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Beds and Bed Components Packaging Requirements

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Revision	Originator	Approver	Release Date	Effective Date

1. PURPOSE

The purpose of this specification is to provide vendors with our basic packaging requirements for bed products, which includes headboards, footboards, siderails, slats, ladders, storage units, trundles and other accessories.

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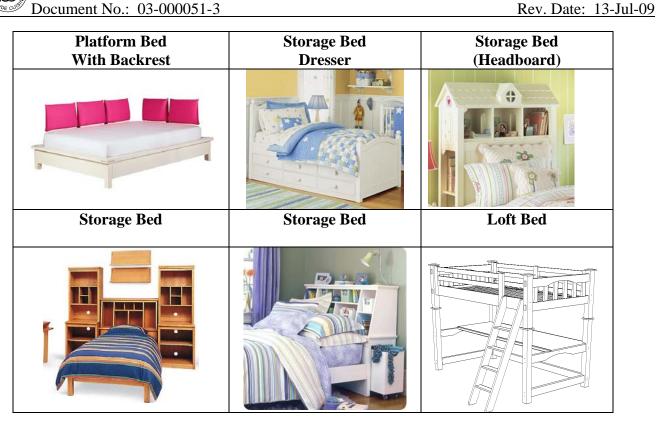
2. APPLICATION

This procedure applies to all bed products that do not have specific packaging instructions. This specification does not cover mattresses. Contact WSI Packaging for details.

3. **DEFINITIONS**

The following are example of various types of beds. Note: The various product types WSI offers are not limited to those shown below.

Basic Complete Bed	Standard Headboard	Headboard (Upholster)
Standard Bed	Bunk Bed	Bunk Bed
With Trundle	Full Over Full	Twin Over Full
Day Bed	Day Bed With Trundle	Iron Day Bed With Trundle



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4. PACKAGE DESIGN ORGANIZATION

Bed components must be packed in a specific manner. If a bed is packed in more than 1 carton, the carton must be marked "Carton 1 of X". "X" being the total number of cartons to complete one unit of bed set. The component(s) should be grouped and packed in according to the following matrix. Additionally, there may be SKU / Set-SKU implication.

	Number	Conton	
Product	of Carton	Carton #	Contains
Headboard only	1	1 of 1	Headboard
Standard Bed	2	1 of 2	Headboard and Footboard
		2 of 2	Siderails, Slats, Finials and Hardware
Day Bed	2	1 of 2	Back Panel and 2 Side/End Panels
		2 of 2	Siderails, Slats, Finials and Hardware
Bunk Bed Standard	4	1 of 4	Headboard and Footboard (Same size Twin/Full)
Twin over Twin		2 of 4	Headboard and Footboard (Same size Twin/Full)
Twin over Full		3 of 4	Siderails, Slats, Finials and Hardware
Full over Full		4 of 4	Ladder
Loft Bed	2	1 of 2	2 End Panels
		2 of 2	Siderails, Guard Rails, Slats, Finials and Hardware
Storage Bed	2	1 of 2	Headboard and Footboard
Standard		2 of 2	Siderails, Slats, Finials and Hardware

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Storage Bed Storage Bed Non-standard Headboard with storage feature palletized 2 of 3 Footboard			
		3 of 3	Siderails, Slats, Finials and Hardware
Platform Bed	2	1 of 2	Headboard and Footboard
		2 of 2	Siderails, Slats, and Hardware

The matrix above lists standard beds and standard options only. If a product has extra options, the extra options must be packed in the LAST of the series of cartons. If the option is large and cannot fit in the last carton, it must be packaged in its own carton.

Example 1: Platform Bed with Backrest

The matrix above identifies the number of cartons as 2 for a Platform bed. The headboard and footboard will be packaged in carton 1. The siderails, slats, and hardware will be packaged in Carton 2. The backrest, which is a non-standard feature, will be packed in the 3rd carton as long as it does not fit in the second carton.

Example 2: Storage Bed

If the storage component is integral to the headboard and the gross weight of the headboard package exceeds 150 lbs, the unit may need to be packed on custom pallet (Per WSI Specifications for Pallets: Product Palletization Requirements, Document Number 03-000088 & Pallet Construction Requirements, Document Number 03-000072). This is applicable for all individual cartons with a gross weight exceeding 150 lbs. (68 kg). Contact WSI Packaging Engineering if you have questions.

Example 3: Storage Bed with Under-bed Dresser:

In this example the Under-bed Dresser Component will be packaged in carton number 3.

5. **REQUIREMENTS:**

Component Separation

All components require separation from each other, as well as surface protection (see section 5.3). Corrugated board or foam should be used to protect and separate the different product layers / components within a carton – this is critical in KD (Knocked-Down) / RTA (Ready-To-Assemble) product construction.

Void Fill

Blocking and bracing within the void space(s) is critical when packing headboards and footboards. Fill the void space(s) within the corrugated carton with solid/rigid packaging material(s) to eliminate shifting and migration of both the product component(s) and the packaging material(s). Possible void fill components include: empty set-up corrugated box(es) (labeled as "EMPTY BOX"), EPS blocks, and corrugated build up pads (See Figures 2 - 5).

Surface Protection

- 5.1.1. All surfaces of a product must be clean and free from dirt, grease, glues, or foreign matter before packing.
- 5.1.2. Full coverage protection of the product with non-abrasive material(s) such as: layers of polyethylene foam sheeting, non-woven polypropylene fabric sheeting for High-Gloss products (Per WSI Specification for High Gloss Product Abrasion Protection Requirements, Document Number 03-000064), a poly-bag (Per standards outlined in WSI Specification for Construction of Plastic Bags & Tubes, Document Number 03-00073), third-web bubblewrap or non-abrasive paper can be used where applicable. Stretch-wrapping around the product & non-abrasive materials to further restrict components movement is also recommended.

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- 5.1.3. Impact protection materials, such as expanded polystyrene (EPS), polyethylene (PE), built-up corrugated or hexacomb® /"honeycomb" forms, blocks, corners and planks, must be used to absorb shock and to block/brace the product from movement within the package (See Figures 2 5).
- 5.1.4. Removable finials should be wrapped in a non-abrasive material and packed separately inside its own corrugated carton. This carton should be packed with the siderails per the above table.

Legs

- 5.1.5. Legs must be protected to prevent structural as well as cosmetic damage by eliminating direct contact with other components and abrasive packaging material such as EPS foam & corrugated material.
- 5.1.6. To prevent pointed legs from puncturing through cartons, corrugated sheet(s), wood squares, plastic forms, etc. should be used as needed to increase surface contact area between the leg and the carton.
- 5.1.7. For all headboards and footboards that are packed inside of a corrugated container with a length greater than 60 in. (152.4 cm) or Queen size and larger must be blocked and braced using a plywood plank 3/8 in. (9 mm) minimum thickness to prevent the legs from puncturing the corrugated container when in racking / storage. Secure the plywood plank to the shipping carton to restrict movement (See Figure 5). Additionally, this wood component will need to meet the requirements outlined in the Wood & Composite Wood Panel Packaging Material Requirements, Document Number 03-000087.

Edge and Corner Protection

All edges and corners must be protected from impact with corner blocks and angle pads.

5.1.8. A minimum coverage of 75% of any given length / edge should be protected. For products weighing over 150 lbs. (68 kg), the minimum thickness of corrugated, EPS or EPE foam, angle / corner pads or channel pads must be 1.5 in. (3.8 cm). For products weighing below 150 lbs. (68 kg), the minimum thickness of 1 in. (2.5 cm) of corrugated, EPS or EPE foam, angle / corner pads or channel pads. No more than 12 in. (30.5 cm) gap of any given edge is allowed without protection.

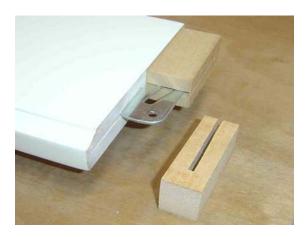
When using Expanded Polystyrene (EPS):

Preferred method - Molded EPS

Material density no lower than - 1.0 lb/ft³ (16 kg/m³) this applies to all critical components, edge protectors and corner protectors.

5.1.9. Siderail Bed-Hook / "J"-Hook protection: Protect metal hooks of the Siderails from end drops (impact) by increasing the bearing surface with rigid wood block or MDF blocks with slot cut-out for the hooks (See Figure 1). These wood components will need to meet the requirements outlined in the Wood & Composite Wood Panel Packaging Material Requirements, Document Number 03-000087.

 $Figure \ 1$ Protect J-Hook / Bed-Hook with wooden/MDF block with cut-out





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5.1.10. Stretchwrapping around the packaging and the product to further contain the components or tape packaging components to the abrasion barrier so they act as one unit is recommended

Associated Hardware & QC Verification Sticker

See the Packaging Requirements for Hardware, Document Number 03-000070 for packaging and identification of the Bed hardware.

Inner Carton(s)

Any and all inner cartons shall be printed with their contents and quantity as they relate to the Assembly Instructions (AI). Example: "Component A – Finials – Quantity 4"

Outer Container

In most cases, the outer container / box will be a FTD (Full Telescoping Design Style Trays), a FOL (Full Overlap Slotted Container), or FPF (Five Panel Folder) constructed from Doublewall (5-Ply) Corrugated with a Burst strength of a minimum of 275 lb/in² (1896 kPa) test.

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Crating

In special cases, open style crating may be required to ensure a product is properly protected from handling and shipping damage. The requirement for crating depends on the design complexity of the item. Reference the Wood & Composite Wood Panel Packaging Material Requirements, Document Number 03-000087, for details.

Container Closure

Use only approved carton closure methods / materials. Staples are not acceptable. Reference the Corrugated Container Specification, Document Number 03-000100 for details.

Carton Marking / Labeling

Reference the Specification for Carton Markings, Document Number 03-000071 for details.

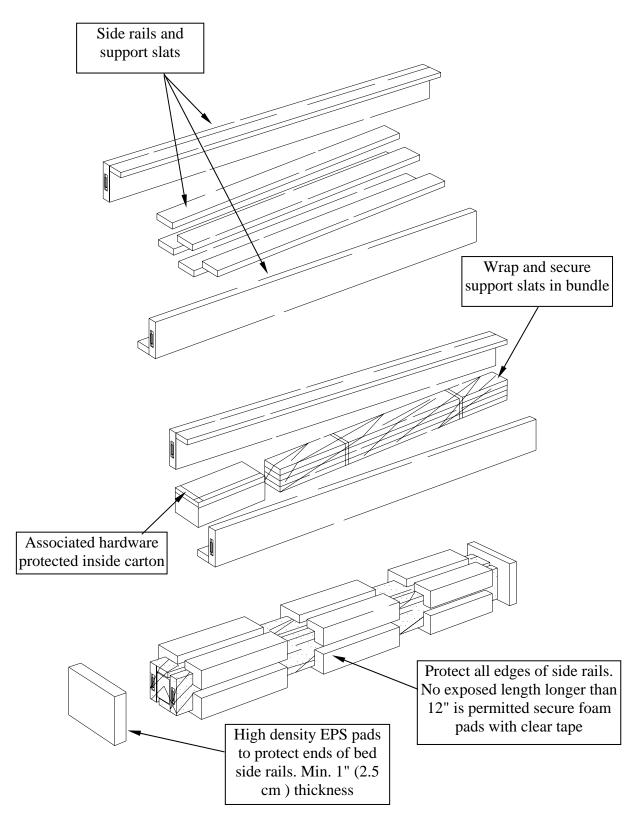
6. APPLICABLE DOCUMENTS

1)	03-000100	Corrugated Container Requirements
2)	03-000071	Specification for Carton Marking
3)	03-000070	Packaging Requirements for Hardware
4)	03-000087	Wood & Composite Wood Panel Packaging Material Requirements
5)	03-000073	Plastic Bag Requirements
6)	03-000088	Product Palletization Requirements
7)	03-000072	Pallet Construction Requirements

Figure 2

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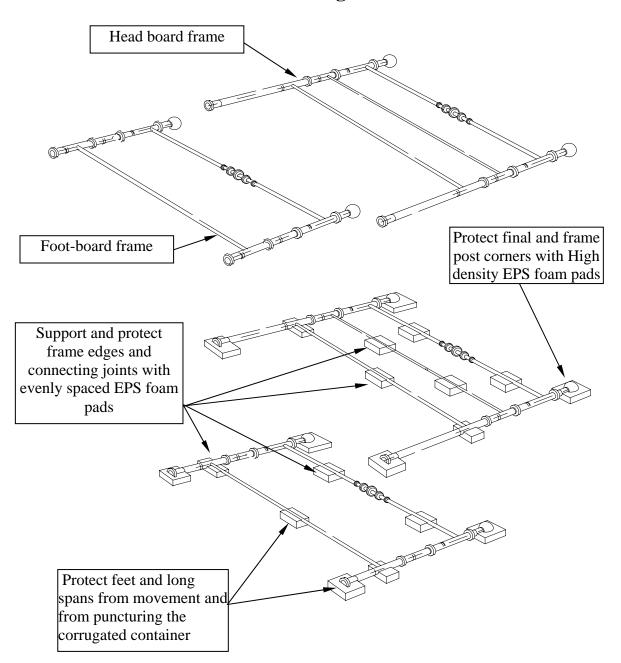
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Figure 3

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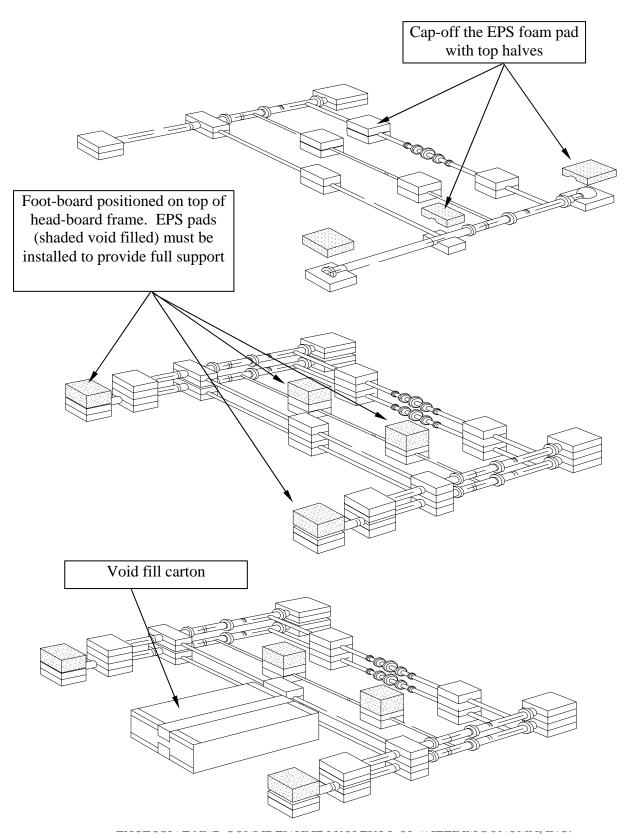
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Figure 5

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