Powin

Supplier Production Labeling & Packaging Guidelines

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I. INTRODUCTION

SUBJECT

Specification for packaging and labeling of product sent to Powin.

SCOPE

This specification provides guidelines for product, content, and company identification of parts and materials sent to Powin.

IMPORTANT INSTRUCTIONS

- Powin purchase order number shall appear on all packages, invoices, shipping papers, and correspondence.
- BOL Shall accompany each shipment.
- A packing list shall be attached to every box shipped that is not part of a pallet unit load. All boxes shipping Parcel shall have a packing list attached to every box.
- Every single pallet shipment shall have a packing list adhered to the outer most packaging. The packing slip shall accurately identify all contents on that pallet. If there are multiple pallets in the shipment, each pallet shall continue to have its own packing list that accurately identifies the contents on each individual pallet.
- Packing List shall include Powin part number, description, quantity, PO #, ship date, and supplier name, number, & part number.
- Packing slips shall be housed in a durable plastic pouch adhered to the outside of the box. Packing list shall NOT be inside the box.
- Invoice line items shall reference Powin part numbers to be paid.
- All shipments shall be identified with Powin part and revision number.
- The Powin Standard Barcoded Container Label shall be applied to every container shipped (The Standard Label to be used is specified in Section III-Labeling). The Container Label shall be used when a single container holds identical part numbers.
- The Powin Barcoded Master Label shall be applied to every unit load shipped that consists of containers that are identical part numbers or the same item (The Standard Label to be used is specified in Section III-Labeling).
- The Mixed Label shall be applied to every unit load shipped that consists of containers that are multiple part numbers or unlike items (The Standard Label to be used is specified in Section III-Labeling).
- All new or modified packaging will require completion and submission of the Packaging Data Form which can be found in the attachments section.
- Supplier shall verify their part number matches part number and revision number specified on a Powin drawing, if not, you shall contact buyer to modify Powin drawing prior to shipping.

IN THIS DOCUMENT THE WORD "SHALL" INDICATES A REQUIREMENT AND THE WORD "SHOULD" INDICATES A RECOMMENDATION.

CORRECTIVE ACTIONS

Any supplier not conforming to any requirement stated in this document is at risk of being assigned a corrective action. Powin has the right to refuse any shipment for reasons of safety, nonconformity or being shipped to the wrong location and impose a fee for labor and administrative costs.

II. PACKAGING

GENERAL INFORMATION

This document details the minimum acceptable packaging requirements for purchased components used at Powin facilities. The principal objective of these requirements is to guarantee part quality, maximize production efficiency, ensure safety and minimize overall packaging and transportation costs.

Adherence to the requirements of this specification is necessary to minimize shipping damage, streamline Powin's receiving process and reduce costs.

Packaging development requires partnership. It can only function as intended when both supplier and customer work together from proposal through implementation. It is crucial that both parties adhere to authorized packaging. The key to a successful packaging solution is open two-way communication.

Consideration should be given to eliminating all unnecessary packaging materials wherever possible. A priority should be placed on reducing dunnage, while maintaining proper integrity of every part.

Powin requires that each supplier pack per the Purchase Order requirements for Standard Pack Quantity and container identified for each part number shipped.

All packaging "modifications" or "new" proposals require authorization using the Powin Packaging Data Sheet See example of form, Attachment 3 in Section V. Note: Powin Packaging guidelines do not apply to Commercial Off the Shelf (COTS) items.

The first delivery of a new or modified packaging (returnable or expendable) must be approved by a Powin Logistics or Purchasing Representative. Suppliers shall provide packaging dimensions (L x W x H) and weight, and work with your Powin contact or buyer to establish appropriate packaging. To ensure that all packages and shipments will reach their intended point of use without damage to parts, all packages must be lab tested under simulated real-life conditions and / or the actual shipment environment.

- Package Concept and Final Design must be approved by all parties.
- Parts will be packed and sent to appropriate plant with the "Test Pack" form attached.
- Once approved, any deviations must be submitted for further authorization.

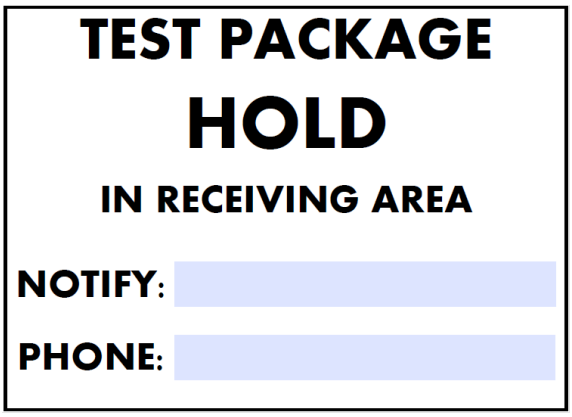


Figure 1: Test Package

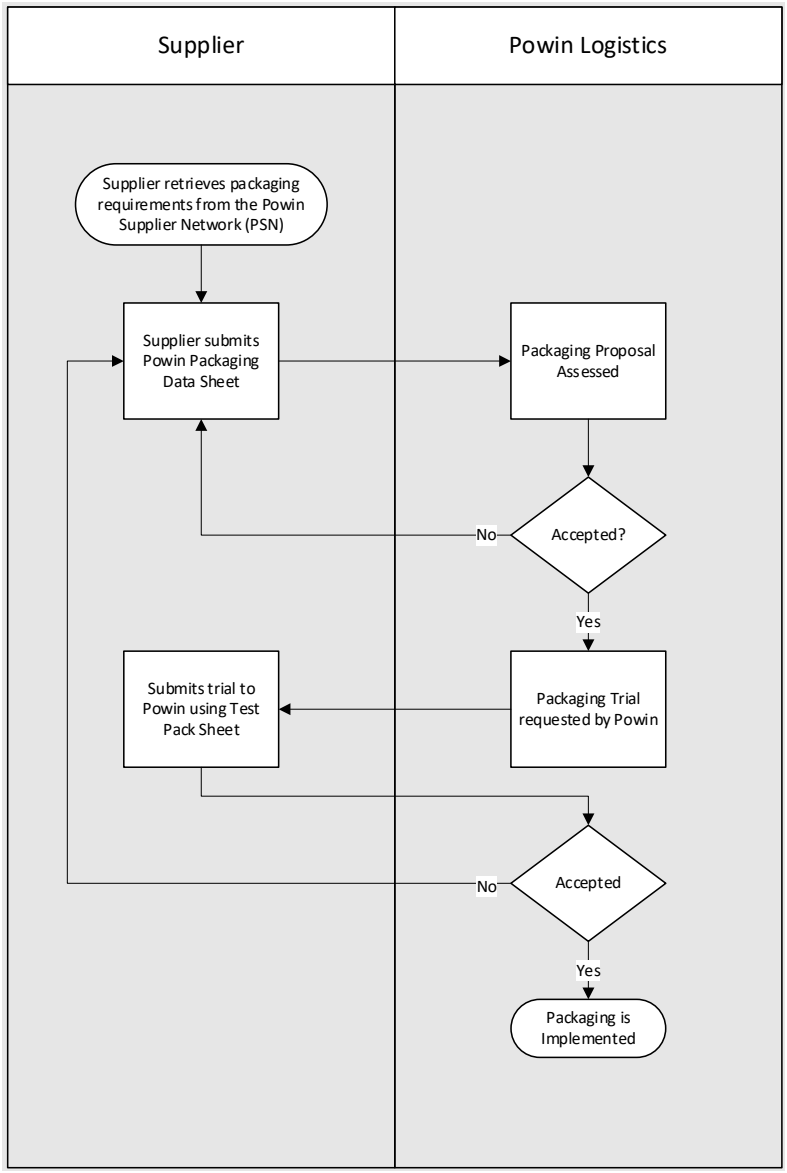


Figure 2: Packaging Authorization Flow Chart

QUOTING

The decision to use expendable or returnable packaging for parts is a consideration of many factors such as safety, quality, and cost. To aid in the decision-making process, suppliers should quote the part cost using both expendable and returnable packaging and record the container size and density assumptions made while quoting. If a returnable container alternative is not defined, then the price quoted would simply be the item cost minus the expendable packaging. At the time of each bid, suppliers of materials to Powin will detail proposed packing on the Request for Quotation submitted to the appropriate delegated Powin buyer. On an exception basis, the buyer, or responsible Supply Chain Manager, may request more complete packing data. This is done by requesting the supplier to furnish information in enough detail to permit evaluation of the packing and shipping method. If multiple parts are intended to be sold as a kit, then the individual components of the kit cannot be sent in separate bulk packaging. All components must be pre-kitted into one package and quoted to do so.

SUPPLIER RESPONSIBILITIES

It is the shipper's responsibility to:

1. Ensure their packaging methods and materials comply with all applicable laws and regulations. This is especially important for materials classified as hazardous or dangerous.
2. Ensure shipments are packaged in a manner such that the containers and their contents arrive at the destination free from damage.
3. Ensure shipments are economically packaged in a manner that minimizes adverse effects on the environment and solid waste.
4. Ensure export shipments are packaged, labeled, and marked in compliance with Powin guidelines.
5. Ensure packaged products meet or surpass the minimum Powin requirements as defined by this document.

RETURNABLE PACKAGING

Returnable containers are intended to be used repeatedly and frequently and have proven to be the packaging of choice for Powin. Their success as cost effective packaging depends on how well they are cared for, controlled, and returned to be used. Powin owned returnable packaging shall not be used for the shipment or storage of non-Powin owned parts.
Factors used in choosing a returnable package:

- Initial costs
- Facility/equipment constraints
- Repair costs
- Transportation costs
- Standardization
- Return ratio
- Location of suppliers
- Handling costs
- Cleaning
- Environmental concerns
- Product protection
- Administrative costs
- Visual inventory management
- Ergonomic issues
- Volume

Returnable packaging shall be used when it is cost effective or when it is needed to meet specific objectives. When returnable packaging is not justifiable or feasible, environmentally friendly materials (recyclable) shall be used. If returnable packaging is required, suppliers shall be responsible for storing returnable packaging at their site.

Management of returnables and transportation logistics are performed in the most cost-effective method compatible with delivery requirements.

IMPLEMENTING RETURNABLE PACKAGING

Several factors influence the selection of a returnable container: Item complexity, materials, quality, labor, freight, cleaning, disposal, and tooling costs. Once a part is selected for returnable, or in some cases, prior to the part being selected, a returnable solution must be designed and the start up or transition to the returnable needs to be implemented properly. A supplier shall only ship in a returnable when authorized to do so by Powin. The returnable containers shall also only ship to Powin locations that are designated by the Logistics or Purchasing Representative.

RETURNABLE PACKAGING-POST IMPLEMENTATION

Powin expects suppliers to proactively support and participate in actions to assure that the following conditions always exist when returnable packaging is utilized:

1. The supplier ships in the standard pack quantity and container that has been authorized.
2. Management of returnables and transportation logistics are performed in the most cost-effective method compatible with delivery requirements.
3. An established minimum number of containers are available at the supplier's location when they are needed.
4. Whenever back-up packaging is used, your Powin Logistics or Purchasing Representative shall be notified prior to shipping with an explanation.
5. Parts must arrive at Powin without damage, rust/corrosion, or contamination.
6. Powin owned packaging shall not be used for storage and shipment of non-Powin owned parts.

In addition, suppliers are expected to notify Powin immediately if containers are returned

to the supplier:

1. With supplied direct materials (parts) inside.
2. Not properly identified (e.g., incorrect address).
3. Without the full complement of returnable packaging components in the correct proportions (e.g., no lids, or more lids than totes).
4. With trash, dirt or other foreign materials inside.
5. Not properly prepared for safe transport (e.g., totes are banded or stretch wrapped to the pallet versus being stacked loosely).
6. At a lower return rate than full packs being shipped to Powin.

SECURITY DEPOSITS AND LABELING

The owner, shipper, or receiver is responsible for their own returnable containers. Security deposits are subject to agreement and are valid only with the approval of the appropriate delegated Powin Buyer and the Materials Manager of the receiving location.

All supplier owned returnable containers, racks, trays, totes, etc. must be clearly labeled with the supplier's name, return address and the supplier's container identification number. Suppliers should not mark directly on any Powin owned returnable containers. Shipping instructions or other tags and labels

should be affixed, and “placards” utilized so that they can be removed with minimal effort. These removable documents should not be placed over the permanent container identification information.

BACK UP PACKAGING

In order to accommodate container shortages, a sufficient supply of backup expendable packaging shall be maintained. Backup packaging shall simulate the returnable container and maintain the same dimensions, function and pack quantity while complying with all expendable packaging requirements.

OBSOLETE CONTAINERS

Powin is responsible for disposition of all Powin owned returnable packaging materials. Suppliers who have any obsolete dunnage or containers at their facility should contact their appropriate Purchasing Representative. Disposition of Powin assets is strictly prohibited without prior authorization.

Powin supplies our line side production for most parts in small lot bins. Small lot bins shall be shipped on a standard size pallet in a layer that completely fills the footprint of the pallet. Empty bins may be used to fill voids if needed.

EXPENDABLE PACKAGING

Although Powin utilizes an increasing amount of returnable packaging, a great deal of expendable packaging continues to be used. When designing an expendable container that will be the primary pack for the production part, an expendable standard box size should be utilized if possible. When designing the back-up expendable packing it is necessary to use the same dimensions as the returnable container and maintain the same quantity per container.

PALLETS

This specification provides requirements for type, construction, and materials of the standard Powin 40" X 48" pallet for US-based operations and the Euro 1200 mm x 800 mm pallet format for its European (EU-based) operations. This pallet if preferred and should be used whenever specified by Powin. A suggested pallet construction drawing is available, see Attachment 2 located in Section V. Forms for Reference.

Pallet Types	
	
Stringer Style (Preferred in the U.S.)	Euro Style

Figure 3: Pallet Types

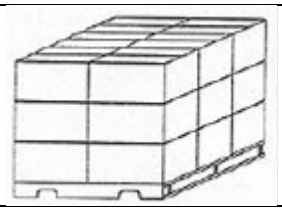
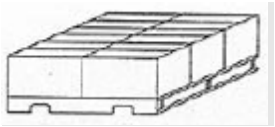
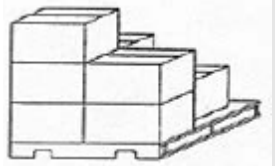
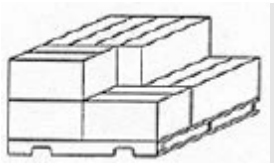
Stacking Configurations	
	
Acceptable (preferred)	Acceptable (preferred)
	
Unacceptable	Acceptable (not preferred)

Figure 4: Stacking Configurations

PALLET SPECIFICATIONS

- All pallet shipments should allow freight to be double stacked in trailers if possible
- Pallet must be built to withstand the weight of parts shipping on it
- Deck boards are required on bottom of pallets
- 90% of the pallet surface should be used and no overhang of boxes. Overhang of products shipping on a pallet or rack is only allowed through Powin Logistics approval.
- All pallets shall be assembled with a minimum 2 ¼" (57.15 mm) long screws or shanked nails
- All edges shall be flush
- Deck boards and stringers shall be free of large cracks, splinters, and loose nails
- Spacing between top deck boards must be sufficient to adequately hold product on the pallet
- 2 5/8" (66.675 mm) of space is required for forklift placement
- Stringers and deck boards shall be made of dense hardwood or pine
- Height from top of stacked material to floor (to include pallet) is not to exceed 53" (1346.2 mm)
- 4-way entry pallets/crates are required. 2-way entry pallets are acceptable only with Powin approval.
- Block style pallets are also acceptable if pallet construction meets the standards defined by:

National Wooden Pallet/Container Association:

1800 North Kent Street Suite 911
Arlington, VA 22209-2104
(703) 527-7667
www.nwpca.com – General Website

Maximizing pallet space (area efficiency) is solely determinant upon the container arrangement (box erection/layout). Selecting the correct number of cases per pallet and choosing proper pallet layout determines the unit load efficiency.

Column vs. Interlocking: Determining which type of pallet pattern is correct for the container needed:

Column stacking method pros:

- Common central load point keeps the pallet stable, and containers balanced.
- Proper container placement to maximize pallet load capabilities.
- Less time-consuming pack-out operation.

Interlocking stacking method cons:

- When set-up improperly, interlocked boxes do not take full advantage of pallet load strength.
- Placing oblong containers in separate directions reduces pallet stability.
- More Complex pack-out methods could increase labor time

Standard Specified Pallet Dimensions for Powin			
North America (inches)		Europe (mm)	
E0007	40 x 48	DIN 15141-part 4	1200 x 1000
E0008	30 x 32	DIN 15141-part 2	1200 x 800
E0009	40 x 32		
E0010	40 x 62		
E0011	72 x 48		
E0012	96 x 48		

Figure 5: Standard Pallet Dimensions

ISPM 15 SOLID-WOOD PACKING REQUIREMENTS (SWPM)

All shipments from international origins shall comply with the International Standards for Phytosanitary Measures (ISPM) 15 if they contain any solid-wood packaging. This requires that all wood packaging material must be heat-treated at a core temperature of 56 degrees Celsius for a minimum of 30 minutes. This regulation eliminates the presence of pests found in wood. ISPM 15 standards should be followed for all international shipments. All pallets shipped to an Powin warehouse location are required to follow ISPM 15 for both international and domestic shipments. Exceptions only allowed after prior approval from a logistics or purchasing representative.

All imported solid wood packing material shall depict an IPPC mark. Additionally, a statement shall be present on the commercial invoice or bill of lading/air waybill to the effect that the shipment contains either no solid wood packing materials or that it complies with all ISPM 15 requirements. Additionally, be conscientious about what country the solid wood packing material is imported as some countries have very stringent requirements such as:

- European Union countries – SWPM cannot contain any bark
- Chile – SWPM cannot contain any bark
- New Zealand – SWPM cannot contain any bark
- Indonesia – SWPM cannot contain any bark or soil. Additionally, the shipment must be accompanied by a packing declaration and a valid copy of the manufacturer's fumigation certificate
- Australia – All shipments, whether or not they contain SWPM, must have a completed Packing Declaration
- China-ISPM Stamp must be in black ink

** Note that the list of the above nuances is neither all-inclusive, nor exhaustive and the import requirements of a country as far as SWPM should be checked periodically.

SWPM made entirely of manufactured wood material (e.g., particle board, plywood, oriented strand board) or SWPM made entirely of thin pieces of wood (6mm or less) is exempted from the treatment and marking requirements.

In accordance with IPSM 15, the below International Plant Protection Convention (IPPC) mark must be indelibly affixed on at least two sides of each SWPM article.

Starting November 1, 2017, USCBP may issue penalties under Title 19 United States Code (USC) § 1595a (b) or under 19 USC § 1592 to responsible parties who are in receipt of a documented Wood Packing Material violation. Any penalties received from USCBP by Powin will be immediately billed back to the responsible supplier.

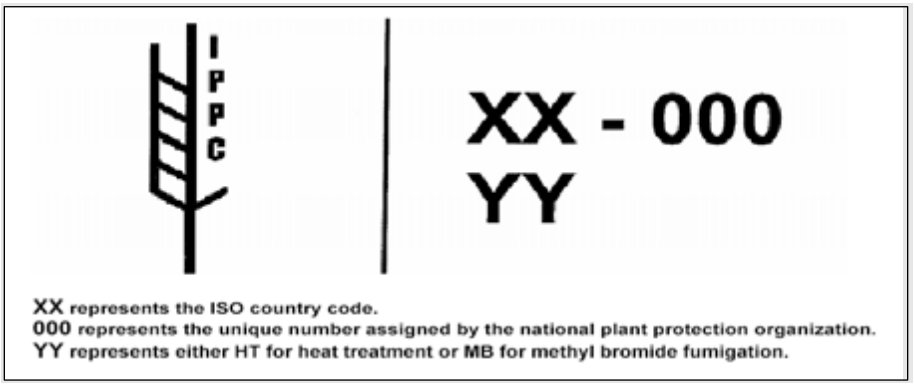


Figure 6: IPPC

All second- hand used pallets must also meet all required Powin Pallet Specifications.

BOX SELECTION

Corrugated (paper fiberboard) packaging material must have strength to adequately withstand transportation and handling rigors from the supplier's shipping dock to Powin's receiving dock. Corrugated material must have adequate ECT or burst test strength to protect the product.

Factors in Selecting Box Size:

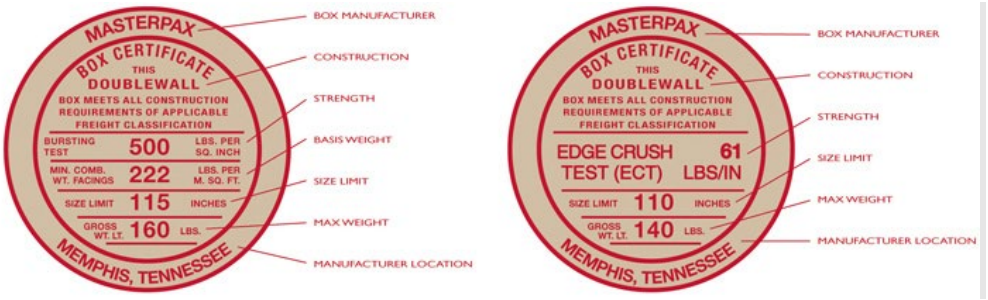
- Part Dimensions: best fit box to part
- Part Weight: ergonomic limit for handheld boxes is 35 lbs. / 15.87572 kg and any UPS single box shipment.
- Part Quality: partition cells, wrap, and/or cushion material as required
- Virgin vs. Recycled material. Corrugate boxes should contain more than 30% recycled fiber.

BOX STRENGTH

All cartons should be made from at least single-wall corrugated; double-wall corrugated will be specified for large, heavy parts. All corrugated boxes shipped to Powin shall be tested by either the Mullen Burst or Edge Crush Test methods. Handheld boxes shall have a minimum ECT performance of 32 ECT or Mullen Burst of 200 lbs. Non-handheld corrugated boxes used shall have an ECT or Mullen performance

that corresponds to the carton content's weight. The flute direction of the outer carton should always run vertically.

All received containers must have a visible Box Maker's certificate on them as shown below:



POWIN STANDARD CORRUGATED BOXES

	E0001	E0002	E0003	E0004	E0005	E0006
Inside Length	9 in. / 228.6 mm	12 in. / 304.8 mm	20 in. / 508 mm	36 in. / 914.4 mm	30 in. / 762 mm	48 in. / 1219.2 mm
Inside Width	5 in. / 127 mm	10 in. / 381 mm	12 in. / 304.8 mm	14 in. / 355.6 mm	30 in. / 762 mm	40 in. / 1016 mm
Height	5 in. / 127 mm	6 in. / 152.4 mm	8 in. / 203.2 mm	10 in. / 254 mm	16 in. / 406.4 mm	36 in. / 914.4 mm
Handheld Corrugated Boxes (RSC Preferred) 35 lbs. weight limit for E0001-E0004. E0005-E0006 shall ship on a pallet.						

Figure 7: Corrugated Boxes

Powin Standard Corrugated Boxes used for shipping can be within a tolerance of +/- 3" in length, width and height. It is the responsibility of the supplier to choose a container within these tolerances that will accommodate the Standard Pack Quantity designated on the Powin Purchase Order.

EXPENDABLE PACKAGING MATERIALS

Returnable packaging is not always a feasible option for various reasons. When valid expendable packaging is allowed these are the materials that are preferred and non-preferred. This list is not all-inclusive and is not limited to only those materials listed.

Preferred packaging materials:

- Air cushioning bags
- Biodegradable bubble wrap
- Cellulosic paper
- Molded fiberboard/paperboard
- Polyethylene
- Preferred exterior packaging materials for shipping containers:
- Banding
    - Plastic or non-metallic is preferred when it meets project needs and is economically sound.

    - Metal banding has caused reoccurring injury and is not the preferred method. Metal banding may be used on certain products only with Powin Logistics approval.
    - Cross banding is required for parts shipping directly on a pallet with no shipping container.
- Corrugated cartons
- Pallet (in standard sizes)
- Wooden crates
- Plastic Material Requirements
    - All plastic bags used for shipping must be clear to aid in recycling. Tinted/Foil bags may be used only when damage from light may occur or for Electrostatic Discharge (ESD) protection. For Powin Defense shipments parts must be bagged in specific quantities and bag sizes within a master carton determined by Logistics or PFEP Specialist. ESD packaging should be moisture resistant and desiccant should be added.
    - Clear stretch or shrink wrap that is Plastic #4 LDPE (Low Density Polyethylene) shall be used. Tinted stretch or shrink wrap should only be used if the part within the package requires a tinted material to sustain the quality of product inside.

- Packaging materials that are not allowed
    - Loose-fill (packing peanuts)
    - Foam-in-place (Allowed at Aftermarket locations only)
    - Starch-based packaging materials
    - Rice paper (yellow corrugated)
    - VCI Materials
    - Metal Clamps (only with Logistics approval)

STANDARD PACK QUANTITIES

The Standard Pack Quantity and Container specified on a Purchase Order shall be followed as the designated packing instruction for purchased parts shipping to Powin. If a supplier is shipping to an external party, such as a painter, Standard Pack Quantity and Container specifications need to be communicated to that party who is shipping the final product to Powin.

PART PROTECTION AND INTERIOR DUNNAGE

Parts being packaged with painted, machined or grade A surfaces will require special consideration when packaging is designed. Special attention will be given to the protection of critical machined surfaces, seals, flanged, bearings, gears, specially formed thin sections, and contoured surfaces. These materials can easily be damaged in transit by nicks, scratches and/or dents which impair their function. Dunnage may be required to prevent movement within a container. Interior corrugate, polyethylene and/or polystyrene inserts may be used to support the part and minimize part movement. Corrugated partitions or dividers may be required to provide cells for fragile items.

ESD PACKAGING

Handle ESD sensitive (ESDS) products only in an ESD Protected Area (EPA). Keep all conductors (including persons) on the same potential. Remove all "common" (charge generating) plastics from the EPA. Neutralize electrostatic charges on essential insulative materials by using ionization. Surround all ESDS with ESD safe packaging materials, except when they are being actively worked on.

Moisture sensitive electronic components and devices, including bare PCBs, for future soldering shall be packed in moisture barrier bags (not normal plastic bags or ESD bags) with sulfur free desiccant sufficient to keep humidity below 20% and a HIC card. MSL level shall be indicted.

Parts that are only ESD sensitive and not moisture sensitive, including finished PCBAs, shall be packaged in an ESD bag or equivalent packaging with appropriate outer padding and protection. For routine shipments, returnable ESD packaging should be considered per other sections of this document.

SAFETY AND ERGONOMICS

All containers and packaging must be designed with consideration given to ergonomics and ease of part removal. Appropriate consideration must be given to unit load height and weight restrictions, carton disassembly and other requirements which may affect ergonomics and worker safety. All items that are packaged with the intention to be manually lifted should not exceed 35 lbs. This 35 lbs. limit will also apply for any product being shipped on the same pallet as part of a mixed load as they will be manually handled.

HAZARDOUS MATERIALS

All suppliers and/or shippers are responsible to comply with all applicable international, national, federal, provincial, state or local laws and regulations for packaging hazardous materials (packing, marking, labeling, describing and certifying). U.S. Federal regulations including:

- Hazardous Materials Regs (CFR Parts 100-177)
- Hazardous Materials Regs (CFR Parts 178-199)
- To see latest OSHA requirements, visit: https://www.osha.gov/dsg/hazcom/
- Hazard Communication Standard-Labels and Pictograms: https://www.osha.gov/Publications/OSHA3636.pdf

GLOBALLY HARMONIZED SYSTEM:

While GHS adoption is optional, once a country adopts the standard as the U.S. has and as other countries are doing, the GHS standard becomes legally binding. In the U.S., fines due to non-compliance can range from $100-500,000 and many states are also beginning to adopt state level standards based on GHS as well. To learn more about this standard we ask that you familiarize yourself with the various resources on the United Nation's GHS website. We have provided the link to that website:

- http://www.unece.org/trans/danger/publi/ghs/ghs_welcome_e.html

For additional information about the international adoption of the GHS standard, please visit the following website:

- http://www.unece.org/trans/danger/publi/ghs/implementation_e.html

III. LABELING SPECIFICATIONS

The label design is based on the Automotive Industry Action Group (AIAG) standard for shipping/parts identification (AIAG-B-10).

LABEL SIZE

The minimum label size should be 4.0" (101.60 mm) high by 6.0" (152.4 mm) wide. The width may be as large as 6.5" (165.1 mm) to accommodate data requirements (Label examples shown in this document are not labels that are to scale).
Building block height shall be 1.0 inch +/-0.2 inch as determined by the printing capability of the labeler.

LABEL COLOR

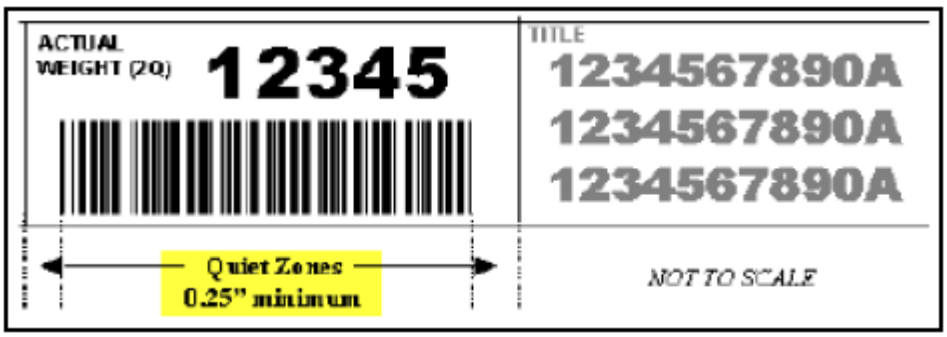
The label should be white in color with black printing.

LABEL PROTECTION

Label protection against moisture, weather, abrasion, etc., shall be required where needed. Examples include laminates, sprays, window envelopes, and clear plastic holders. Label protection should not impair the ability to read or access labels. Adhesive types can be pressure sensitive or dry gummed as long as adherence to the package is assured and application is wrinkle-free. If the label cannot be attached to the package/container because of container size or design, special arrangements will be required and something such as a tag shall be used.

QUIET ZONES

In order to function properly, bar code-reading equipment must have areas called quiet zones. Bar code symbols shall have leading and trailing quiet zones with a minimum width of 0.25” (6.35 mm) each.



BAR CODE SPECIFICATIONS

It is the responsibility of the supplier to provide barcoded labels that meet these requirements.

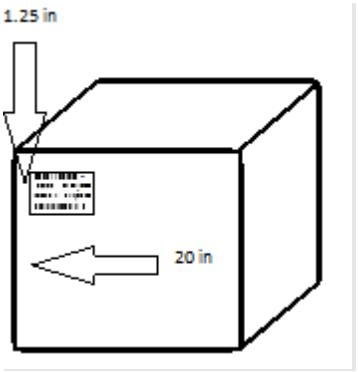
Bar codes shall be type 3-of-9 (Code 39). These requirements excerpted from AIAG Standard B-10 “Trading Partner Labels Implementation Guideline”.

- Code Configuration: The following characters which are part of the Code 39 symbology shall not be used: $ / + %
- Check Digits: Check digits shall not be used.

- Code Density and Dimensions: The bar code height should be at least .5" (12.7 mm). The average width of the narrow elements shall be between .013 (0.3302 mm) and .017 (0.4318 mm) inch. The ratio of the average width of the wide elements to the average width of the narrow elements shall be between 2.8:1 and 3.2:1.
- The leading and trailing quiet zone shall be at least 0.25" (6.35 mm).
- Reflectivity and Contrast: The printed bar code symbols shall meet the requirements as set forth in AIAG-B-10.

LABEL PLACEMENT

The bottom edge of the label should be parallel to the base of the package on any container. To make scanning of the bar codes easier, the bar codes should be 20" (508.00 mm) from the bottom of the package on large containers. Labels should be placed no closer than 1.25” (31.75 mm) from the left container edge on the shipping container. Sealing tape, shrink-wrap or bands shall not be placed over the label. Special arrangements are required where package/container design or size prevents conforming to the above requirements.



At a minimum, the part number, revision (if applicable), quantity, purchase order number, and serial number (if applicable) shall be included on each label in the designated data areas and shall be displayed in both human readable characters and bar code symbols. If available, include the Country of Origin, supplier address, mfg. & ship date field are text only requirements and shall be included on each label in the designated areas.

Location is required for the Tualatin Warehouse only. For all other business units and locations this field can be left blank. Serial Number is only required for certain items by Powin request and can otherwise be left blank at this time. Building block height shall be 1.0 inch +/-0.2 inch as determined by the printing capability of the labeler.

This label is based on AIAG-B-10 standard labeling.

Part Number
Block Title: PART NUMBER (P)

Ship Date
Block Title: SHIP DATE (SD)
Data: Month/Date/Year
Max Length: 10 characters
Text Size: 3 LPB-Min. 0.2” high (5.08 mm)

Barcodes
All barcodes shall be min. 0.5” high (12.7mm)
Text Size: 3 LPB-Min. 0.2” high (5.08 mm)
Barcode symbol shall be directly below human readable characters in each block

Purchase Order Number
Block Title: P.O. (K)
Data: Powin assigned number
Max Length: 12 characters
Text Size: 3 LPB-Min. 0.2” high (5.08 mm)

Location (Only Required for Tualatin Warehouse)

Data: Powin assigned part number
Max Length:16 characters
Text Size: 2 LPB-Min. 0.5” high (12.7mm)

Quantity
Block Title: QUANTITY (Q)
Data: The number of parts being shipped
Max Length: 6 characters
Text Size: 2 LPB-Min. 0.5” high (12.7mm)
Unit of Measure shall always be included
Unit of Measure placed direct to the right of quantity
Min. 0.2” high (5.08 mm)
Unit of Measure not to be barcoded

Supplier Number
Block Title: SUPPLIER (V)
Data: Designated supplier number assigned by Powin
Max Length: 9 characters
Text Size: 3 LPB-Min. 0.2” high (5.08 mm)

Serial Number (Only applicable to Certain Items)
Block Title: SERIAL (S)
Data: Unique within a 12-month period, assigned by the supplier
Max Length: 9 numbers (only last 5 will be recorded)
Text Size: 3 LPB-Min. 0.2” high (5.08 mm)

Block Title: LOCATION (L)
Data: Delivery location of the part assigned by Powin
Max Length: 9 characters
Text Size: 3 LPB-Min. 0.2” high

MFG Date
Block Title: MFG DATE (MD)
Data: Month/Date/Year
Max Length: 10 characters
Text Size: 3 LPB-Min. 0.2” high (5.08 mm)

Country of Origin
Block Title: COUNTRY OF ORIGIN (CO)
Data: Country Product is Made in
Max Length: 10 characters
Text Size: 3 LPB-Min. 0.2” high (5.08 mm)

Revision
Block Title: REVISION (R)
Data: Powin Assigned Part Revision
Max Length: 2 characters
Text Size: 2 LPB -Min 0.5” high (12.7mm)
Barcode Size: Min. 0.5” (12.7mm)
Shall be directly below human readable characters

Supplier Name
Data: Supplier name, city, state, and zip code
Text Size: 0.1” high (2.54 mm)
Shall be directly below the serial number bar

Standard Barcoded Container Label

The Powin Standard Barcoded Container Label shall be applied to every container. The Container Label shall be used when a single container holds identical part numbers. The label should include all the information found on page 17 in the format shown here.

Master Label – Multiple, Common Item Packs

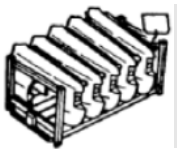
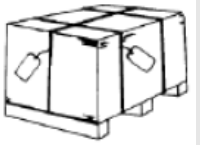
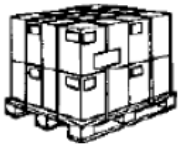
Powin requires a Master Label to be used to identify multiple packs of common items. The label should be located such that when the pack is separated the label is discarded. Items within a master load shall still be separately packaged and clearly marked with their own Powin Standard Barcoded Container Labels.
There shall be a bold 1.0" (25.4 mm) heading, "MASTER LABEL". The remainder of the ticket shall be the same as the Powin Standard Barcoded Container Label, except for the serial number data identifier will be 4S instead of S. The quantity on the Master Label shall be the sum of all sub packs.

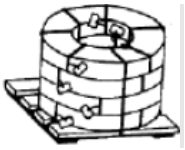
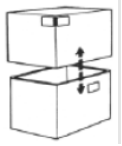
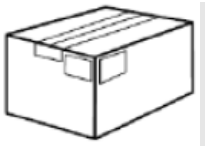
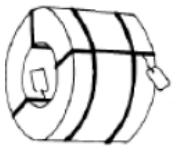
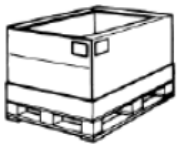
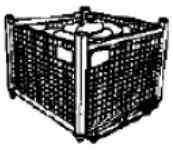
Mixed Load Label – Mixed Item Loads

Powin understands the need for mixed item loads but discourages this as a shipping method if common item packs are possible. Loads of mixed items shall be identified by a Mixed Load Label. The label should be located such that when the pack is separated the label is discarded. Items within a mixed load shall be separately packaged and clearly marked with their own Powin Standard Barcoded Container Labels.

TAGS PLACEMENT

Tags shall follow the same guidelines as set forth for labels with any additional material necessary for tag attachment added outside of the label. The tags should be able to withstand the elements to ensure readability upon arrival at the Powin facility. Label or Tag must be fixated to the package in a fashion that it does not detach from product. Tags shall be able to endure the elements for up to 12 months.

Tubing & Bars	Roll	Rack
		
Bag	**Sheets/Cut Length/Blanks**	**Cartons on Pallet**
		
Slit Coils	**Telescope/Set-up Containers**	**Open Bin**

		
Bale	**Drum/Cylindrical Container**	**Box or Carton**
		
Single Coil	**Pallet Box**	**Wire/Mesh Container**
		

POWIN CORPORATION CONTAINER ID CODES

Powin Owned Returnable Containers: A#### Codes

- Powin owns and manages the containers as well as the return to supplier.

Supplier Owned Returnable Containers: B#### Codes

- Shall be labeled with RETURN TO AND "SUPPLIER'S NAME"
- Reach out to an Powin Representative to retrieve a B code upon purchase of returnable

Standard Expendable Containers: E#### Codes

- Powin specified container sizes. Preferred sizes of pallets and corrugated boxes to be used for shipping product
- One time use packaging (sizes and codes are listed in Expendable Section)

Non-Standard Expendable Containers: N#### Codes

- Low volume parts, one time use packaging
- For unique sized part or parts using special protective dunnage
- Reach out to an Powin Representative to retrieve a N code for part
- Secondary packaging such as bundles or interior boxes

COUNTRY OF ORIGIN

Supplier Instructions for Country of Origin Marking for Powin and its Subsidiaries

Introduction

Powin either purchases or receives goods for one of five reasons; production, aftermarket, sample validation, test or prototype. These scenarios present different requirements for country-of-origin

labeling that are explained below. If you have any questions regarding these instructions, contact your respective buyer or the person requesting the goods prior to making the shipment.

Country of Origin Marking

All articles produced, procured, or repaired by or for Powin, including "no charge" items provided or returned to Powin, must be marked with the appropriate country of origin. This includes finished products, replacement units free, purchased or under warranty, sub-assemblies, parts, media recorded with software programs, manuals, accessories, materials, and supply items. Each article must have the full English name of its country of origin marked on the article itself and/or on the packaging in which it is received.

For all articles, the country or countries of origin marking requirements are as follows:

- Conspicuous (can be easily seen with normal handling of the article or container).
- Legible (can be easily read by a person with normal eyesight).
- Indelible (resists fading).
- Permanent (survives normal distribution and handling).
- Indicating to the ultimate purchaser the full English name of the article's country of origin.
- On the immediate container (the innermost level of packaging in which the articles will be received – this is further defined below).
  -or-
- On the article itself (see specific requirements below).

The country of origin must be included on the invoice and packing list (delivery notice) and must be consistent with the country of origin marked on the immediate container and the article.

Wording of the Country of Origin Marking

The following wording should be used for country of origin marking. Any modification to this wording must be approved by Powin.

Articles Manufactured in the US:

Articles which are produced from contents, components, and raw materials of mixed national origin and where the US is determined to be the country of origin must be marked

- Assembled in the US of US and Non-US Components (Allowable for assembled articles only); or
- Produced in the US of US and Non-US Components (Allowable for non-assembly articles only); or
- Printed in USA (Allowable for printed material and publications only)

Articles Manufactured outside the US:

Articles which are made or finally assembled outside of the US and are determined to have undergone a substantial transformation must be marked:

- Made in xxx (where xxx is the full English name of the country of origin)
- Printed in xxx (where xxx is the full English name of the country where the material was printed. Allowable for printed material and publications only)

No abbreviations, with the exception of UK for United Kingdom and US or USA for the United States of America, are acceptable. The 2-character International Organization for Standardization (ISO) codes are not acceptable for marking articles or immediate containers.

Container Marking

An immediate container is defined as the innermost level of packaging in which the articles will arrive at the ultimate purchaser. The immediate container must be marked with the full English name of the country of origin of the articles contained within it, using the same wording as the marking on the articles (see above for acceptable wording). Further definition below:
Aftermarket – container the customer will receive the goods in
Production, Sample Validation, Test or Prototype – container Powin will receive the goods in
Some immediate containers contain merchandise of different origins. In such an instance, each article within the immediate container must be marked with its country of origin and the immediate container must include a marking statement which summarizes the countries of origin of the articles in the immediate container. The country-of-origin summary statement begins: "Contains merchandise from the following countries: ... " and is followed by a list of the full English names of the countries of origin of the articles in the immediate container.
Containers designed for or capable of reuse must be individually marked to indicate the country of origin of the container. Use the following marking on containers suitable for reuse: "Container made in xxx", where "xxx" is the full English name of the country of origin of the reusable container. If the reusable container is not empty, and the reusable container is the immediate container, the reusable container must also be marked "Contents made in xxx" (where xxx is the full English name of the country of origin of the contents).
In all instances, the country of origin marking on an immediate container must be in close proximity to any label which designates a US address or the name of a foreign country which is not the country of origin.

Additionally, immediate containers that depict the manufacturer's or supplier's logo should never be used. Instead, immediate packaging should either be void of any logo or else contain the logo of the Powin entity purchasing the goods.

Examples:

Immediate Containers for Aftermarket Parts

On the Article Itself

ASN

ASN is an acronym for Advanced Shipping Notice. Powin suppliers will submit Advanced Shipping Notices (shipping data) to Powin via email. This change in Supply Chain Management strategy will efficiently route items to required locations, set the environment for evaluated receipts settlement, allow for simple receiving and storage planning and decrease the processing time of items.

- Suppliers must generate a unique ASN number that represents all items on a specific truck for a specific ship to address. Suggestions for the unique ASN number include, but are not limited to, the Bill of Lading number, the Packing List number or the Invoice number. These are just examples that could meet the criteria for the supplier generated ASN number.
- There is only one ASN per ship to address and the supplier generated ASN number shall not be reused for any other shipment. The ASN must be submitted after a truck is loaded and prior to the shipment arriving at the ship to address. Powin recommends the ASN be submitted prior to the carrier leaving the suppliers facility to ensure that ASN number can be included with all shipping documentation.
- The ASN # is not per part number or purchase order. The ASN covers multiple part numbers and purchase orders and the ASN # shall not be used as the carrier tracking #
- The ASN # shall be clearly written on the Bill of Lading.

The view below is a screenshot highlighting the fields required in yellow. The information required for international shipments is highlighted in green.

Advanced Shipping Notification Form

Required Information

Supplier Name:	
Powin PO Number:	
PO Line Number(s):	
PO Line Nr Due Date(s):	
Est. Delivery Date:	
3PL Name:	
BOL/Load Nr (or 3PL equivalent):	

Additional Information (As provided by Powin PO)

Sales Order Nr:	
Project Name:	
Project Number:	

Additional Requirements (International Shipments Only)

Departure Port:	
Departure Date (ETD):	
Arrival Port:	
Arrival Date (ETA):	
Container Free Days (if applicable):	

BOL to Include	Manifests/Packing Slips to Include
1. Document Date 2. Actual Shipment Date 3. Project Name 4. Project Number 5. Sales Order Number 6. Origin Point 7. Destination Point 8. Powin PO Number 9. 1st Leg Shipping Information (3PL name, load number) 10. 2nd Leg Shipping Information, if application (3PL name, load number)	1. Document Date 2. Project Name 3. Project Number 4. Sales Order Number 5. Part Quantity 6. Shipment Weight 7. Number of Pallets/Containers 8. Origin Point 9. Destination Point 10. 1st Leg Shipping Information (3PL name, load number)

IV. DEFINITIONS

DEFINITIONS OF TERMINOLOGY

AIAG - Automotive Industry Action Group

ANSI - American National Standards Institute

BOL – Bill of Lading

BURST STRENGTH - The strength of the material, such as corrugated fiberboard, expressed in pounds per square inch.

COMMON ITEM PACK - A pack which contains all like items, i.e., same part/item numbers.

DUNNAGE - Materials used to support and protect the item(s) during shipment.

ITEM - A single part or material purchased, manufactured and/or distributed.

ISPM - International Standards for Phytosanitary Measures

LABEL - A card, strip of paper, etc. marked and attached to an object to indicate its nature, contents, ownerships, destination, etc.

MASTER LABEL - A label used to identify and summarize the total contents of a multiple pack.

MIXED LOAD LABEL - A label used to designate mixed items, shipping packs

MULTIPLE PACK - A pack containing smaller packages (sub packs) of items

NON-STANDARD QUANTITY PACK - A pack which contains variable quantities of like items.

OVERHANG - The portion of a container or unit load that exceeds the length or width of a pallet.

PACK, PACKAGE or LOAD - A unit which provides protection and containment of items, plus ease of handling by manual or mechanical means. Examples of containers or packs which normally are disposable include bags, cartons, cartons on pallets, and pallet boxes. Examples of containers or packs which are returnable include bins (wire mesh or solid sides and ends), racks (plain or with special dunnage), racks with wire mesh sides and ends, tubs, and drums.

PHYTOSANITARY - Concerning the health of plants; especially the freedom from pests requiring quarantine.

PRIMARY PACKAGING - The designated container for shipping

RETURNABLE PACKAGING - Container and/or dunnage that is used to ship multiple times.

SHIPPING PACK - A pack used for shipping items from one plant to another and can be of any of the packs described above.

SHIPPING/PARTS IDENTIFICATION LABEL - A label used to identify the contents of a shipping pack.

STANDARD QUANTITY PACK - A pack which always contains the same quantity of items.

STRINGER - The longitudinal portion of the pallet that supports the top and bottom decks.

SUBPACK - One of the smaller packs (which may be a standard quantity or non-standard quantity pack) that make up a larger multiple pack.

TAG - A label that is hung from an object, usually with a wire placed through a reinforced eyelet in the label/tag.

Tier 2- A company that is outside of providing a service related to the final completion and delivery of a purchased part.

Revisions History

Revision Date	Revisions Level	Author	Nature of Revisions
August 23, 2022	A	Jason Eschenbrenner	Initial Release