

**Steelcase**

**Packaging Specifications**

**And**

**Distribution Guidelines**

**Revised 1/6/22**

This document has been compiled by the Packaging Engineering Department at Steelcase, with assistance from many other departments domestic and globally. 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 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:** If there are any questions regarding the information in this document, please contact the Packaging Engineering Department.

**APPROVED PACKAGING MATERIALS**

NOTE: Materials not listed below may be used upon approval of the Packaging Department prior to shipment.

**Paper Based Materials**

Corrugated/Fibreboard, Corrugated pallets, Honeycomb, Kraft Paper, Kimpack (paper wadding), Molded pulp, Sus-wrap, Jiffy bags, Cro-Nel™ paper wrap, multi-wall corrugated, VCI paper.

**Molded and Extruded Foam Materials**

NOTE: Use these materials only when necessary as packaging materials derived from plastic are not preferred as they do not support Steelcase’s 2025 packaging goals of reducing plastic packaging by 25%.

Arcel (EPS & PE resin),Polyethylene, Polypropylene, Expanded Polystyrene (EPS is not a preferred material, evaluated on a case by case basis), PE/PP foam sheeting, Quicksilver foam wrap.

**Plastic Based Materials**

NOTE: Use these materials only when necessary as packaging materials derived from plastic are not preferred as they do not support Steelcase’s 2025 packaging goals of reducing plastic packaging by 25%.

Bubble Wrap, Air Pillow/New Air/Air Plus or similar inflated air pouches, PE Polybags, Polymask, rubber bands, PSA (parts with Pressure Sensitive Adhesive, will need testing if in contact with product), Shrink wrap films, Stretch wrap films.

**Wood Based Materials**

**NOTE - All wood products must meet ISPM15 as applicable. (See section C.3 below for more details).**

Oriented Strand Board (OSB), Particle Board; MDF (medium density fiberboard), Solid Wood, Molded Chip/Pulped Wood

**Banding and Closure Materials**

Plastic Banding (polyester, polypropylene, polyethylene, PET), Sanstrap Poly-Bands.

NOTE: Green translucent banding (PET) is the preferred plastic banding at Steelcase.

Tape – Gorilla paper tape, Adhesives (cold/hot, will need testing if in contact with product), 3” wide 2mil thick polytape (3M 371/372 or equivalent), Staples **are not** allowed for carton closure.

**Packaging Requirements & Guidelines**

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

All new cartoned/crated/palletized packs for standard shipment must comply with 13576 Vibe and 12766 Shock or 13060 Over The Road test specs outlined below. All new packs intended for parcel post shipment must comply with 18696 ISTA 3A or 13060 OTR shipped via FedEx, etc. Service Parts (SR), Mock Ups, Specials, Subscale, and Studio products may be exempted from ship testing due to timing due to timing, availability of sample product, and NUDD considerations.

Test results must be documented with a Test Report that is archived in the Steelcase Test Lab Archives.

* [**13576**](http://pdl/testlabweb/specs/SpecSearchResults.asp?SpecNo=2-15-01&SpecTitle=&MainCat=1&SubCat=1&AdvSearch=False&Submit=Search) **Shipping Vibration test-** **Random Excitation**
  + Note: If the product is palletized/crated and can fit on the vibe table (96” x 60”), the testing procedures will conform to ASTM 4169
* [**12766**](http://pdl/SPECS/ACROBAT/1281.pdf) **Shipping** **Shock test -** **Vertical Drop** 
  + Uncartoned products are exempt from this test.
  + If product is palletized/crated and can be tested, the testing procedures will conform to ASTM 4169. If palletized/crated product cannot be tested in the lab, it must be tested to 13060 OTR.
  + Testing levels are determined by typical shipping mode below:
    - ASTM Level ll – Less than full truck load
    - ASTM Level lll – Full truck load
* [**18696**](http://pdl/SPECS/ACROBAT/3371.pdf) **ISTA 3A Ship Testing for Parcel/FedEx Delivery**
  + All product that will be added to the Steelcase Store, including WFH and Retail, excluding SR parts upon determination of Pkg Engineer, shall be tested to this standard as of 3/1/21, or in certain circumstances to 13060 – Over-The-Road, with the tested shipping method being the intended shipping method of this part via the parcel company. Any existing product tested prior to 3/1/21 that has significant FedEx/Parcel field damage should also be tested to this standard. All Store/Retail/WFH products that are too large/heavy to be shipped via parcel/FedEx will be shipped via White Glove or added to the TM Exception list.
* [**13060**](http://pdl/testlabweb/specs/SpecSearchResults.asp?SpecNo=2-01-31&SpecTitle=&MainCat=1&SubCat=1&AdvSearch=False&Submit=Search)  **Over-The-Road Ship Test**
  + Over The Road Ship Testing is a stand-alone test used if the hazard profile from the vibe and shock tests do not reflect real world handling conditions (Stacker Chairs, Large Case Goods, Crated Glass, Palletized or crated products, etc...), if there is no easy access to use a test lab for vibration and shock testing, if the product is too large, too heavy, or unsafe to test in the lab, or to gather additional information to supplement lab testing. Route and miles must be recorded and must be representative of what the product would experience due to its intended mode of transit.
* **All poly bags must adhere to specification 12187**
* **Any adhesives in contact with the product must pass specification 13842 for both adhesion and residue.**
* **Graphic requirements should be reviewed with Marketing based on each specific project. The Shipping Graphics specification 12251 is being updated with a Global Shipping Carton Standard Work that includes the new printing POV and icon list. The printing POV was released by Corporate Communications on 12/21/2020.**

**B. WFH/Retail/Store Products**

1. Packaging must be designed such that the product is adequately protected and the packaging handles the shipment with minimal damage to the outside. It needs to represent the Steelcase brand upon arrival.
2. All items offered on Steelcase Store/WFH/Retail after 3/1/21 must either have a passing 18696 - ISTA 3A test or 13060 – Over-The-Road test or it must be shipped using a White Glove/Inside Delivery service and placed on the TM Exception List.

**C**. **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 prior to shipping.

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). Maximum weight for a bulk pack is 2500#.

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. and 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 North America is in compliance with all aspects of the ISPM 15 regulation.

*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.*

*See also:*

[*www.aphis.usda.gov/import\_export/plants/plant\_exports/wpm/wpm\_heat\_treatment.shtml*](http://www.aphis.usda.gov/import_export/plants/plant_exports/wpm/wpm_heat_treatment.shtml)

**D. Environmental Requirements**

1. Environmental

Packaging may not contain Formaldehyde, PVC (poly vinyl chloride) or toxic heavy metals. To support Steelcase’s 2025 packaging goals, all packaging must contain progress towards 100% recycled content. The preferred packaging material is 100% recycled content corrugated cardboard and paper-based materials that allow for easy recycling. If plastic-based packaging is deemed necessary for safe delivery then the highest amount of recycled content should be added.See separate list of approved packaging materials above. Dissimilar materials should 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).

**E. Product and Packaging Guidelines**

1. Tops

All individually packed worksurfaces require edge, face, and corner protection. Standard is Arcel corners in a singlewall box or EPE foam u-channel with polypropylene corner covers on the bottom edge. Faces are protected with a minimum of singleface corrugated, singlewall corrugated or 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.

1. Files, Peds, & Cases

All files, peds, cases are now force cartoned and cannot be shipped uncartoned/blanket wrapped. Top and bottom corners must be protected from stacking damage as well as standard height drops based on testing protocol. Some stretch wrapped packs may require the addition of corner posts to protect the vertical edges.  A pad at the base and/or top of the unit may also be needed to help protect the product. Suitable materials for this include honeycomb, foam, or corrugated build-up.

1. 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.

1. Chairs

Cartoned chairs should be packed using a top and bottom tray along with a tube and banding to seal the pack. Other options include an RSC (Regular Slotted Container) with tape, or HSC (Half Slotted Container) with bottom tray and banding or tape. 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, unless proven by ship testing that a bag isn’t needed. Painted and aluminum bases should be protected from abrasion by using poly mask, Cro-nel™ cohesive protective packaging wrap 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 – full truck load): Stacked two high in the vertical position and the third on its side. KD (knocked down) chair packs should only be tested in the upright position. KD chair packs should only be tested in the upright position.

Parcel/FedEx: Tested upright and on side per the Parcel specification 18696ISTA 3A.

1. Shipping Palletized Items

Product must be secured to the pallet so it won’t shift and all items must be contained on a pallet so no parts fall off during transport. 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. Product must never overhang the pallet and ideally, the pallet size should be at least 1” larger than product on all sides. Pallet maximum widths to be 48” wide to allow 2 across in a trailer or 32” to allow 3 across in a trailer, should be no narrower than 30” on the fork access side to allow for standard material handling equipment, and the use of 4 way entry pallets are recommended. Palletized loads should be no taller than 48”, if possible, including the height of the pallet. Dimensional lumber should be used on pallets (i.e. no thin boards). Maximum weight of is 2500#. All wood must comply with ISPM 15 and bear the IPPC stamp.

1. Glass

Glass can either be individually packed or bulk packed in a wood crate.  Each method has its own specific requirements listed below, but wood crates must also adhere to the palletized requirements from item 5 above. All glass shipments need the following:

Glass shall be shipped on edge to prevent breakage. Exceptions to this will need extensive testing and approval by Steelcase Packaging prior to shipment.

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.

Specific design of the packaging remains the responsibility of the vendor, but Steelcase’s Packaging group can assist in development as needed.

1. Glass Crates

Homasote cushioning material is needed around the perimeter of the glass to protect the glass in transit.

Cork, foam pads or other material (wood flour, etc.) must be applied between panes to prevent glass to glass damage, must not lose efficacy during transit, and may not leave residue after removal.

Bracing should be applied such that the panes do not shift in any manner during transit.

The entire crate should be enclosed to prevent foreign object intrusion and damage to the glass.

Notes or labeling may be needed to assist installers with proper method for opening the crate.

The bottom of the crate needs sufficient floor-boards to prevent the crate from falling off forks when in motion.

1. Individual Glass Packaging

Packaging should be designed to hold the glass such that the pane does not shift in any manner during transit.

1. 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:

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.

Safety labels may need to be added to address proper handing and unloading.

Specific design of the packaging remains the responsibility of the vendor, but Steelcase’s Packaging group can assist in development as needed.

1. Bulk Packed on Pallet with Attached Support Frame

Cushioning material is needed to support the product and to prevent damage in transit.

Diagonal bracing should be attached from the outside corner of the pallet to the top of the vertical support frame.

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.

Products must be held securely in the pallet to prevent movement during transit.

Sufficiently strong banding must be used to prevent items from falling out/off of the pallet.

Notes may be needed to assist installers with proper method for opening and/or unloading the pack.

The bottom of the pallet needs floor boards to prevent the unit from falling off forks when in motion.

Wood crates must conform to ISPM 15 and be marked accordingly.

1. Individual Packaging for Large Flat Items

Packaging should be designed to hold the product such that it does not shift in any manner during transit. Individual packaging should be conspicuously marked to show which way is up, not to ship flat, etc.

1. 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 12187 **(**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.

1. 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.

1. Staples

Staples MUST never be used to seal containers.

1. 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 forklift openings. Banding should be avoided on product that is shipped FedEx.

1. 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.

1. 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.

1. Logos

Graphic requirements should be reviewed with Marketing based on each specific project. The Shipping Graphics specification 12251 is being updated with a Global Shipping Carton Standard Work that includes the new printing POV and icon list. The printing POV was released by Corporate Communications on 12/21/2020.

**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.

1. 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 ~~m~~ load sheet and submitted to the Packaging Engineers who will forward the information to Shipping Database to load.

1. VFG Products

Products should be shipped on the trailer floor and not on pallets. Pallets are to be used when the pallet is part of the packaging which will go to the customer. Pallets can also be used if the products are small and many can fit on a pallet.

1. Trailer/Export Container Sizes

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

North America Trailer Size:

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.

Deck Height

Decks are typically built at 52” so the ideal max height of a palletized item is 48”.

Export Container Sizes:

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

EMEA Trailer Size:

Inch Ft. Cubic Ft. mm Cubic m

Width 96 8.0 2907 2440 82

Length 531 44.3 13500

Height 98 8.2 2500

1. 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.

***Appendix***

**Packaging sustainability goals by the end of 2022**

* **Improve recycled content in our core packaging materials**
  + Improve corrugated average to 75% or greater
  + Improve honeycomb average to 50% or greater
  + Improve PE poly material average to 25% or greater
  + Improve EPP, PP and EPS foams average to 25% or greater
* **Source all paper based packaging from sustainably managed forests (SFI or FSC certified)**
* **Investigate and implement the use of n-pulp in packaging in our Chinese manufacturing**
* **Investigate and implement a program to capture and reuse some of our packaging from customer job sites.**
* **Packaging to be made from materials that are curbside recyclable**

**Packaging sustainability goals by the end of 2025**

* Investigate and implement more environmentally friendly materials to reduce plastic packaging by 25%
* Continue to align with packaging companies and suppliers that are making a difference for the environment
* Continue to work with our Logistics teams in improving trailer/container efficiencies
* Strive for recycled content in all packaging to 100%
* Investigate and implement new sustainable and biodegradable materials in our packaging where ever they make business sense
* Strive for all packaging to derive from renewable resources