

Palletization and Shipping Guidelines for Domestic Distribution (Regional Distribution Center and Store Direct Shipments)

Effective date: 3/01/12

Revised: 3/13/14
List of revisions located at end of document

OVERVIEW:

The purpose of this document is to help vendors' Shipping/Traffic Managers and Warehouse Operations Managers understand the proper procedures for shipments of merchandise to Lowe's Stores and Regional Distribution Center (RDC) locations. By following the methods outlined in the document, vendors will be able to:

- minimize freight costs (for both Freight Collect and Freight Prepaid shipments)
- minimize the potential for damages during transport
- improve receiving efficiency to help products reach store shelves more quickly.

The Lowe's Inventory Planner (IP) for your program can help answer questions you may have about the information in this document.

BEST PRACTICES:

- Below we've compiled a checklist to help identify opportunities for improvement. If you need guidance on how to implement these best practices, contact your Inventory Planner (IP).
- Review packaging for all items in your program to determine opportunities to reduce cubic volume and/or weight.
- Review palletization practices at your facilities. Ensure that your pallet loads are constructed to:
 - minimize product damage
 - maximize load stability
 - maximize shipping efficiency (trailer utilization)
 - maximize receiving and storage efficiency at the final destination
 - easily scan the GS1-128 bar code label applied to each pallet.
- Review outbound Truckload volume loads to identify opportunities to improve trailer cube/weight
 utilization ("Freight Optimization"). If you observe poor utilization, take pictures of the loads and email to your Inventory Planner for review.
- Utilize load configuration software to optimize palletization and trailer utilization.
- Identify opportunities to consolidate shipments into Truckload volume via Pooled Replenishment Programs or Load Consolidation Programs
- APPLYING GS1-128 BAR CODES TO PALLETS
- Review Lowe's Bar Code Guidelines for information on the GS1-128 Bar Code Requirements for all Pallets.
 - http://www.loweslink.com/llmain/pubdocuments/BarCodeGuidelines.pdf
- Load pallets with the GS1-128 bar code label visible on the side of the pallet to allow the pallets to be scanned on the trailer prior to unloading.

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In the subsequent sections, we'll review each of these best practices in detail.

PALLETIZATION BEST PRACTICES:

Below are some general best practices that should be utilized for all palletized shipments:

- Unitize like items (same SKU) together on the same pallet by the quantity ordered. This will significantly improve receiving and storage efficiency once your product arrives at the Lowe's RDC.
 - For Stock Items (Stored in RDCs) you MUST always unitize like items together on the same pallet by the quantity ordered – NO EXCEPTIONS!
 - For items that are 1XD (100% Cross-Dock at RDC) <u>and</u> Conveyable keeping like items together on a pallet is not required.
 - If you are not sure whether your items are Stock or 1XD, consult with your Inventory Planner first before making any changes to unitization/palletization method.
- Build a stable base layer for your pallet by placing heaviest items on bottom with flat edge in contact with pallet (avoids tipping and load shift).
- Review dimensions of all items in your program to determine if all items can ship on a standard GMA 40" x 48", 4-way entry pallet. **See Appendix C** for details on Lowe's Pallet Specifications.
- Maximum allowable overhang is 1" on either side of the shortest side of pallet (i.e. the 40" side
 of standard pallet)

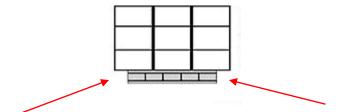


Figure 1 – Excessive overhang - Damage can occur because overhanging freight is not supported during transit.

- If you have any long-length items, work with your Lowe's Inventory Planner to determine the
 optimal pallet size and load for these items. Refer to the <u>LowesLink Domestic Packaging</u>
 <u>Guidelines</u> for more detailed information.
- If the top layer of pallet is not completely full, place cartons on top layer along outside edge for greater stability

PALLET QUALITY (See Appendix D):

Lowe's prefers Grade A pallets. Grade B pallets may be used, but only if they meet the requirements outlined in Appendix D (Pallet Quality Specs">Appendix D (Pallet Quality Specs) located at the end of this document.

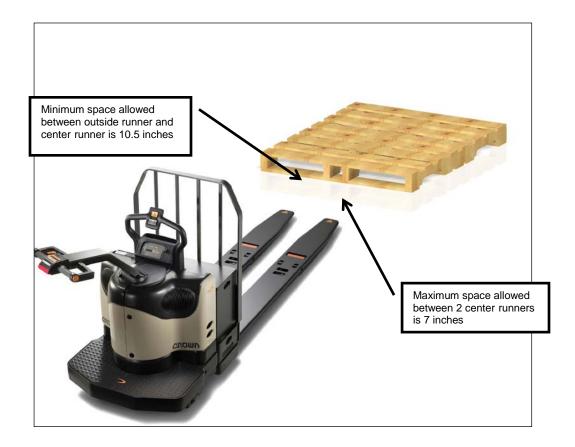
Grade C Pallets with missing and/or broken components (deck boards, runners) are not permitted for use on shipments to Lowe's stores or Distribution Centers.

Shipments arriving on Grade C quality or any other unacceptable pallet may be refused and returned to vendor's expense for proper palletization.

USE OF NON-STANDARD PALLETS:

Lowe's standard pallet is a 40" x 48" GMA hardwood pallet. Lowe's standard mini-pallet is a 20" x 24" 2-way entry quarter-pallet. All pallets that do not meet those criteria will be considered "non-standard pallets".

- Use of non-standard pallets must be approved in writing by your Lowe's Inventory Planner.
- Approved non-standard pallets must be forklift accessible.
- If using a non-standard pallet design with 4 runners, maximum allowable spacing between 2 middle runners is 7 *inches* to allow entry by forklift blades. See Figures 2 and 3 below



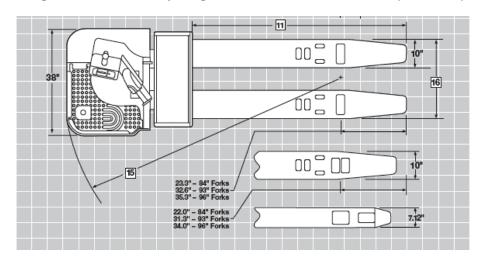


Figure 2 - Forklift Entry Diagram for Non-Standard Pallets (4 runners)

Figure 3 - Forklift Equipment Specifications

DETERMINING OPTIMAL PALLET LOAD CONFIGURATION:

Vendors must consider both <u>transportation efficiency</u> and <u>storage efficiency</u> when designing pallet loads. The optimal pallet load will depend on a multitude of factors, including

- Product storage type at Lowe's Regional Distribution Centers (Stock, 1XD, or VPXD) –
- Product order volume (ordered by tier or full pallet quantity)
- Product packaging characteristics (density, shape, stability)
- Product handling characteristics (forklift, squeeze clamp, etc)
- Mode of transport (Less-Than-Truckload (LTL), Truckload (TL), or Intermodal (IM)

Lowe's recommends the use of palletization software to evaluate potential pallet load alternatives. On the following pages are several options for pallet loads that will maximize freight and/or storage efficiency.

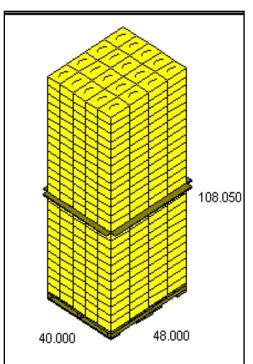
These suggestions are intended to be a guide; please consult your Inventory Planner (IP) to determine the optimal solution for your program.

There is a strict 2500 pound limit for <u>ALL</u> pallet shipments to Lowe's RDCs. There is certain equipment at Lowe's RDCs that cannot handle more than 2500 lbs safely. The 2500 pound limit includes pallet and product. If you have any questions about this please contact your Inventory Planner (IP).

Optimal Pallet Load for Truckload Shipments (Option # 1 – Slipsheets):

*** For this configuration please note following:

⇒ If product can be handled via squeeze clamp, use slipsheet or separator to split load into two equal segments



Dimensions:

- \Rightarrow Maximum 103" product height + 5" height of wooden pallet.
- ⇒ Add slipsheet in middle to divide into two equal segments

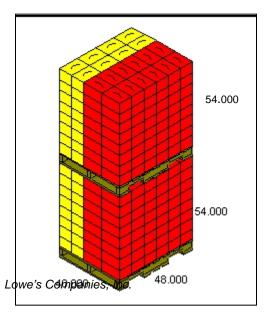
Benefits:

- ⇒ Freight
- Excellent cube utilization in trailer for Truckload Shipments
 - Good for lightweight, cube-intensive product
- Good for 100% cross-dock product that is not physically stored in RDC racking

Disadvantages:

- ⇒ Handling
- Will <u>not</u> fit inside roll-door trailers for outbound shipment from RDC to Lowe's stores
- \Rightarrow Storage
 - Not appropriate for heavyweight product
 - Maximum weight per pallet is 2500 lbs.
- If slipsheet is not used, will require manual labor at Lowe's RDCs to place product in storage

Optimal Pallet Load for Truckload Shipments (Option # 2 – Double Stacked Pallets):



Dimensions:

⇒ Maximum 49" product height + 5" height of wooden pallet

Benefits:

- ⇒ Freight
- Pallets can be double-stacked for shipment by Truckload Carrier or Intermodal Rail Carrier
 - Good stability for dense product
- ⇒ Storage
 - Good RDC rack storage density
 - Good receiving efficiency
 - Maximum weight per pallet is 2500 lbs.

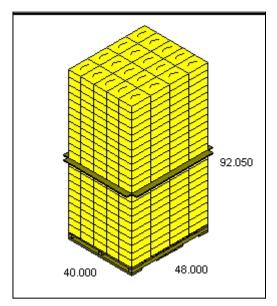
Disadvantages:

Cost of additional pallet

If cube out program, will lose cube utilization from second pallet

Optimal Pallet Load for Less Than Truckload (LTL) Shipments:

- *** For this configuration please note following:
- ⇒ If product can be handled via squeeze clamp, use slipsheet or separator to split load into two equal segments



Dimensions:

⇒ Maximum 87" product height + 5" height of wooden pallet

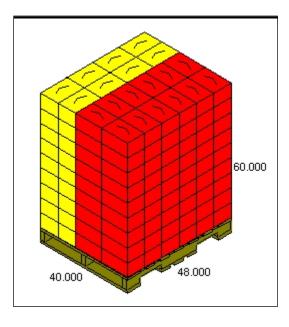
Benefits:

- ⇒ Freight
- Maximum allowable pallet height for Less-Than Truckload shipments)
- Will fit inside roll-door trailers

Disadvantages:

- ⇒ Storage
- Not appropriate for heavyweight product
- Maximum weight per pallet is 2500 lbs.
- If slipsheet is not used, will require manual labor at Lowe's RDCs to place product in storage

Optimal Pallet Load for Weigh-Out Product:



Dimensions:

 \Rightarrow Maximum 55" product height + 5" height of wooden pallet

Benefits:

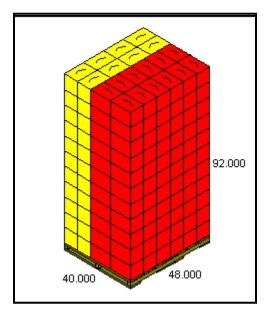
- ⇒ Good for heavyweight product
- \Rightarrow Storage
 - Maximizes storage density in RDC racking.
 - Maximum weight per pallet is 2500 lbs.
 - Efficient for RDC receiving.

Disadvantages:

- ⇒ Freight
 - Cannot double-stack pallets
 - Interior height of swing-door trailers is 110"

Optimal Pallet Load for Vendor Prepared Cross-Dock Product (VPXD):

- *** For this configuration please note following:
- ⇒ Slipsheets or separators are not needed because load will be shipped fully intact from RDC to Lowe's store



Dimensions:

⇒ Max 87" product height + 5" height of wooden pallet

Benefits:

- ⇒ Maximizes freight efficiency
- ⇒ Will fit inside roll-door trailers

Disadvantages:

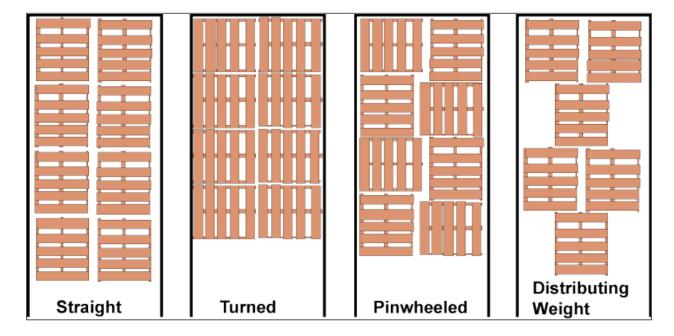
- ⇒ Not appropriate for heavyweight product.
- ⇒ Pallet may become unstable if top layers are too heavy.

NOTE: Please consult the LowesLink Vendor Prepared Cross-Dock Guidelines for additional information on VPXD

PALLET LOADING BEST PRACTICES:

Below are images of 4 common techniques for loading pallets into trailers. We'll discuss the benefits and disadvantages of each type.

In most cases, pinwheeled loading will be optimal for labor and freight efficiency.



Method	Description	Benefits	Disadvantages
Straight	Pallets loaded straight (in the direction of the pallet stringers) into the trailer or container.	Allows side by side loading (for 40" x 48" pallets) with extra space between the pallets and the trailer sidewalls Quickest method of loading pallets	 Worse cube utilization than turned or pinwheeled Least protection against load shifting
Turned	Requires the use of fourway pallets.	 Allows side by side loading of 40" x 48" standard pallets Better cube utilization than straight loading Better protection from load shifting than straight loading. 	 More labor than straight loading for loading and unloading Width of overseas containers and refrigerated trailers may restrict side-by-side loading
Pinwheeled	Combination of loading pallets straight and turned.	Best overall mix of cube utilization and stability Less labor than turning all the loads Good for tall stacks of mixed cartons (mix of dissimilar items in weight, size, and shape)	If vendor uses non-standard pallets, may not fit side-by-side in trailer.
Distributing Weight	 Best for ultra heavyweight, dense product (e.g. tile, nails, cement pavers) May require use of braces for spacing, or alternating side-by-side pallets with single pallets. 	Better weight distribution per axle Minimizes chance of shifting/freight damage	Worst overall cube utilization Not appropriate for programs with mix of weight out and cube out items

LOAD BRACING AND STABILITY:

- Vendors are required to load trailers so that the freight will ride safely to the destination.
- Load shift on Truckload volume shipments as a result of poor palletization, poor shrink-wrapping, or poor load bracing will be the responsibility of the vendor.
- Vendor is responsible for the cost of any load bracing devices used on Truckload shipments, including (but not limited to) load bars, air bags, and load latches. This applies to both Collect and Prepaid shipments to any Lowe's store or RDC.
- Drivers do not carry load bars and are not required to assist in loading.

FREIGHT OPTIMIZATION ON OUTBOUND SHIPMENTS:

Vendors can assist our efforts to reduce freight costs by monitoring outbound shipments on Truckload volume orders and notifying Lowe's of opportunities to improve trailer utilization.

Cube and Weight Based Constraints:

Lowe's Replenishment System builds **Truckload Volume** orders in accordance with cubic volume ("cube") and/or weight-based constraints.

Cubic volume for each item is calculated as follows:

Length (in inches) × Width (in inches) × Depth (in inches) 1728

- Replenishment Programs are established with a Minimum Constraint (the smallest volume that we will allow to be shipped for an order) and a Maximum Constraint (the largest volume that we can allow to be shipped for an order).
- ⇒ Once the order meets the Minimum Constraints, the Purchase Order will be created.
- ⇒ Maximum Constraints will vary based on the nature and characteristics of product.
 - Lowe's goal is 3000 cube per trailer
 - For non-stackable products, maximum cubic volume per shipment may be lower
 - For nested product, maximum cubic volume per shipment may be higher.
 - Due to highway regulations, Lowe's Maximum Weight Per Shipment is 44,000 lbs (for domestic TL shipments)
- ⇒ Vendors should collaborate with Lowe's to increase the maximum constraint as high as possible.

Points-Based Constraints:

Points constraints are used for programs that have a combination of weight intensive and cube-intensive items (*example: batteries and paper towels*). Vendors assign a points value to each item based on the quantity of that item that would fill up a truck entirely (either by weight or by cubic volume).

For example, if a package of batteries weighs 1 lb., the Truckload Qty is 44,000 (44000 lbs/1=44000). The package of paper towels is 4 cubic feet, so the Truckload Qty is 750 (3000 cube/4=750). Lowe's will assign a maximum point value (i.e. 1000 points) as the constraint and each item will be given a point value calculated as follows

- Maximum Point Value / Truckload Qty = Item Point Value
- Batteries → 1000/44,000 = 0.0227 Points
- Paper Towels → 1000/750 = 1.3333 Points

Accurate Truckload Quantity calculations are necessary to determine correct point value for each item. If you observe that trailers are not full and you are using a Points Constraint, please e-mail pictures of outbound loads to your Inventory Planner for review.

Best Practices:

Vendors should review outbound TL volume shipments to identify if there is opportunity to increase the trailer utilization. Below, we'll review some examples

Problem: Orders are TL volume and program uses a Cube constraint. Vendor observes space available for additional pallets at rear of trailer



Figure 4 - Before



Figure 5 - After

Suggested Improvement:

- Contact Inventory Planner to find out current Maximum Constraint
- Determine the amount of additional cubic volume that can fit on the trailer (e.g additional 8 pallets)
- IP will communicate changes to Lowe's Replenishment and establish first date for new maximum constraints to be used.

Problem: Orders are released within the optimal points range (950 to 1000 points), but there's a lot of empty space on the trailer



Figure 6 - Before



Figure 7 - After

Suggested Improvement:

- Validate Truckload Quantities for each item ordered as part of that program
- · Verify weight and cube of each item
- Work with the Inventory Planner to update the Points Values for each item

LOAD OPTIMIZATION SOFTWARE:

There are many freight optimization software packages available on the market today. These applications can generate valuable savings for vendors on both inbound loads (from your factories to your warehouses) and outbound loads (from your warehouse to Lowe's RDCs and/or stores).

- Utilizes data on individual Purchase Orders (item #s, carton dimensions, quantity ordered) to determine the optimal loading configuration for each trailer/container.
- The output is a loading diagram that can be shared with your Shipping Department to stage and load outbound shipments.

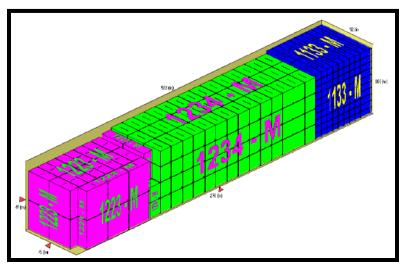


Figure 8 - Sample Output of Load Optimization Software

POOLED REPLENISHMENT PROGRAMS:

Pooled Replenishment Programs are a way for Lowe's to minimize freight costs by systematically combining orders for different types of products (e.g. Hardware, Tools, and Lighting) that vendor supplies from the same warehouse into one Purchase Order for each location that is Truckload volume.

Vendor Benefits:

- Reduces number of Purchase Order received
 - Minimizes administrative costs
 - Less congestion at outbound shipping docks
- · Reduces supply chain lead time so your product reaches stores more quickly
 - Truckload Transit Times are typically shorter than Less-Than Truckload Transit Times
- Helps the environment by reducing the total number of truck shipments on the road.

Vendor Requirements for Pooling:

- All items must be ordered under the same Vendor Business Unit (VBU number)
- Each program being pooled must have the same flow type (Stock, 1XD or VPXD). We cannot pool Stock and 1XD programs together.
- Each program must have identical payment terms (in Days) with Lowe's.
- Each program must have identical Vendor Processing Lead Time

If you ship multiple types of products to Lowe's from the same warehouse location, notify your Inventory Planner to evaluate if Pooled Replenishment is an option.

LOAD CONSOLIDATION:

If Pooled Replenishment is not an option, we encourage Freight Collect vendors to participate in the Load Consolidation Program. The Lowe's Truckload Load Planner combines your Less-Than-Truckload volume Purchase Orders to ship with Collect Purchase Orders from other nearby Lowe's vendors to make a Truckload Volume shipment.

Participating in the Lowe's Load Consolidation program is **easy** and **free** (no charge to vendors):

- Your Shipping Manager sends the Weekly Load Consolidation Form (see Appendix A) the Lowe's Load Planner 48 hours prior to Purchase Order Scheduled Ship Date.
- The Lowe's Load Planner will contact your Shipping Manager to advise of the combination plan.

To find out more about Load Consolidation opportunities, call the Transportation Hotline at 336-658-2222 and ask to speak with the Truckload Load Planner assigned to the state where your warehouse is located.

LOWESLINK VENDOR SHIPMENT STATUS APPLICATION

Lowe's encourages all Collect Freight vendors to sign up for this free software application available through LowesLink. Vendor Shipment Status (VSS) provides you with up-to-the minute info on how your shipments have been routed.

Using Vendor Shipment Status can help improve shipping performance and reduce Lowe's shipping costs:

- Allows vendors to see load tenders to carriers and carrier acceptance of loads you'll know which carrier will be picking up your freight and when they will arrive
- Enables you to communicate issues in a timely manner to avoid late shipments—delays at your warehouse, carrier delays, missed appointments, etc.
- Provides details of Consolidated Loads (pickup sequence, carrier acceptance of load, etc) see Appendix B for example

 Helps vendors determine whether loads should ship via Less-Than-Truckload Carrier or Truckload Carrier.

Vendors will need to register for a Digital Certificate on Lowe's Link to access Vendor Shipment Status

To register for Lowe's Link (and get a digital certificate) follow the steps below:

- 1. Go to www.loweslink.com
- 2. Click 'getting started' (in the upper left corner) and then 'register here'
- 3. Fill out the appropriate information
 - Request 'Vendor Ship Status' on step 2 (Other Applications can also be selected)
 - You will need your vendor number(s) during registration

Once you have a digital certificate you will be able to log in with the username and pass code that our Data Security team will send along through email.

Contact Transportation@lowes.com if you need additional assistance with the VSS Registration Process.

PREPARING SHIPPING DOCUMENTS:

Lowe's requires the following documentation to be included with every shipment:

- EDI Advance Ship Notice (ASN)
- Bill-of Lading
- Packing Slip

Refer to Domestic VPXD for RDC Shipments for additional shipping document requirements.

EDI Advance Ship Notice:

The Advance Ship Notice is a key EDI document that allows Lowe's to plan for the receipt of shipments from your company. The Advance Ship Notice provides Lowe's with shipment information such as:

- Actual ship date
- Estimated delivery date
- Carrier Information
- Items & Quantities Shipped

The carrier and actual ship date will be used by Lowe's to identify shipments that may miss their targeted delivery date as well as provide Lowe's with the number of shipments expected to deliver to a Lowe's location on a given day.

The EDI Advance Ship Notice also provides the actual shipped quantities by item which is used to expedite the receipt of product within Lowe's distribution and store locations. For more detail on Lowe's ASN requirements, please refer to the <u>Lowe's EDI ASN Implementation Guide</u>. This document also provides information on labeling pallets with the GS1-128 bar code and sending the pallet details in the EDI ASN.

Lowe's must receive timely ASNs. If you do not send ASN before shipment arrives, your shipment may be refused entry to the Lowe's RDC.

For help with EDI ASN issues, please contact the appropriate EDI Coordinator as listed on <u>Lowe's EDI Quick</u> Reference document.

Bill-Of-Lading (BOL) Requirements:

Freight Tender Requirements:

All collect and prepaid shipments must be tendered to the carrier in the actual ship/handling units they are loading regardless of an internal count of smaller units.

Palletized Freight -

- Must be tendered as "Said to contain # Pallets".
- Do not tender palletized freight as # of cartons

Floor-Loaded Loose Cartons (Unpalletized Freight)

• Must be tendered as " Said to contain # cartons"

Product Not In Cartons (Example: pipe, lumber, or rugs)

• Must be tendered as "Said to contain # loose pieces"

Mixed Loads (containing both palletized and unpalletized freight)

Example # 1: Load containing 10 pallets of freight plus 5 loose cartons

- Must be tendered as "Said to contain # pallets plus # cartons".
- Would be tendered as "Said to contain 10 pallets plus 5 cartons"

Example # 2: Load containing 10 pallets of pipe fittings plus 5 loose pieces of pipe

- Must be tendered as "Said to contain # pallets plus # loose pieces".
- Would be tendered as "Said to contain 10 pallets plus 5 loose pieces"

Bill Of Lading Format Requirements:

- Lowe's requires that all vendors use the VICS Bill of Lading.
- The VICS Bill of Lading standard format and documentation may be found on LowesLink.com or at www.vics.org.
- The bill of lading must clearly identify shipment contents and show all purchase orders included in the shipment.
- You must clearly identify our company name, the Lowe's location number (IE: "LOWE'S HOME IMPROVEMENT # 0489") and address in the consignee information on the bill of lading.
- Lowe's core carriers have adopted the VICS format. Core Carrier contacts can assist vendors with questions about VICS.

For Vendor Prepared Cross-Dock orders (multiple POs per Truckload), you must complete a Supplement to Bill of Lading that includes:

- List of all Purchase Order Numbers on that trailer
- Pallet Count for each Purchase Order
- Review the <u>LowesLink Vendor Prepared Cross-Dock Guidelines</u> for more information.

Packing Slip:

- Lowe's requires a legible, machine printed packing slip for all Purchase Orders (both Store and RDC shipments).
- If there are multiple Purchase Orders in a shipment, each PO must have a separate packing slip.

- The packing slip must be clearly located in a plastic "packing slip enclosed" pouch on the exterior of the first carton of each PO and visible to the loader.
- The packing slip must identify the Lowe's item number(s) in ascending numerical sequence, the Lowe's Purchase Order number, store number, model number, quantity and the shipper's name.

Packing Slip Best Practices:

- Always put the packing slip in a visible location on the last pallet that is loaded onto the truck since in most cases this will be the first pallet to be unloaded.
- Utilize a clearly marked envelope or pouch to put the packing slip in before attaching it to the pallet.
- Attach an additional copy of the packing list to the freight bill for each PO.
- Make sure all packing slips include the Lowe's item numbers. Your product cannot be received using only Model # or Serial #.

CONTACTS:

If you have any questions about the information in this document, please contact your Inventory Planner directly.

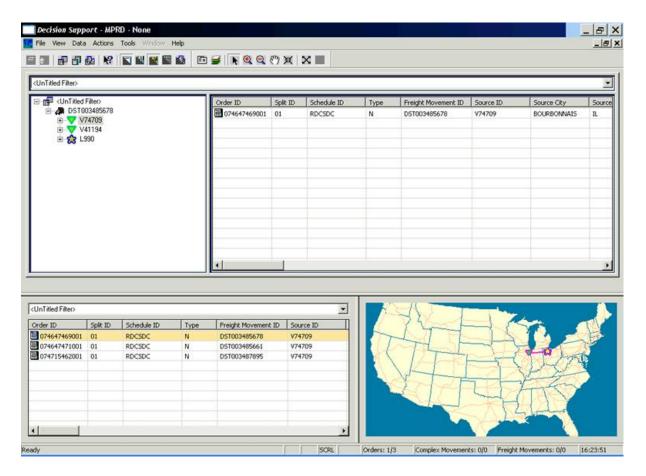
If you do not know the name of the Lowe's Inventory Planner for your program, you may e-mail VendorCompliance@lowes.com and they will direct you to the necessary contact.

Appendix A: Load Consolidation Form - Example

	Α	В	С	l D	E	F	G	l F
1	Vendor Name	В	C		Name of Shipping Manager		G	-
2	Warehouse VBU Number				E-Mail Contact			
3	Warehouse Address				Phone #			
4	City, State				· nono ::			
5								
				Total Shipment	Number of Pallets (# of	Floor Space (in	Stackable	
6	RDC#	RDC Location	P.0.	Weight	Skids)	linear feet)	(Yes/No)?	Date ready to
7	955	Mt. Vernon, TX						
8	960	Statesville, NC						
9	961	Pottsville, PA						
10	962	Valdosta, GA						
11	965	Cheyenne, WY						
12	966	Perris, CA						
13	990	Findlay, OH						
14	992	North Vernon, IN						
15	1419	Poinciana, FL						
16	1420	Garysburg, NC						
17	1421	Plainfield, CT						
18	1436	Lebanon, OR						
19		Rockford, IL						
20								
21			LATE					
22			Carrier Confi	mation				
23								

Figure 9 - Vendor completes spreadsheet weekly and sends to Lowe's TL Load Planner

If participating in Load Consolidation, vendors should contact <u>Lowe's Transportation</u> to request a copy of the Load Consolidation form.



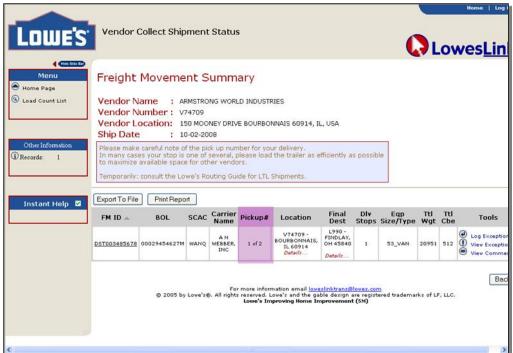
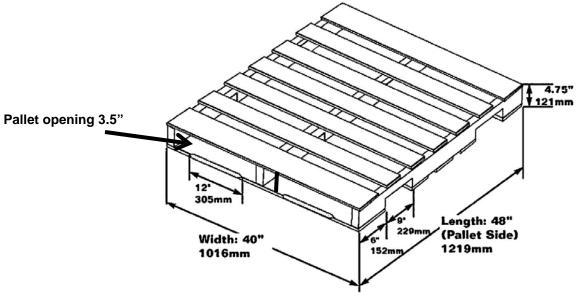


Figure 10 - This PO is scheduled for Pickup 1 of 2

Appendix C: Lowe's Pallet Specifications

Standard Pallet is GMA wooden pallet, 40" x 48", with 4-way entry required

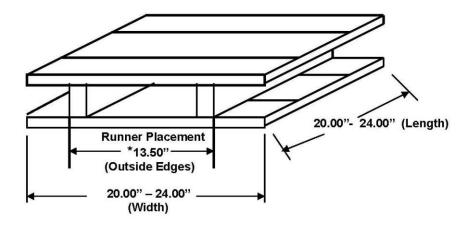
The construction of the pallet must be accessible for all forklift equipment to facilitate handling throughout the entire distribution process.



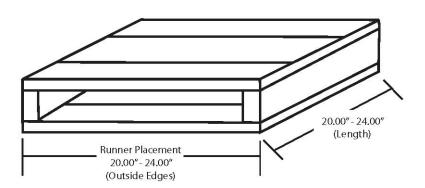
	• Length = 48.00 inches.		
Pallet Dimensions (L x W)	• Width = 40.00 inches.		
Pallet Style	Double Faced Non-Reversible		
• Entry	4-way entry only		
Lumber Specifications	Grade III and/or IV hardwood, clean sawn.		
Fastener Requirements	2.00 inch screw shank nails.		
	• Outer Boards (2) = 0.625 x 5.75 x 40.00 inches.		
Top Deck Boards (Minimum 7 per pallet):	• Inner Boards (5) = 0.625 x 3.75 x 40.00 inches.		
panet).	Space between boards: 3 inches (max.)		
	Outer Boards (2, preferably chamfered) = 0.625		
Bottom Deck Boards (Minimum 5 per Table 1)	x 5.75 x 40.00 inches.		
pallet)	• Inner Boards (3) = 0.625 x 3.75 x 40.00 inches		
Runners (3 runner per pallet)	• 1.50 x 3.50 x 48.00 inches.		
, , , , , , , , , , , , , , , , , , , ,	Pallet entry must be 3.50"		

Standard Mini-Pallet is made of wood, 20" x 24", with 2-way entry required

Standard Mini-Pallet Version (use for mini-pallets weighing less than 100 lbs)



Heavyweight Mini-Pallet Version (use for mini-pallets weighing more than 100 lbs)



Runner Spacing	13.5" apart, centered	Outside edge of mini-pallet	
Pallet Base (Bottom Deck Boards - 2 per pallet)	inches.	0.50 (min.) x 3.75 x 20.00 – 24.00 inches.	
	0.50 (min.) x 3.75 x 20.00 – 24.00		
Pallet Base (Runners - 2 per pallet)	1.25 x 3.50 x 20.00 – 24.00 inches.	1.25 x 3.50 x 20.00 – 24.00 inches.	
Pallet Top (Top Deck Boards - 4 per pallet)	0.50 (min.) x 3.75 x 20.00 – 24.00 inches.	0.50 (min.) x 3.75 x 20.00 – 24.00 inches.	
Fastener Requirements	1.625 inch screw shank nails.	1.625 inch screw shank nails.	
Lumber Specifcations	Grade III hardwood, clean sawn.	Grade III hardwood, clean sawn.	
Entry	2-way entry	2-way entry	
Pallet Style	Double-Wing, Double Faced Non-Reversible.	Double-Wing, Double Faced Non-Reversible.	
	Width = 20.00 – 24.00 inches.	Width = 20.00 – 24.00 inches.	
Pallet Dimensions (L X W)	Length = $20.00 - 24.00$ inches.	Length = 20.00 – 24.00 inches.	
	Standard Mini-Pallet	Heavyweight Mini-Pallet	

Important:

- The construction of pallet and placement of the runners must allow entry with all Lowe's handling equipment.
- Any deviation to the mini-pallet specification must be approved by the Lowe's Inventory Planner (IP) for Regular Replenishment items or by the Promotional Display Manager for Promotions/Sidestacks.
- No more than 1 inch of the pallet deck can be exposed on any side of the product (max 1" underhang)
- No more than 1 inch of overhang is permitted on any side of pallet deck

Appendix D: Lowe's Pallet Quality Requirements

Quality Requirements for New, Repaired and Remanufactured Pallets:

Lowe's accepts only Grade A or Grade B pallets. Grade C pallets are unacceptable for shipment to Lowe's stores or Distribution Centers

Grade A Pallet Definition and Example:

Definition:

- Pallets may have stringer metal plate repairs, but no companion member repairs.
- Deckboard repairs are acceptable, but top and bottom leadboards are nominal 6 inches wide.

Side View: No plugs used



Top View - Must have 7 or more top deck boards in good condition



Bottom View – Must have 5 or more bottom deck boards in good condition



Grade B Pallet Definition and Example

Definition:

- Pallets with one full length or half-length companion member (stringer) per opening, and a maximum of two per pallet.
- Metal plate repair and all deck board repairs are acceptable.

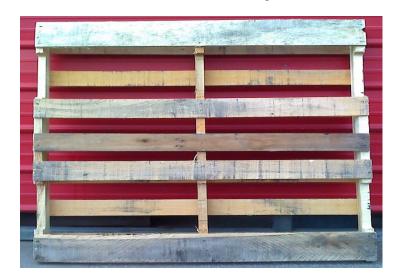
Side View: Up to 2 plugs are acceptable, but cannot be in the same fork gap



Top View – Must have 7 or more top deck boards in good condition



Bottom View - Must have 5 or more bottom deck boards in good condition



Grade C Pallet Definition and Example

GRADE C PALLETS ARE NOT APPROVED FOR SHIPMENTS TO ANY LOWE'S STORE OR DISTRIBUTION CENTER

Definition:

- Pallet does not have 7 top deck boards
- Pallet does not have 5 bottom deck boards
- Deck boards are broken
- Runners are broken
- Shipments arriving on Grade C quality or any other unacceptable pallet may be refused and returned to vendor at vendor's expense for proper palletization.



Technical Definitions:

- New -- pallets manufactured of new, unused lumber, cants, or parts.
- Repaired -- "Used" pallets, or pallets that have supported at least one unit load, been recovered, repaired if necessary, and returned to the marketplace. Deckboards and stringers may have been renailed, repaired, or replaced.
- Remanufactured -- pallets manufactured of parts salvaged from disassembled, used pallets.
- **Replaced stringer** -- removal of damaged stringer and replacement with a full length new or used stringer. Top and bottom deckboards were nailed to replace stringers.
- Full companion stringer -- full length (approx. 48 in) new or used stringer placed adjacent to the damaged stringer. Top and bottom deckboards were nailed to the companion stringer
- Half companion stringer -- half length (approx. 24 in) new or used stringer segment placed adjacent to the damaged stringer and connected by nailing the applicable top and bottom deckboards to the half stringer
- Plug -- any wood companion shorter than a half stringer or any unnotched block placed adjacent to the damaged stringer and connected by nailing the applicable top and bottom deckboards to the plug
- Metal plate -- similar to metal plates used in the roof and floor truss industry.

Date	Author	Change Description & Location	Document
6/21/2013	Steve Coyne	Added, "• Maximum weight per pallet is 2500 lbs." to several places in the document.	5d. Pkg - Domestic Palletization and Shipping Guidelines 05- 27-13.pdf

3/13/2014	Steve Coyne	Update document to show 3.50" opening requirement for pallets