

RETAIL PACKAGING STANDARDS

Ross Stores, Inc.

Last Amended: April 2024



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1.0 GENERAL INFORMATION

1.1 Purpose

The purpose of this document is to provide detailed retail packaging standards required by Ross Stores, Inc.

It is the responsibility of the vendor to ensure that packaging material used for Ross Stores, Inc. meets the minimum packaging requirements.

1.2 Guideline Allowances

Unless otherwise specified, packaging material must abide by the tolerance values in grid below:

Attribute	Standard Tolerance
Weight	±5%
Thickness	±0.1mm (0.0039")
Dimension	±2mm (0.0787")

2.0 GENERAL PACKAGING REQUIREMENTS

2.1 Package Construction

- Boxes (folding carton) to be assembled squarely and sit flat on level surface.
- All packaging should sized-to-fit product and designed without any package bulge.
- Glue joints to have good seal and strong adhesion.
- Scores on the boxes (folding cartons) must be deep enough to ensure there is no cracking of the paper.
- All labels to be applied squarely with no presence of wrinkles or tears.
- Use of insert cards are encouraged for additional package strength.
- Lamination to be used on paper substrates whenever possible.

2.2 Security & Protection Measures

- Foam sheets should be used to eliminate contact between fragile products.
- Styrofoam blocks may be placed above or below product to absorb shock (where applicable).
- Swift tacks should be utilized in securing textiles to packaging and/or other products and, if possible, applied to center mass of package.
- Zip-ties or wire-ties should be used to secure products to packaging and/or other products.
- Plastic reinforcers are to be used in combination with zip-ties/wire-ties to prevent packaging material tear.
- Wafer seals should be used to deter consumers from tampering or opening packages in-store.
- Wafer seal specification:
 - Clarity – Clear
 - Adhesive – High Tack
 - Size - 25.4mm (1”) Minimum Diameter
 - Wafer seal application:
 - Top and bottom box flaps
 - Wrap bands
 - Tray lidding
 - Behind ribbon knots
- Glue dots are to be used to secure product in correct position and orientation within the package.

2.3 Packaging Coating Standards

- Use only Aqueous Coating or UV Coating
- Use lamination to increase package strength.

3.0 PAPERBOARD – MINIMUM MATERIAL SPECIFICATIONS

3.1 General Requirements

SBS (Solid Bleach Sulfate) bright white is the standard for all paperboard packaging. A minimum brightness value of 89 GE is recommended. All thickness standards are based on virgin SBS. If recycled SBS is used, thickness must be adjusted accordingly.

3.2 Paperboard Packaging Standards

Vendors must comply with the minimum specifications for the following packaging types. Only material specification values that are greater than or equal to the minimum standards are acceptable.

3.3 Hang Tags

- Material:
 - SBS (Solid Bleached Sulfate)
 - C2S
- Weight:
 - 350 GSM
- Thickness:
 - 20 Point (0.508mm) minimum

3.4 Insert Cards

- Material:
 - SBS (Solid Bleached Sulfate)
 - C1S
- Weight:
 - 350 GSM
- Thickness:
 - 20 Point (0.508mm) minimum

3.5 Tile Cards

- Material:
 - SBS (Solid Bleached Sulfate)
 - C1S
- Weight:
 - 400 GSM
- Thickness:
 - 24 Point (0.610mm) minimum
- Requirements: When tile cards contain die cut (e.g., for ribbon), ensure die cut is minimum 12mm from the edge



3.6 Header Cards / U-Cards

- Material:
 - SBS (Solid Bleached Sulfate)
 - C1S
- Weight:
 - 350 - 550 GSM
- Thickness:
 - 20 - 34 Point (0.508 – 0.864mm) **See Packaging Material Specification Matrix*

Thickness will depend on the size and weight of the packaged product. Determine the packaging GSM by first selecting the row with appropriate product weight range. Next, select the appropriate package dimension column. The intersection where the product weight and package dimension meet will reflect the packaging GSM minimum standard.

Header Card / U-Card - Specification Matrix					
1 Select Product Weight Range 	2 Select Package Dimension Range 				
	Package Dimension	Pkg Dim ≤ Cell Phone	→ Cell Phone < Pkg Dim ≤ Tablet	→ Tablet < Pkg Dim < Laptop	Laptop ≤ Pkg Dim
	Product Weight (g)				
	≤ 225g	350 GSM (20 Point/0.508mm)	350 GSM (20 Point/0.508mm)	400 GSM (24 Point/0.610mm)	400 GSM (24 Point/0.610mm)
	225g < Prod Wt ≤ 680g	350 GSM (20 Point/0.508mm)	400 GSM (24 Point/0.610mm)	400 GSM (24 Point/0.610mm)	525 GSM (28 Point/0.711mm)
680g < Prod Wt < 950g	400 GSM (24 Point/0.610mm)	400 GSM (24 Point/0.610mm)	525 GSM (28 Point/0.711mm)	550 GSM (34 Point/0.864mm)	
Prod Wt ≥ 950g	400 GSM (24 Point/0.610mm)	525 GSM (28 Point/0.711mm)	550 GSM (34 Point/0.864mm)	550 GSM (34 Point/0.864mm)	

3.7 Backer Cards

- Material:
 - SBS (Solid Bleached Sulfate)
 - C1S
 - C2S
- Weight:
 - 400 - 800 GSM
- Thickness:
 - 24 - 50 Point (0.610 – 1.270mm) **See Packaging Material Specification Matrix*

Thickness will depend on the size and weight of the packaged product. Determine the packaging GSM by first selecting the row with appropriate product weight range. Next, select the appropriate package dimension column. The intersection where the product weight and package dimension meet will reflect the packaging GSM minimum standard.

Backer Card - Specification Matrix					
1 Select Product Weight Range 	2 Select Package Dimension Range 				
	Package Dimension	Pkg Dim ≤ Cell Phone	→ Cell Phone < Pkg Dim ≤ Tablet	→ Tablet < Pkg Dim < Laptop	Laptop ≤ Pkg Dim
	Product Weight (g)				
	≤ 225g	400 GSM (24 Point/0.610mm)	400 GSM (24 Point/0.610mm)	600 GSM (40 Point/1.016mm)	600 GSM (40 Point/1.016mm)
	225g < Prod Wt ≤ 680g	400 GSM (24 Point/0.610mm)	400 GSM (24 Point/0.610mm)	600 GSM (40 Point/1.016mm)	600 GSM (40 Point/1.016mm)
680g < Prod Wt < 950g	400 GSM (24 Point/0.610mm)	400 GSM (24 Point/0.610mm)	600 GSM (40 Point/1.016mm)	600 GSM (40 Point/1.016mm)	
Prod Wt ≥ 950g	400 GSM (24 Point/0.610mm)	600 GSM (40 Point/1.016mm)	600 GSM (40 Point/1.016mm)	800 GSM (50 Point/1.270mm)	

3.8 Blister Cards




- Material:
 - SBS (Solid Bleached Sulfate)
 - C1S
 - C2S

- Thickness:

Construction	Total Paperboard Weight & Thickness
1 Ply Paperboard + 1 Ply Blister	350 GSM 20 Point (0.508mm)
1 Ply Blister + 1 Ply Paperboard + 1 Ply Blister	300 GSM 16 Point (0.406mm)
1 Ply Paperboard + 1 Ply Blister + 1 Ply Paperboard	600 GSM 40 Point (1.016mm) Total
1 Ply Paperboard + 1 Ply Blister + 1 Ply Blister + 1 Ply Paperboard	600 GSM 40 Point (1.016mm) Total

- Requirements:

- Rounded corners
 - Cell Phone ≤ Pkg Dim < Tablet: 3.175mm (1/8”) corner radius
 - All other products: 6.35mm (1/4”) corner radius
- Hang hole
 - Placement – Top of inner hole minimum 6mm from the edge of package (*No more than 10mm*)
 - Hang hole types:

 Circle	STANDARD
 Butterfly	<i>Acceptable</i>
 J-Hook	<i>Not Preferred</i>

- Reinforced hang holes are preferred (e.g. grommet).
 - Hang hole is only compatible with product gross weight < 1kg (2.2lbs)
- Sealing Application
 - Blister coating (functional adhesive) to be applied to all face seal blister cards.
 - Minimum recommended flange size is 6mm (0.25”)

3.9 Wrap Bands

- Material:
 - SBS (Solid Bleached Sulfate)
 - C1S
- Weight:
 - 350 GSM
- Thickness:
 - 20 Point (0.508mm) Minimum
- Requirements:
 - Must be applied squarely to product.

- Sized appropriately to remain in place.
- Wafer seals may be required to ensure proper placement.

3.10 Tray Boxes / Folding Cartons

- Material:
 - SBS (Solid Bleached Sulfate)
 - C1S
- Weight:
 - 350 GSM
- Thickness:
 - 20 Point (0.508mm) Minimum (not recommended for fragile product)

4.0 LABELS (STICKERS) – MINIMUM MATERIAL SPECIFICATIONS

Vendors must comply with the minimum specifications for the following packaging types. Only material specification values that are greater than or equal to the minimum standards are acceptable.

Vendor **must** confirm adhesive type (e.g. permanent adhesive / removable) prior to production.

- Material – Option 1:
 - Pressure Sensitive Adhesive Paper
 - Face Stock Thickness:
 - 60 lbs. White Gloss Paper
- Material – Option 2:
 - Plastic film-based material
 - Face Stock Thickness:
 - 2 mil PP Clear or White
- Material – Option 3:
 - Metallized Mylar film base
 - Face Stock Thickness:
 - 2mil

5.0 CORRUGATED – MINIMUM MATERIAL SPECIFICATIONS

5.1 Linerboard & Flute Grade

- Corrugated board is to be constructed with the use of litho-lamination.
- SBS is the preferred material for all printed top sheets.
- All linerboards are to be at least “B” Grade (“A” or “B” grade materials are acceptable, C Grade are not acceptable)
- Flute medium are to be high performing, structurally strong and not soft (mushy).
- Corrugate flute direction should be vertical to maximize stacking performance.

5.2 Corrugate Packaging Standards

Vendors must comply with the minimum specifications for the following packaging types. Only material specification values that are greater than or equal to the minimum standards are acceptable. In exceptional cases, double wall corrugate may be required.

5.3 Closed Boxes

- Material: **See Packaging Material Specification Matrix*
 - E-Flute single wall corrugated
 - Burst test 175psi
 - Litho-Laminated
 - Top Sheet - SBS
 - B-Flute single wall corrugated *for fragile product*
 - Burst test 200psi
 - Litho-Laminated
 - Top Sheet - SBS

Flute spec will depend on the size and weight of the packaged product. Determine the Flute spec by first selecting the row with appropriate product weight range. Next, select the appropriate package dimension column. The intersection where the product weight and package dimension meet will reflect the Flute spec minimum standard.

Corrugated (Closed Box) - Specification Matrix					
1 Select Product Weight Range 	Package Dimension	Pkg Dim ≤ Tablet	→ Tablet < Pkg Dim ≤ Laptop	→ Laptop < Pkg Dim < Monitor	Monitor ≤ Pkg Dim
	Product Weight (g)				
	≤ 225g	E-Flute	E-Flute	E-Flute	E-Flute
	225g < Prod Wt ≤ 680g	E-Flute	E-Flute	E-Flute	E-Flute
	680g < Prod Wt < 950g	E-Flute	B-Flute	B-Flute	B-Flute
Prod Wt ≥ 950g	E-Flute	B-Flute	B-Flute	B-Flute	
		2 Select Package Dimension Range 			

5.4 Open Boxes

- Material: **See Packaging Material Specification Matrix*
 - E-Flute single wall corrugated
 - Burst test 175psi
 - Litho-Laminated
 - Top Sheet - SBS
 - B-Flute single wall corrugated *for fragile product*
 - Burst test 200psi
 - Litho-Laminated
 - Top Sheet - SBS

Flute spec will depend on the size and weight of the packaged product. Determine the Flute spec by first selecting the row with appropriate product weight range. Next, select the appropriate package dimension column. The intersection where the product weight and package dimension meet will reflect the Flute spec minimum standard.

Corrugated (Open Box) - Specification Matrix					
1 Select Product Weight Range 	2 Select Package Dimension Range 				
	Package Dimension	 Pkg Dim ≤ Tablet	 Tablet < Pkg Dim ≤ Laptop	 Laptop < Pkg Dim < Monitor	 Monitor ≤ Pkg Dim
	Product Weight (g)				
	≤ 225g	E-Flute	E-Flute	E-Flute	E-Flute
	225g < Prod Wt ≤ 680g	E-Flute	E-Flute	E-Flute	E-Flute
	680g < Prod Wt < 950g	E-Flute	B-Flute	B-Flute	B-Flute
Prod Wt ≥ 950g	B-Flute	B-Flute	B-Flute	B-Flute	

6.0 PET (ACETATE) – MINIMUM MATERIAL SPECIFICATIONS

6.1 Clarity

- High Clarity

6.2 PET (Acetate) Material Grade

- PET Sheet (Folding Cartons, Tubes, Lidding) – APET Preferred, PETE acceptable (RPET is not preferred).
- PET Thermoform – APET Preferred, PETE acceptable (Recycled PET is not preferred).
- Blisters/Clamshells – APET Preferred, PETE acceptable (Recycled PET is not preferred)

6.3 PET (Acetate) Guidelines

Vendors must comply with the minimum specifications for the following packaging types. Only material specification values that are greater than or equal to the minimum standards are acceptable.

6.4 Folding Cartons, Tray Lidding

- Material:
 - APET/PETE
- Thickness:
 - 0.35mm (0.013”) minimum

6.5 Tubes & End Caps

- Material:
 - APET/PETE
- Thickness:
 - 0.35mm (0.013”) minimum
- Requirements:
 - All tubes must be finished with rolled-edge on both sides to increase strength

6.6 Blisters / Clamshells

- Material:
 - APET/PETE
- Thickness:
 - 0.35mm - 1.00mm *See Packaging Material Specification Matrix

Thickness will depend on the size and weight of the packaged product. Determine the thickness by first selecting the row with appropriate product weight range. Next, select the appropriate package dimension column. The intersection where the product weight and package dimension meet will reflect the thickness minimum standard.

PET (Acetate) Blisters/Clamshells - Specification Matrix				
1 Select Product Weight Range	2 Select Package Dimension Range			
	Package Dimension	Pkg Dim ≤ Cell Phone	→ Cell Phone < Pkg Dim ≤ Tablet	→ Tablet < Pkg Dim < Laptop
Product Weight (g)				
≤ 225g	0.35mm	0.35mm	0.35mm	0.50mm
225g < Prod Wt ≤ 680g	0.35mm	0.35mm	0.35mm	0.50mm
680g < Prod Wt < 950g	0.35mm	0.50mm	0.50mm	0.74mm
Prod Wt ≥ 950g	0.50mm	0.50mm	0.74mm	1.00mm

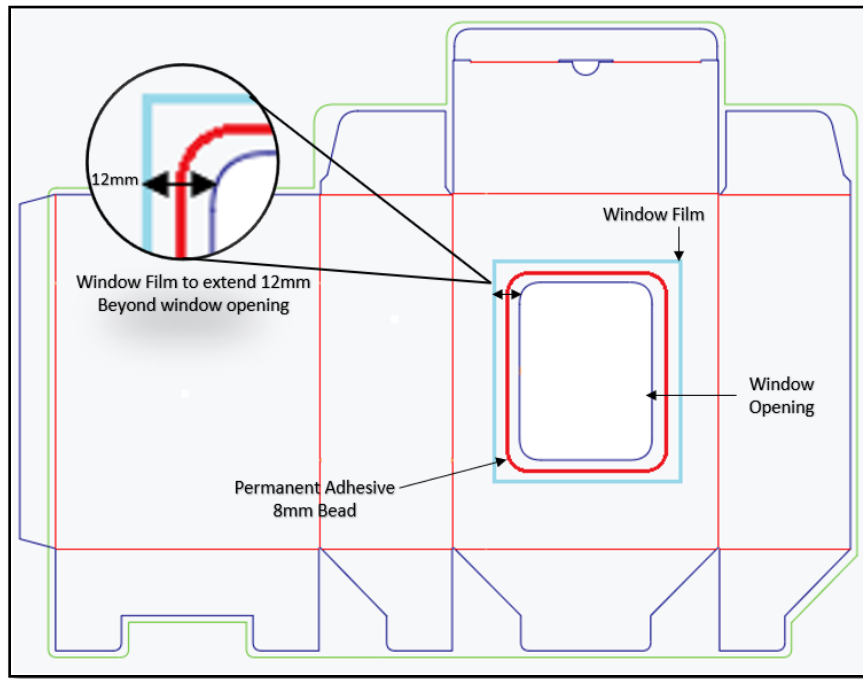
6.7 Window Materials

- Acceptable Material:
 - APET/PETE
- Thickness:
 - 0.2mm - 0.41mm **See Packaging Material Specification Matrix*

Thickness will depend on the size and weight of the packaged product. Determine the thickness by first selecting the row with appropriate product weight range. Next, select the appropriate package dimension column. The intersection where the product weight and package dimension meet will reflect the thickness minimum standard.

PET (Acetate) Window - Specification Matrix				
1 Select Product Weight Range	2 Select Package Dimension Range			
	Package Dimension	Pkg Dim ≤ Cell Phone	→ Cell Phone < Pkg Dim ≤ Tablet	→ Tablet < Pkg Dim < Laptop
Product Weight (g)				
≤ 225g	0.20mm	0.20mm	0.35mm	0.35mm
225g < Prod Wt ≤ 680g	0.20mm	0.20mm	0.35mm	0.35mm
680g < Prod Wt < 950g	0.35mm	0.35mm	0.35mm	0.41mm
Prod Wt ≥ 950g	0.35mm	0.35mm	0.41mm	0.41mm

- Requirements (see image):
 - Gluing PET window requires 100% coverage on all contact points.
 - Recommend width of glue bead ≥ 8mm thick.
 - Window film must extend a minimum of 12mm beyond measurement of window opening on each side.
 - All glue must be using permanent adhesive.



6.8 Vacform Tray

- Material:
 - APET/PETE

- Thickness:
 - 0.35mm - 1.00mm (Pre-converted PET Sheet)
 - *See Packaging Material Specification Matrix

Thickness will depend on the size and weight of the packaged product. Determine the thickness by first selecting the row with appropriate product weight range. Next, select the appropriate package dimension column. The intersection where the product weight and package dimension meet will reflect the thickness minimum standard.

PET (Acetate) Vacform - Specification Matrix					
1 Select Product Weight Range 	2 Select Package Dimension Range 				
	Package Dimension	 Pkg Dim ≤ Cell Phone	→ Cell Phone < Pkg Dim ≤ Tablet	→ Tablet < Pkg Dim < Laptop	 Laptop ≤ Pkg Dim
	Product Weight (g)				
≤ 225g	0.35mm	0.35mm	0.35mm	0.50mm	
225g < Prod Wt ≤ 680g	0.35mm	0.35mm	0.35mm	0.50mm	
680g < Prod Wt < 950g	0.35mm	0.50mm	0.50mm	0.74mm	
Prod Wt ≥ 950g	0.50mm	0.50mm	0.74mm	1.00mm	

- Requirements:
 - Vacform ramp or cavity step should be used to increase stability

Cavity Step

Ramp



7.0 VINYL – MINIMUM MATERIAL SPECIFICATIONS

7.1 Clarity

- High Clarity

7.2 Construction - Material

- Material:
 - PVC (Poly Vinyl Chloride)
 - Soft
 - Wrinkle-free
 - Clear/Colorless
 - Alternative materials are **not** accepted.
- Thickness:
 - 4 - 8 Gauge DPC (Double Polished Clear) (PVC) vinyl bag
 - **See Packaging Material Specification Matrix*

Thickness will depend on the size and weight of the packaged product. Determine the thickness by first selecting the row with appropriate product weight range. Next, select the appropriate package dimension column. The intersection where the product weight and package dimension meet will reflect the thickness minimum standard.

Vinyl - Specification Matrix						
1 Select Product Weight Range 	Package Dimension	 Pkg Dim ≤ Cell Phone	→ Cell Phone < Pkg Dim ≤ Tablet	→ Tablet < Pkg Dim < Laptop	 Laptop ≤ Pkg Dim	
	Product Weight (g)					
	≤ 225g		4 Gauge	4 Gauge	6 Gauge	6 Gauge
	225g < Prod Wt ≤ 680g		4 Gauge	4 Gauge	6 Gauge	6 Gauge
	680g < Prod Wt < 950g		6 Gauge	6 Gauge	8 Gauge	8 Gauge
Prod Wt ≥ 950g		6 Gauge	6 Gauge	8 Gauge	8 Gauge	

7.3 Construction – Piping / Trim Types

Vendors are to use one of the following methods to secure piping and trim to Vinyl Bags:

- Heat Sealed
- Sewn