

REVISIONS AND SUMMARY

REVISION	DESCRIPTION	DATE	AUTHOR
1.0	Original Packaging Document	5/8/2015	Apogee Packaging, Inc.

SCOPE

The scope of this document is to define the general specifications that apply to all product corrugated shippers, wood pallets and stretch wrap for HD Supply products.

TERMINOLOGY & DEFINITION

Packaging: Packaging is defined in the regulations as "all products made of any materials of any nature to be used for the containment, protection, handling, delivery and preservation of goods from the producer to the user or consumer."

Tertiary: One of the three types of wrapping used to protect manufactured goods. Tertiary packaging is typically not seen by consumers since it is usually removed by retailers before products are displayed for sale. Examples of tertiary packaging might include corrugated boxes, wood pallets and stretch wrap.

Pallet: A flat transport structure that supports goods in a stable fashion while being lifted by a forklift, pallet jack, front loader, work saver or other jacking device.

ISPM: International Standard for Phytosanitary Measures

Mullen Burst Test: Measures the pressure required to puncture a sheet of paper or paperboard as an indicator of its load carrying capacity under specific conditions. It is, however, not suited for triple-walled (three ply) corrugated sheets and has only limited reliability for double-walled (two ply) corrugated sheets. Also called Mullen test.

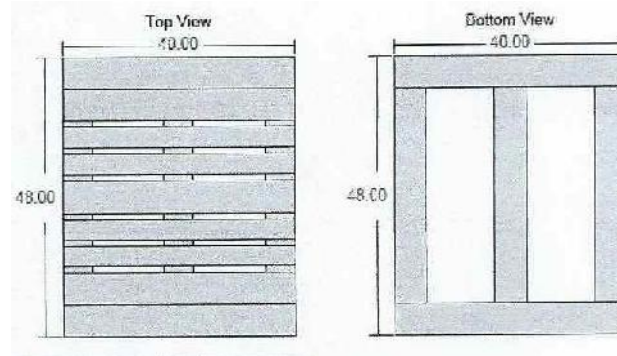
Edge Crush Test (ECT): Corrugated-board test to determine the force that will crush a standard size of board standing on an edge. ECT indicates the probable compression strength of the container made from the board.

ISTA: International Safe Transit Association

SPECIFICATIONS

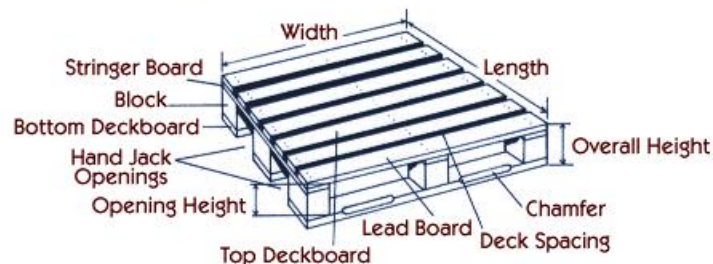
Wood Pallets

Size: The approved pallet size as specified by HD Supply is 40" x 48".



Style: Block class, perimeter base (full 4-way entry)

Block Design



Component Lumber Dimensions:

Top Deck (deckboard/stringerboard style; flush)

- 11/16" (.688") thick by 40" long
- Lead-edges consisting of (at least) 2 butted boards; outermost lead-edge boards 5.5" wide
- At least one other board 5.5" wide; all other boards at least 3.5" wide
- Interboard gap/deckboard span no more than 1.75"; top-deck coverage at least 85%

Bottom Deck (perimeter-base; flush)

- Chamfered
- 5 boards
- 5.5" wide x 11/16" (.688") thick; 2 boards 40" long, 3 boards 37" long

- Joints must be butted
Stringers/Stringerboards

- 3 boards
- 5" to 5.5" wide; must be same width as blocks
- 11/16" (.688") thick x 48" long

Blocks

- 5" to 5.5" wide; must be same width as stringers/stringerboards
- 3.5" tall
- 6 outer blocks 7.5" long; 3 inner blocks 3.75" long



Wood Pallet Weight Load Capacity: The suggested weight load capacity of the 40" x 48" wood pallet is 3,300 lbs/ 1,500 kg.

ISPM15 – Pallet Treatment (Fumigation, Heat Treatment)

What is ISPM15?

The International Standard for Phytosanitary Measures, publication number 15

- Regulation of wood packaging material (WPM) in international trade.

Why ISPM15?

The regulations are to help prevent the worldwide spread of plant pests and diseases by using specially treated wooden packaging material (WPM).

Who controls ISPM15?

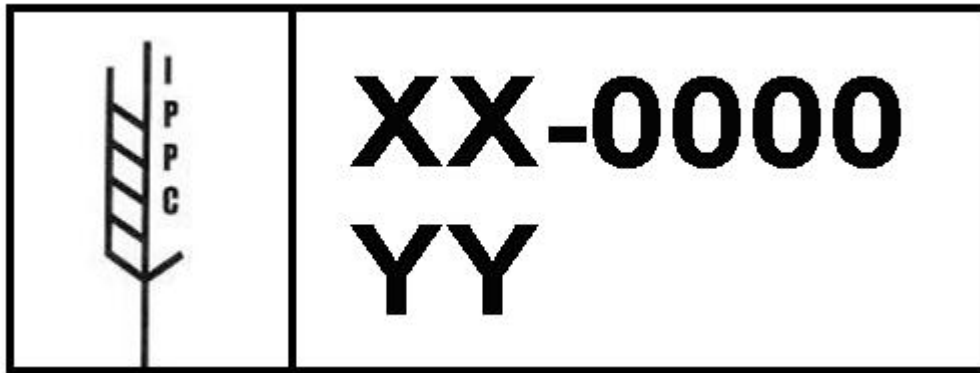
As part of the United Nations Food & Agriculture Organisation (FAO), the International Plant Protection Convention (IPPC) controls the regulations through the cooperation of member governments of the UN.

What is classed as WPM?

ISPM15 applies to coniferous softwood and non-coniferous hardwood used as raw wood packaging material. The standard does not apply to wood packaging made wholly of manufactured wood-based products such as plywood and veneer, reconstituted wood products (particle board, chipboard, Presswood, oriented strand board, high density fibre board, and medium density fibre board) or products created using glue, heat and pressure or a combination thereof.

How can you tell if WPM has been treated?

All treated WPM will have the IPPC mark, as shown below:



What do the markings indicate?

The markings must be within a rectangular border with a vertical line separating the IPPC logo (on the left) from the identifying data.

The border lines may be solid or broken; and the corners may be rounded.

XX - indicates a two letter ISO country code

0000 - the next series of letters/numbers is the unique identification mark of the wood treatment agent or packaging manufacturer. The number of letters or digits may vary according to each country.

The country code and treatment agent or manufacturer code must be separated by a hyphen.

YY - This indicates the type of treatment, and will either be HT (Heat Treatment) or MB (Methyl Bromide).

ISPM-15 Requirements

Compliance with ISPM-15 fumigation and stamp services for wood packaging allows for 2 treatment options:

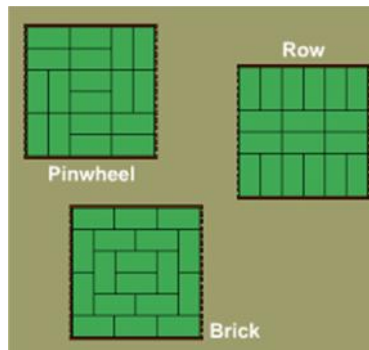
Heat Treatment (HT): Wood packaging material should be heated in a schedule that achieves a minimum core temperature of 56 C or 133 F degrees for 30 minutes. Once certified, businesses that do not utilize a kiln on-site may use KD-HT kiln-dried heat-treated lumber for their crating and/or packaging needs. KD-HT material can be purchased at most local lumber retailers.

Methyl Bromide (MB) ISPM 15 Fumigation: The wood packaging material should be fumigated with methyl bromide. NWPCA has been tasked by the U.S.

Animal and Plant Health Inspection Service to administer the fumigation program. ISPM 15 fumigation requirements apply to all species of coniferous (softwood) and non-coniferous (hardwood) packaging materials.

Unitized Pallet Loading Patterns:

Pallets should be loaded with product in such a manner as to constitute a cubic design. The design loading pattern is determined by the size and shape of the product master shipper. The loading pattern could be classified as a row, brick or pinwheel.



The selected loading pattern should ensure that the product occupies a minimum of 85% of the pallet decking area.

The selected loading pattern should not overhang the perimeter of the pallet decking area.

Strapping

Material: Polyester

Width: $\frac{3}{4}$ " (.75")



Application: There should be two straps applied to the pallet in the vertical position, one on either side of the center block. When necessary due to the weight and/or the pallet loading pattern, a strap applied in the horizontal position midway up the pallet should be utilized. The strapping should be applied prior to the application of the stretch wrap.

Stretch Wrap

Material: Clear Linear Low-Density Polyethylene (LLDPE)

Thickness: 18 gauge

Application: The stretch wrap should be applied so that it captures the complete perimeter of the top layer (specifically each corner of the unitized load), the middle layers, then securing the bottom layers of product to the pallet by capturing each corner of the pallet.

The suggested application consists of three wraps around the top corners of the pallet, two wraps around the middle of the pallet and three wraps around the base of the pallet.

**Product Corrugated Shippers**

The corrugated shippers utilized for HD Supply product should be designed in such manner to contain an appropriate quantity of product and not exceed 35 lbs. The corrugated shippers should meet or exceed the ISTA standards established for the Mullen Burst Test or an Edge Crush Test.

A comparison of the test results is as follows:

Maximum Weight of Box and Contents (lbs)	Maximum Outside Dimensions, Length, Width And Depth Added (inches)	Minimum Bursting Test, Singlewall, Doublewall or Solid Fiberboard (psi) or Minimum Puncture Test, Triplewall Board (inch ox. per inch of tear)	Minimum Combined Weight of Facing(s) of Doublewall and Triplewall Board Or Minimum Combined Weight of Piles Solid Fiberboard, Excluding Adhesives (lbs. per 1,000 sq. ft.)	Min. Edge Crush Test (ECT) (lbs. per in. width)
Singlewall Corrugated Fiberboard Boxes				
20	40	125	52	23
35	50	150	66	26
50	60	175	75	29
65	75	200	84	32
80	85	250	111	40
95	95	275	138	44
120	105	350	180	55
Double Corrugated Fiberboard Boxes				
80	85	200	92	42
100	95	275	110	48
120	105	350	126	51
140	110	400	180	61
160	115	500	222	71
180	120	600	270	82
Triple Corrugated Fiberboard Boxes				
240	110	700	168	67
260	115	900	222	80
280	120	1100	264	90
300	125	1300	360	112
Solid Fiberboard Boxes				
20	40	125	114	
40	60	175	149	
65	75	200	190	
90	90	275	237	
120	100	350	283	