

**Steelcase**

**Packaging Specification**

**And**

**Distribution Guidelines**

**Revised 6/26/17**

This document has been compiled by the Packaging Engineering Department at Steelcase, with assistance from many other departments. The contents were compiled to give the Steelcase plants, ~~,~~ Finished Good Suppliers, international manufacturing locations, etc. insight into our specifications and guidelines for packaging. In addition to the test specifications on printing, and poly bags, this document provides guidance on loading, handling and packing. By utilizing the specifications and guidelines, you should be able to design, package, and ship product to our customers successfully.

**Note:**

* **All packs must comply with the Vibration (ES 2-15-01), Shock – Domestic, LTL or ISTA 1A (PFR 1281) or ISTA 3A (PFR 3371) packaging test specifications.**
* **All poly bags must adhere to MAT 2000.**
* **Any adhesives in contact with the product must pass ES 3-93-01 for both adhesion and residue**
* **Graphic requirements should be reviewed with the Project Manager based on each specific project. The Shipping Graphics spec MAT 1209 may not apply to all products.**

If there are any questions regarding the information in this document, please contact the Packaging Engineering Department.

APPROVED PACKAGING MATERIALS

Adhesives (cold/hot, will need testing if in contact with product)

Air Pillow/New Air/Air Plus or similar inflated air pouches

Arcel

Bubble Wrap

Built-up Corrugated

Chipboard / Fibreboard

Corrugated, including single face

Corrugated Runners (Pallets)

Cohesive Wraps (Cronel, Quicksilver Foam)

Edgeboard

Honeycomb

Jiffy Bags

Kimpack

Kraft Paper

Metal Braces (uppercases)

Molded Pulp

Optiledge (not a preferred material, evaluated on a case by case basis)

Oriented Strand Board (OSB)

Particle Board; MDF (medium density fiberboard)

Plastic Banding (polyester, polypropylene, polyethylene, PET)

Poly Bags

Poly Foam (Microfoam) Sheeting

Poly Film Sheeting

Polymask

Polyethylene (Solid, Extruded, Beaded, Foam)

Polypropylene (Solid, Extruded, Beaded, Foam)

Polystyrene (not a preferred material, evaluated on a case by case basis)

PSA (parts with Pressure Sensitive Adhesive, will need testing if in contact with product)

Rubber Bands

Sanstrap

Screws

Shipping Boards\*

Shrink wrap Film

Stretch wrap Film

Sus-Wrap

Tape (will need testing if in contact with product)

Thermoformed parts

Vacuum formed parts

Wood (blocks & boards)\*

Wood Blocks\*

Wood Skids/Crates\*

\***All wood must be in compliance with ISPM15 and bear the IPPC stamp, regardless of whether it is shipping domestically or internationally.** **Processed wood is exempt (see Section B below for more details).**

**Packaging Requirements & Guidelines**

**A**. **Testing Requirements**

# 1. Testing

All new packaging must pass Packaging Performance Specs ES 2-15-01 Vibration, PFR 1281 Shock or PFR 3371 ISTA 3A.~~.~~ In addition, all poly bags must adhere to MAT 2000, and any packaging adhesives must pass ES 3-93-01 for both adhesion and residue.

2. FedEx

Product must be extremely well protected and in compliance with the Steelcase Parcel Delivery tests which are based on ISTA 1A or ISTA 3A guidelines. Note: All items offered on Steelcase Store must have an approved Fedex pack or be shipped using White Glove service.

**B**. **Export Pack Requirements**

1. Pack Requirement:

All appearance faces must be covered when product is in an export pack. Exceptions must be approved by Packaging Engineering.

2. Bulk packed items (i.e. palletized worksurfaces or palletized tackboards, etc.) must be packaged in individual cartons before palletizing since pallets are routinely broken down before container loading, in customs inspection, and upon unloading at destination port. If the standard pack is a multipack that ships in an individual carton then that is acceptable for export (does not necessarily have to be a single pack as long as the bulk pack can be broken down into individual cartons for handling).

3. Wood, Including Pallets, Shipping Boards, and Internal Solid Wood Dunnage.

All wood, whether used for domestic or Export shipments, must comply with ISPM 15. All wood components must bear the IPPC certification stamp. This mark must be applied by the part supplier, as specified in ISPM 15.

4. ISPM 15 Guideline:

This regulation permits only wood treated to be insect free to be used in the export of product from manufacturing sites. If wood is to be used in any packing or loading operation it must be treated by kiln drying or fumigation and must be marked with an ISPM 15 or IPPC certification stamp. In practice, all wood packaging (pallets, crates, shipping boards etc.) that are made from wood and used in supporting, protecting or carrying a commodity must be heat treated or fumigated and stamped before exporting product to another country.

**ISPM 15 does not apply to packaging material made from processed wood products such as plywood, chipboard, fiberboard, OSB and MDF.  These products are a composite of wood constructed using glue and/or heat and pressure which kills insects and their larvae, making the product exempt.**

Steelcase coniferous wood, such as spruce/pine/fir lumber, is all heat treated.  An example of this is a shipping board.  The above mandate requires that all non-coniferous wood such as oak are heat treated as well.  An example of a non-coniferous wood is a pallet.  Steelcase North America is in compliance with all aspects of the ISPM 15 regulation.

**Website:**For further information on ISPM 15 and IPPC standards, The American Lumber Standards Committee ([www.alsc.org/WPM\_summary\_mod.htm](http://www.alsc.org/WPM_summary_mod.htm)) has been granted US regulatory authority under the USDA. www.aphis.usda.gov/import\_export/plants/plant\_exports/wpm/wpm\_heat\_treatment.shtml.

**C. Environmental Requirements**

1. Environmental

Packaging may not contain Formaldehyde, PVC (poly vinyl chloride) or toxic heavy metals. Packaging must be able to be recycled. Dissimilar materials may not be combined in packaging in such a way which makes them difficult to separate by source. (i.e. laminating PE film to paper fiber). See separate list of approved packaging materials.EPS is allowed but not a preferred material. PU foam (polyurethane foam in place) is no longer allowed to be used on new packs.

**D. Product and Packaging Guidelines**

# 1. Tops

All individually packed worksurfaces require edge, face and corner protection. Standard is EPE foam u-channel with polypropylene corner covers on the bottom edge. Faces are protected with a minimum of singlewall corrugated or 1” honeycomb. Tops longer than 76” and export – all corners must use PP covers. Bulk packed worksurfaces – all outer edges must be covered with edge board and shipped on an approved pallet.

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# 2. Files, Peds, & Cases

All files, peds, cases are now force cartoned and cannot be shipped uncartoned/blanket wrapped. All corners require protection when packed in a corrugated carton. Some stretchwrapped packs require corner posts to protect the vertical edges. A pad at the base of the unit, such as honeycomb, foam or corrugated build-up, may be needed.

# 3. Drawers in Files, Peds & Cases

All drawers must be protected from abrasion damage from the frame of the unit by foam pads and tape or stretch wrap. and should be secured by locking, taping, or other method.

4. Chairs

Cartoned chairs should be packed using a top and bottom cap along with a tube and banding to seal the pack. Other options include an RSC or HSC with bottom cap and banding. A heavier mil poly bag, such as 1.0 mil -1.25 mil thick, should always be used to protect chairs from abrasion of the corrugate. Painted and aluminum bases should be protected from abrasion by using poly mask, Cronel™ or a vacuum formed plastic base cap. Uncartoned chairs (blanket wrap) require a lighter poly bag, such as 1.0 mil thick. The default orientation that chairs are to be tested is below; however, testing can be modified at the discretion of the Packaging Engineer:

Assembled Domestic (FTL): Stacked two high in the vertical position and the third on its side. KD chair packs should only be tested in the upright position.

Parcel Post (FedEx): Tested upright and on side per the Parcel spec (PFR 1281) or PFR 3371 ISTA 3A.

5. Shipping Palletized Items

Product must be secured to the pallet so it won’t shift during transport. All items must be contained on a pallet so no parts fall off. Items should be stacked on a pallet to ensure a flat surface for stacking other products unless the pallet is not able to be stacked on in which case it must be labeled as such. Ideally pallets are 1” larger than product on all sides. Product must never overhang the pallet. Pallets must be appropriate in size to the product. Dimensional lumber should be used on pallets (i.e. no thin boards). Maximum pallet width should be 48” wide to allow 2 across in a trailer or 32” to allow 3 across in a trailer. Ideally pallets should have 4 way entry. Palletized loads of small/medium sized cartons should be no taller than 48”, including the height of the pallet.

6. Glass

Glass can either be individually packed or bulk packed in a wood crate.  Each method has its own specific requirements. All glass shipments need the following:

1. Glass shall be shipped in a vertical orientation such that the thickness of the pane of glass is the side towards the ground.  Exceptions to this shall be palletized and will need extensive testing and approval by Steelcase Packaging.
2. Glass packaging shall always note that it contains glass via obvious printing or labels.  Safety labels may need to be added to address proper handing and unloading.
3. Specific design of the packaging remains the responsibility of the vendor, but Steelcase’s Packaging group can assist in development as needed.

Glass Crates

1. Homosote cushioning material is needed around the perimeter of the glass to protect the glass in transit.
2. Cork or foam pads must be applied between panes to prevent glass to glass contact and must have sufficiently strong adhesive not to shift during transit, yet not leave residue after removal.
3. Bracing should be applied such that the panes do not shift in any manner during transit.
4. Notes may be needed to assist installers with proper method for opening the crate.
5. The bottom of the crate needs floor boards to prevent the crate from falling off forks when in motion.
6. Wood crates must conform to ISPM 15 and be marked accordingly.

Individual Glass Packaging

1. Packaging should be designed to hold the glass such that the pane does not shift in any manner during transit.
2. Glass packaging must pass ES-2-15-01 and PFR-1281
3. Glass packaging should be conspicuously marked to show which way is up, not to ship flat, etc.

7. Large Flat Items (Skins, Marker Boards, Etc.)

These items can either be individually packed and/or bulk packed on a pallet with attached support frame.  Each method has its own specific requirements which are:

1. Items should be shipped in a vertical orientation such that the thickness of the material itself is the side towards the ground.  There are exceptions to this, but to accomplish this successfully, the horizontally shipped parts should be palletized and require extensive testing and approval by Steelcase Packaging.
2. Safety labels may need to be added to address proper handing and unloading.
3. Specific design of the packaging remains the responsibility of the vendor, but Steelcase’s Packaging group can assist in development as needed.

Bulk Packed on Pallet with Attached Support Frame

1. Cushioning material is needed to support the product and to prevent damage in transit.
2. Diagonal bracing should be attached from the outside corner of the pallet to the top of the vertical support frame.
   1. If the height of the pallet and support frame is over 4’, a second diagonal brace is required from the center board of the pallet to the middle of the vertical support frame.
3. Products must be held securely in the pallet to prevent movement during transit.
4. Sufficiently strong banding must be used to prevent items from falling out/off of the pallet.
5. Notes may be needed to assist installers with proper method for opening and/or unloading the pack.
6. The bottom of the pallet needs floor boards to prevent the unit from falling off forks when in motion.
7. Wood crates must conform to ISPM 15 and be marked accordingly.

Individual Packaging for Large Flat Items

1. Packaging should be designed to hold the product such that it does not shift in any manner during transit.
2. Individual packaging must pass ES-2-15-01 and PFR-1281
3. Individual packaging should be conspicuously marked to show which way is up, not to ship flat, etc.

8. Fabric Covered Items

All fabric covered items require a poly bag or sheet to protect from dirt and hand wear. Poly bags must comply with MAT-2000 and have the suffocation warning and perforated holes for child safety. Some bags have small holes to allow the moisture to escape the bag or to make it easier to put the bag on the product by letting air escape.

# 9. Painted Surfaces

When in contact with corrugated packaging parts, painted surfaces must either be protected from abrasion damage with a poly bag/sheet or the corrugated packaging part must be wax coated with no-mar 70 or equivalent coating. Metallic painted products require a layer of poly or foam sheeting/bags between non-poly based pack material and product.

# 10. Staples

Staples MUST never be used to seal containers.

11. Banding

A minimum of 2 bands must be used. Caution must be used when banding to prevent the banding from interfering with fork truck and hand truck operation. Banding must not obstruct fork lift openings. Banding should be avoided on product that is shipped FedEx.

12. Labels

Each product or box must have its own label unless it is a true multipack or bulk pack in which case only 1 label is generated. Labels must be placed on boxes or pallets so that they are easily scanned, easily visible upon receipt, and easily visible if stacked. Scanners can read through stretch/shrink film.

13. Markings

If a product needs to be handled in a certain way, transported in a certain orientation, contains a heavy end, cannot be stacked, or can only be stacked to a certain height, etc. then the packaging must contain marking or labels to clearly call this out.

14. Logos

All printing and logos must comply with Printing Spec MAT 1209 or otherwise be approved by the Project Manager or Marketing.

**E. Distribution and Handling Guidelines**

1. Weight Limit

The maximum weight of a multi pack that is meant to be handled by hand is 50 pounds. Single items exceeding this weight are excluded. Items meant to be handled by mechanical means are excluded.

2. Pack Information

Single pack, multi pack, bulk pack and palletized pack information must be filled out in full for new packs and any changes on existing packs using the proper Packaging Database form and submitted to the Packaging Engineers who will forward the information to Shipping Database to load.

3. Trailer Sizes

For information purposes, below is a list of trailer sizes used by our Load Planning Group:

* 53’ Dry Box
  + Inside Dimensions: L-52’5”, W-8’2”, H-9’2”. For cube purposes use 629”L x 98”W x 110”H.
  + Cube capacity: 3924, planned for 3400 cube
  + Max cargo weight 46,000 lbs.
* 53’ Refrigerated (Refer)
  + Inside Dimensions: L-52’6”, W-8’, H-8’3”
  + Cube capacity: 3500, planned for 2900
  + Max cargo weight 45,000 lbs.
* 48’ Dry Box
  + Inside Dimensions: L-47’4”, W-8’2”, H-9’2”
  + Cube capacity: 3548, planned for 2900
  + Max cargo weight 46,300 lbs.
* Export
  + 20’ container I.D.– 19’ 5”L x 7’ 8”W x 7’ 9 ½” H
  + 40’std container I.D – 39’ 6 ½”L x 7’ 8”W x 7’ 9 ½” H
  + 40’ HC container I.D – 39’ 6 ½” L x 7’ 8 ¼” W x 8’ 9 ½” H
  + 45’ container I.D. – 44’ 6 ½” L x 7’ 8 ¼” W x 8’ 10” H
* Deck Height
  + Decks are typically built at 52” so max height of palletized item is 48”.

4. Packaging for Delivery to the Job Site

Packaging materials and pallet protection extends beyond the shipping environment through unloading and installation. Packaging materials should ideally be designed to stay with the product and provide protection not only through shipment, but through the installation process. Packages should be sized and scaled to anticipate movement through narrow stairways, hallways, elevators, and office doors without powered material handling equipment, and to provide protection if furniture needs to be placed upon end to allow access through doorways. Bulk packages should break down into individual components which allow easy handling at the install jobsite.