooden Pallet</b>	<b>HT SOFT</b> <u>    </u> <b>ONG12</b> <u>    </u> <b>06-2000</b> <u>    </u> <b>[EIPS]</b> (Matl. Classification) (Supplier) (Date) (Certification Symbol) Underscore shown to demonstrate spacing between elements, it is not marked. For plastic, metal, corrugated, or other non-wooden type pallet only the certification symbol is marked.

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<b>Points of Emphasis</b>	<p>1. Do not mark pallets which are clearly not of wooden origin unless that assembly does have some wooden components somewhere else in the assembly. For instance, if a package consisted of a plastic pallet and a plywood crate on top of it then the appropriate wood classification marking should be placed on a vertical surface of the wooden crate portion, not the plastic base pallet. It is not necessary to mark corrugated or plastic items.</p> <p><del>2. There is a concern that the country of manufacture (of the wooden item) may be confused as a Country of Origin declaration of the goods. For this reason, the country name or initials should be avoided unless deemed essential for other reasons. If so, strict policy for denoting this applies (as shown above).</del></p> <p><del>3. Reusable containers, regardless of material composition, must always be marked as follows... <b>Reusable Container</b> <b>Container Made in XXX</b> (where XXX is the full country name in English where the container was made). This is a separate matter not related to the infestation issue but is important regarding duty payments and taxes on exports.</del></p> <p>4. Use the "XX" material classification marking if the species, origin, or treatment cannot be affirmed. By default, anything marked this way or unmarked cannot be used for export to a regulated country.</p> <p>5. If refurbishing a pallet which has already been marked, obliterate, cover up, or remove the original marking and then instruct suppliers to turn this side to the inside so that it will not likely be observed. Any marking appearing on an inside surface is not to be used for inspection or operational purposes.</p> <p>6. Every wooden assembly would get some type of marking regardless of composition at the time of manufacture.</p>
<b>References</b>	<p>USDA's APHIS Website: <a href="http://www.aphis.usda.gov/ppq/swp">http://www.aphis.usda.gov/ppq/swp</a> National Wooden Pallet and Container Association <a href="http://www.nwpc.com">http://www.nwpc.com</a></p>
<b>Originator</b>	<p><del>This document originated by IBM's Worldwide Distribution organization. Bob Sanders (btsander@us.ibm.com), Erich Guenter (eguent@de.ibm.com)</del></p>

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