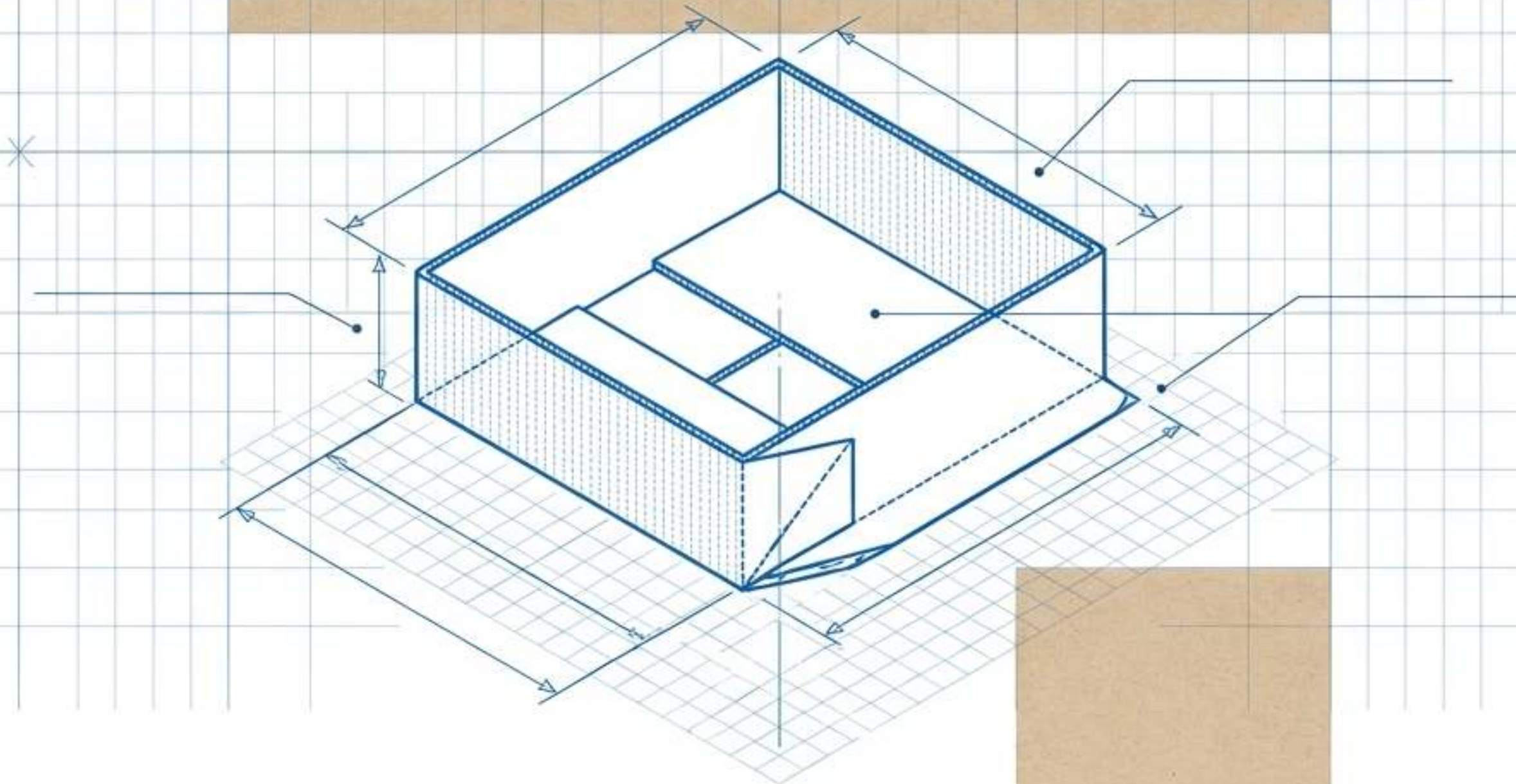


Engineering the Custom Corrugated Box RFQ

A structural procurement guide for buyers, planners, and brand owners.



The Commodity Mindset



I need to order some cardboard boxes.
(Focus on box style alone)

The Engineering Mindset

CRITICAL STRESS POINT:
CORNER IMPACT RESISTANCE
(ECT >44)

BOTTOM SEAM INTEGRITY:
ADHESIVE SHEAR STRENGTH

FLAP HINGE DURABILITY:
CYCLE TEST REQUIREMENT
(20+ FOLDS)

I need a structural packaging RFQ based on
performance requirements and supply chain realities.
(Focus on use conditions and approval priorities)

Final technical and commercial commitments require quotation, artwork, and material review. This guide provides the blueprint to get there.

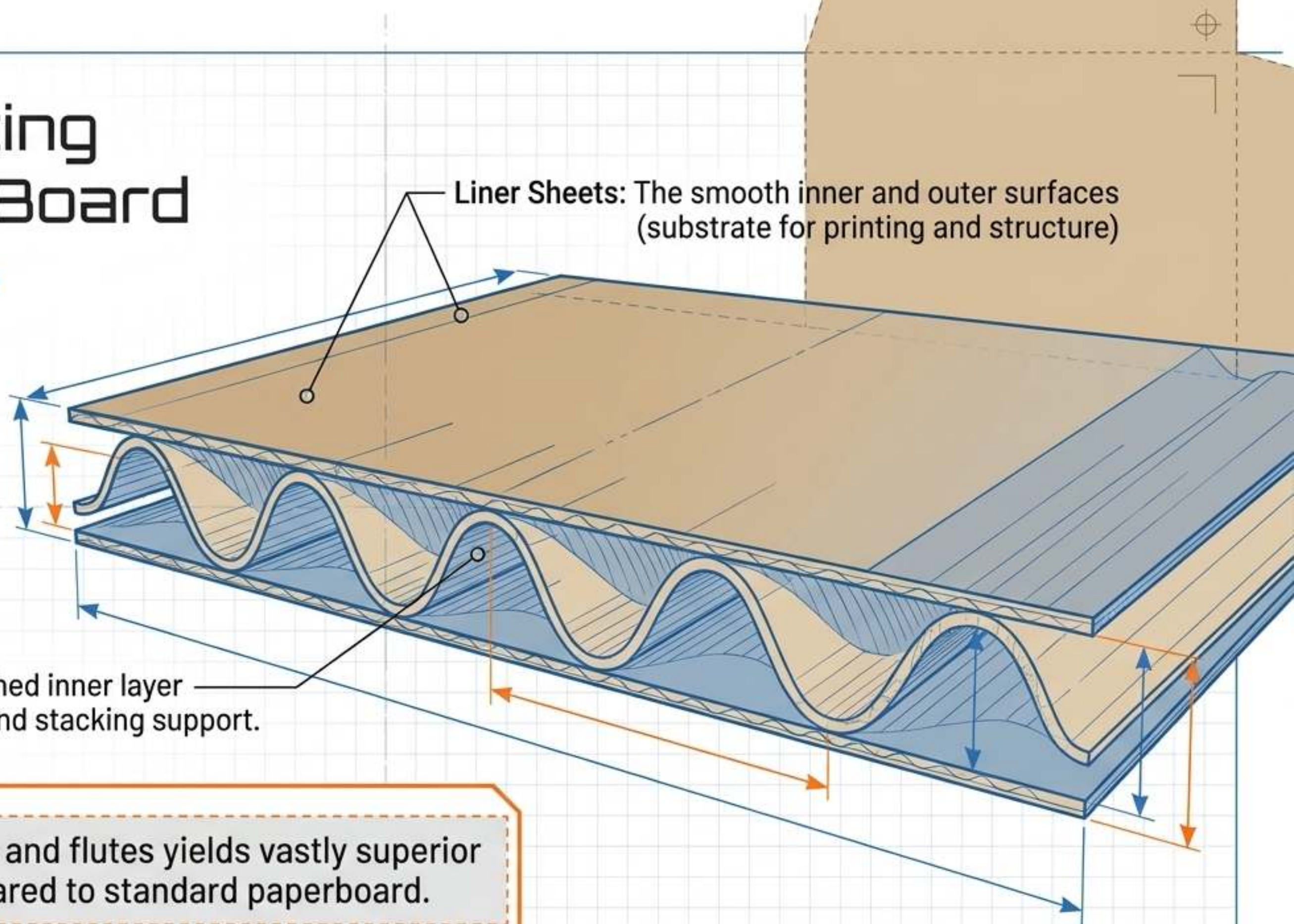
Deconstructing Corrugated Board

Corrugated board is not single-ply paperboard. It is an engineered structure.

Liner Sheets: The smooth inner and outer surfaces (substrate for printing and structure)

Fluted Layers: The arched inner layer providing cushioning and stacking support.

The combination of liners and flutes yields vastly superior structural integrity compared to standard paperboard.



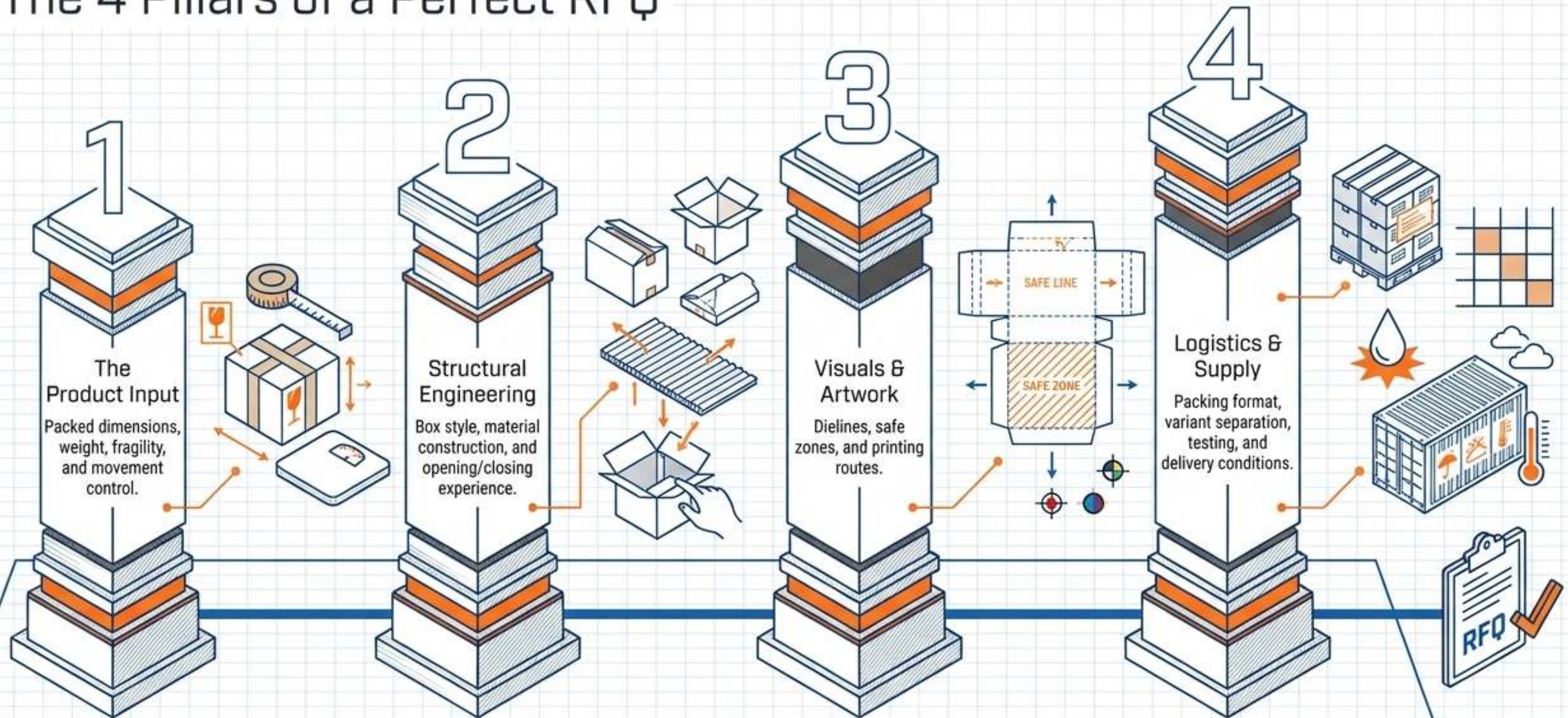
The Packaging Category Matrix

Confirming corrugated board is the correct specification for your product.

Corrugated Custom Boxes	Folding Cartons	Rigid Setup Boxes	Plain Stock Cartons	Wooden Cases / Heavy Transit
Superior cushioning/ stacking, • retail, shipping, retail, storage.	Non-corrugated, fine graphics, compact retail retail packs.	Thick board wrapped with paper, premium presentation (not distribution efficiency).	Used when custom custom dimensions/ graphics/features are unnecessary.	Used when loads or handling exceed corrugated capabilities capabilities.

Takeaway: Ensure your RFQ clarifies if the box is a primary presentation pack, secondary pack, master shipping case, e-commerce mailer, or a hybrid.

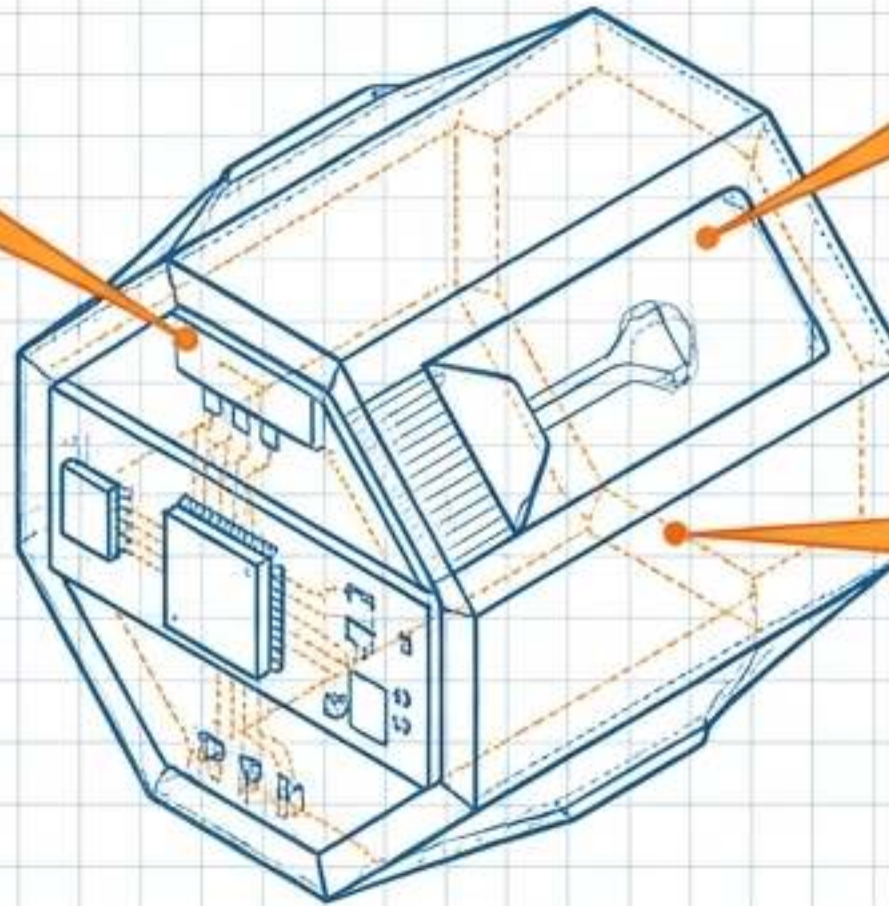
The 4 Pillars of a Perfect RFQ



Pillar 1: The Product as the Baseline

Physical Specs

Dimensions, weight, shape, and quantity per box.



Vulnerabilities

Fragility and surface sensitivity.

Internal Dynamics

Does the product move inside the pack? (Determines need for inserts/pads).

Distribution lifecycle: The RFQ must state how the box will be:

Filled

Closed

Carried

Palletized

Stored

Opened

The Dimensional Divide: Internal vs. External

Internal Dimensions

The critical measurement for product fit.

External Dimensions

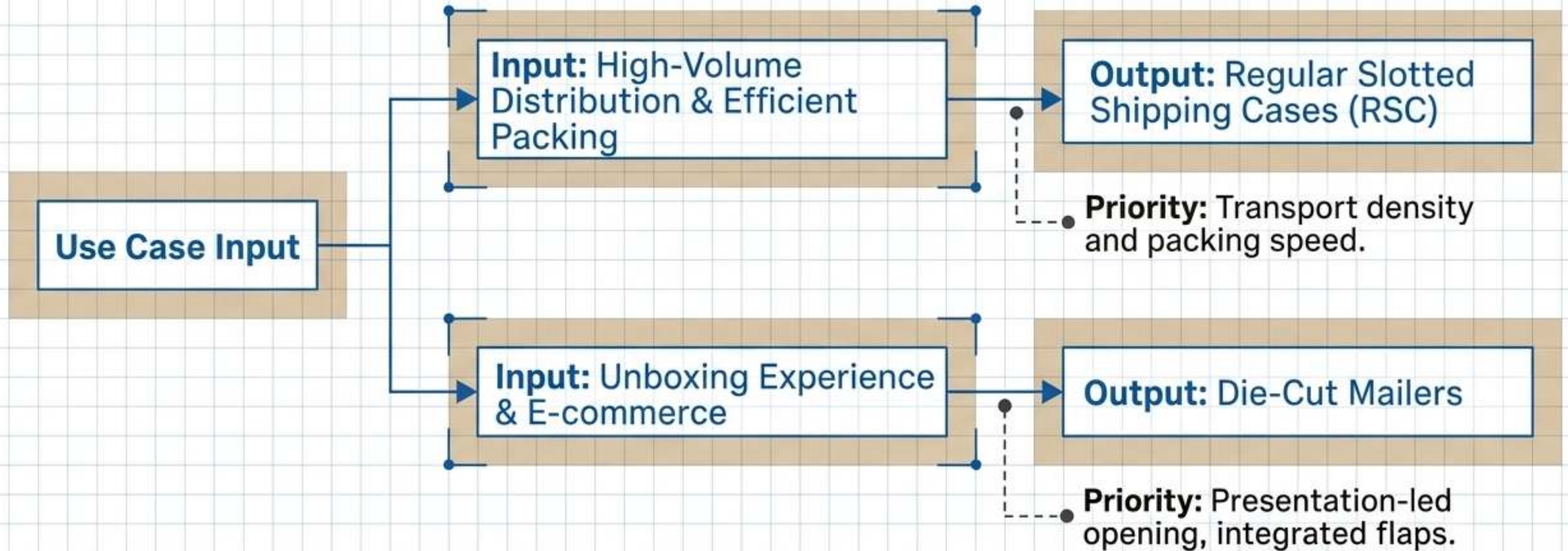
The critical measurement for pallet fit, storage, and transport.

External Dimensions

The critical measurement for pallet fit, storage, and transport.

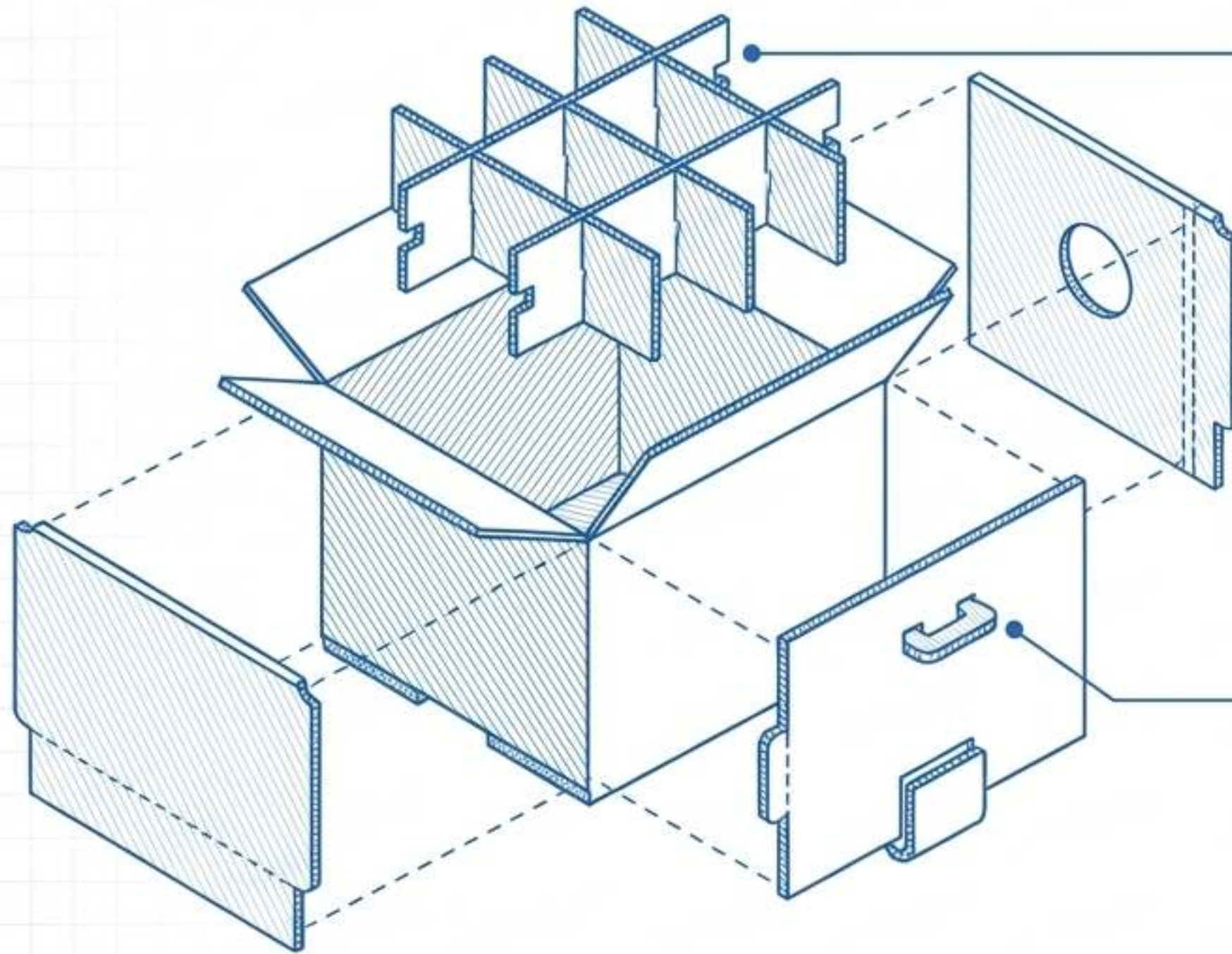
Always provide finished internal dimensions when product fit is the controlling requirement. Clearly label every dimension as internal or external on your drawings.

Pillar 2: Structure Follows the Use Case



Warning: Parcel networks create vastly different risks compared to controlled pallet freight. The structure must reflect the distribution channel.

Structural Features: Value vs. Risk



- **Partitions, Pads & Fitted Inserts**

Request only when the purpose (movement control) is clearly defined.

- **Hand Holes & Tear Strips**

Useful for handling/opening, but may compromise panel integrity.

- **Full-Overlap Panels & Locking Tabs**

Enhance security but can complicate assembly.

Key Directive: Ask the supplier to review if proposed features weaken panels, complicate assembly, or slow down packing speeds.

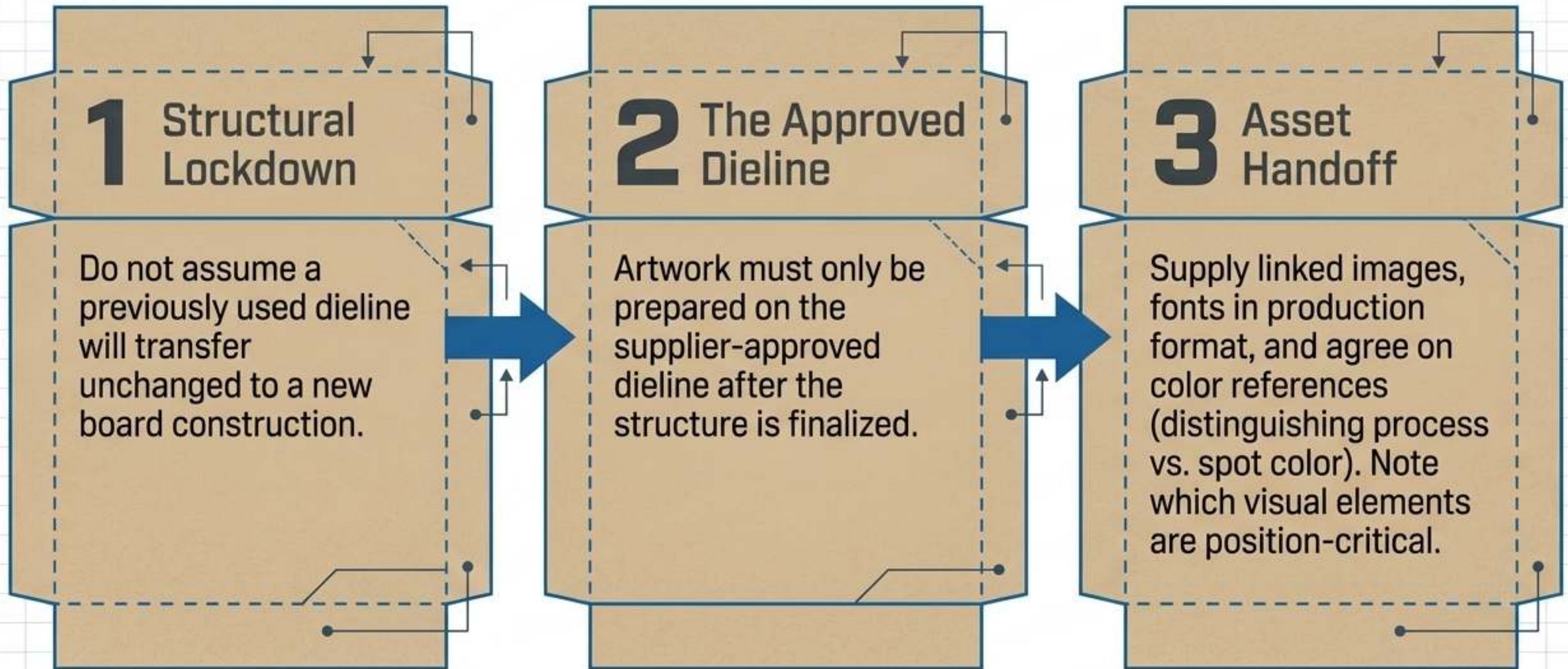
Material Selection via Performance Needs

Environmental / Performance Risk	Supplier Discussion Point
Stacking conditions & compression	Flute profile and single- vs. multi-wall construction.
High moisture exposure	Specialized adhesives or treated liners.
Graphic requirements	Liner appearance and print surface quality.

Rule of Thumb:

- Board descriptions vary between supply chains. The quotation must identify the proposed construction AND the reasoning behind why it was selected.

Pillar 3: Visuals and Artwork Preparation



The Artwork “Safe Zone” Map

**Red Zones
(Danger Zones):**
Edges crossing
over cuts, scores,
slots, seams, and
closure areas.

**Green Zones
(Safe Zones):**
Center of main
panels. Safe for
required text,
barcodes, symbols,
and key graphics.

Visual continuity changes at physical boundaries. Keep critical content away from structural interruptions. Confirm panel orientation, print direction, and closure sequence.

Selecting the Printing Route



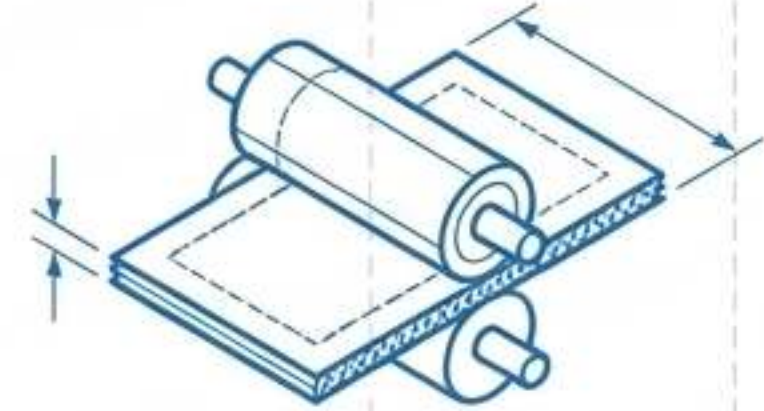
• Simple Direct Printing

- Best for basic logos and shipping marks. Lowest cost, standard surface finish.



• High-Detail Direct Printing

- Best for retail-ready packaging. Improved color fidelity and graphic detail, but increased rub risk.

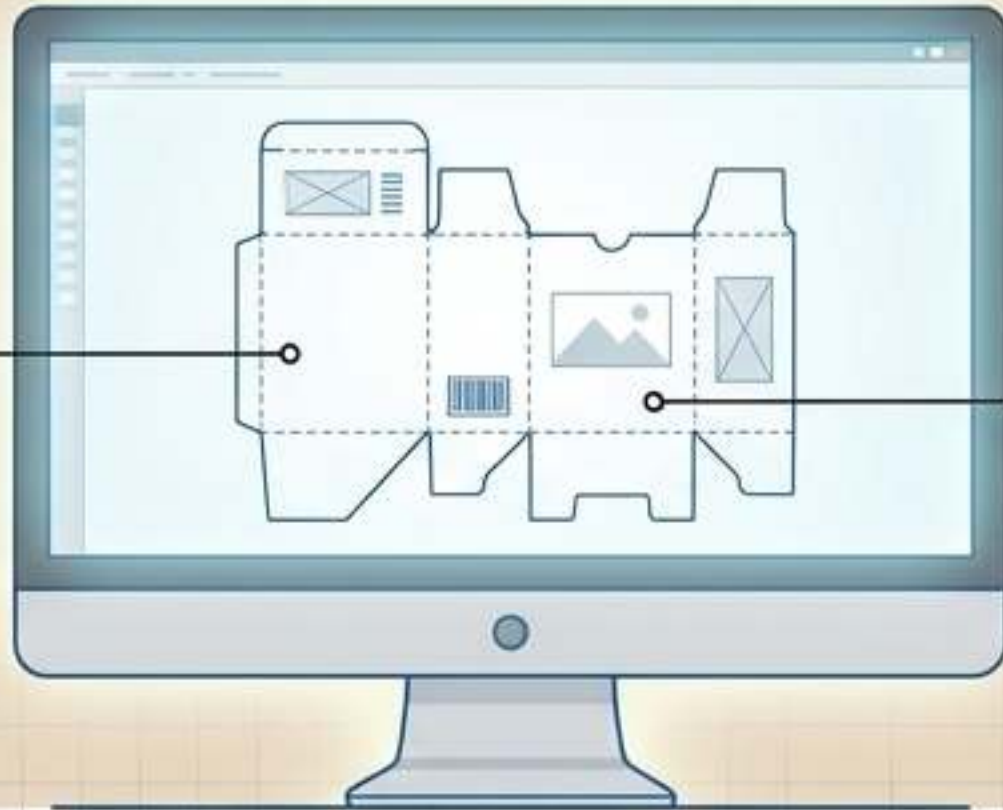


• Laminated to Corrugated (Litho-Lam)

- Best for premium graphics. A pre-printed sheet is laminated to the board. Highest detail, but impacts cost structure and recyclability.

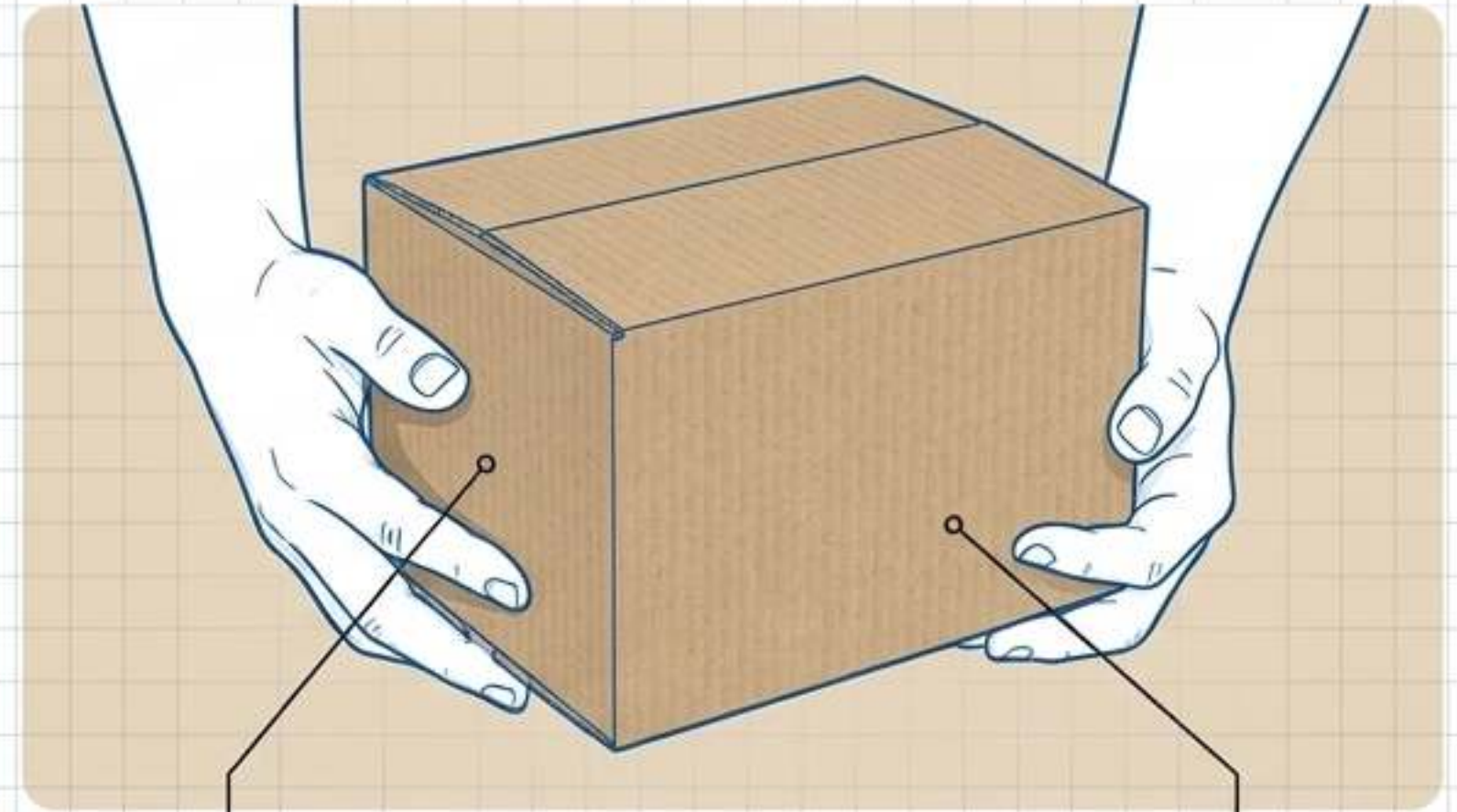
Action: Ask the supplier how your forecast quantity affects the recommended printing and converting route rather than presuming a specific process.

Validation: Digital vs. Physical Proofs



◦ Digital Proofs ◦

Excellent for confirming content, barcode readability, dieline version, and basic placement.



◦ Physical Samples ◦

Mandatory when evaluating board texture, ink interaction, physical structural fit, and true production color.

Requirement: If the box must withstand specific transport, humidity, food-contact, chemical, or recycling conditions, state the requirement and demand evidence/testing for the proposed spec.

Pillar 4: Logistics & Supply Realities

Module 1: Order Dynamics

- Define forecast quantity, initial order quantity, repeat-order patterns, and delivery split needs.

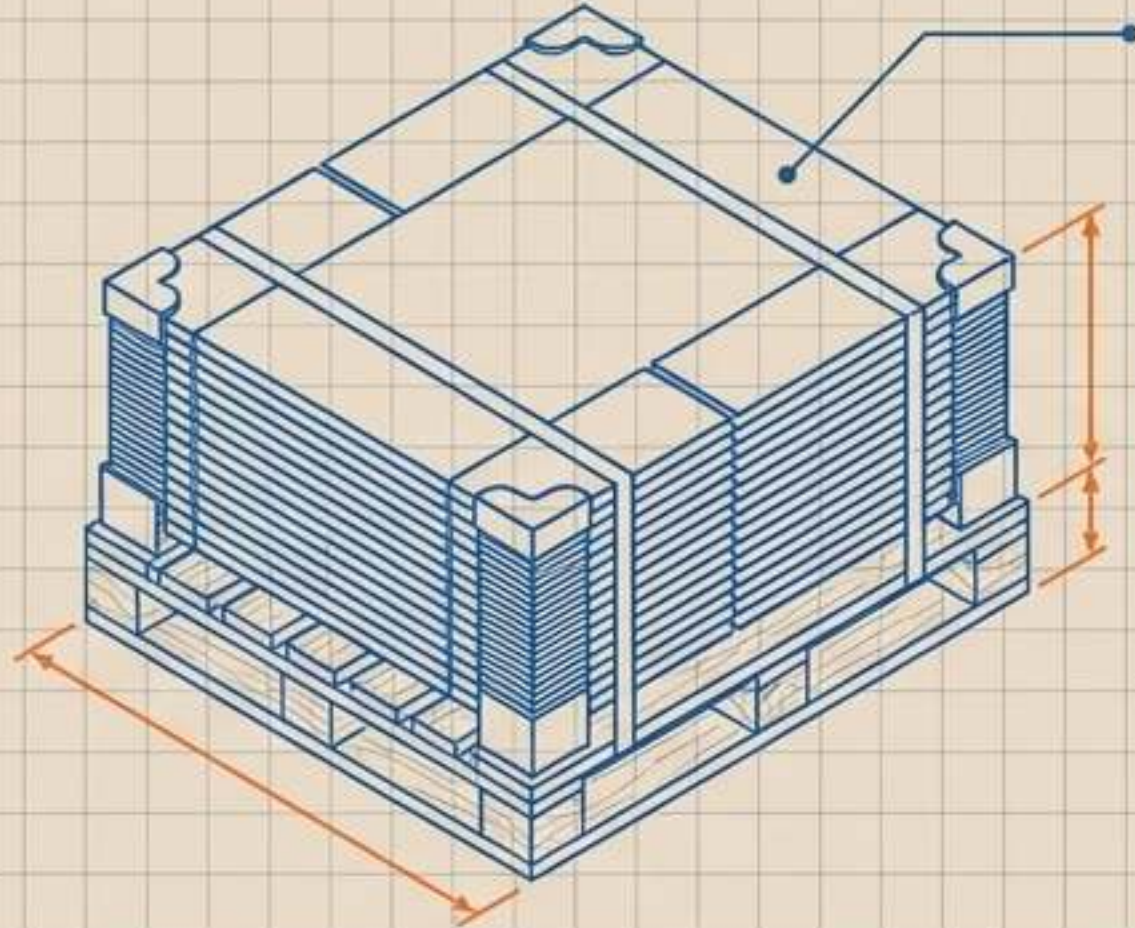
Module 2: Variant Complexity

- Clarify if structures/dimensions are identical across mixed designs. Separate artwork versions create distinct setup, packing, and inventory needs even if the box format is shared.

Module 3: Shipping Prep

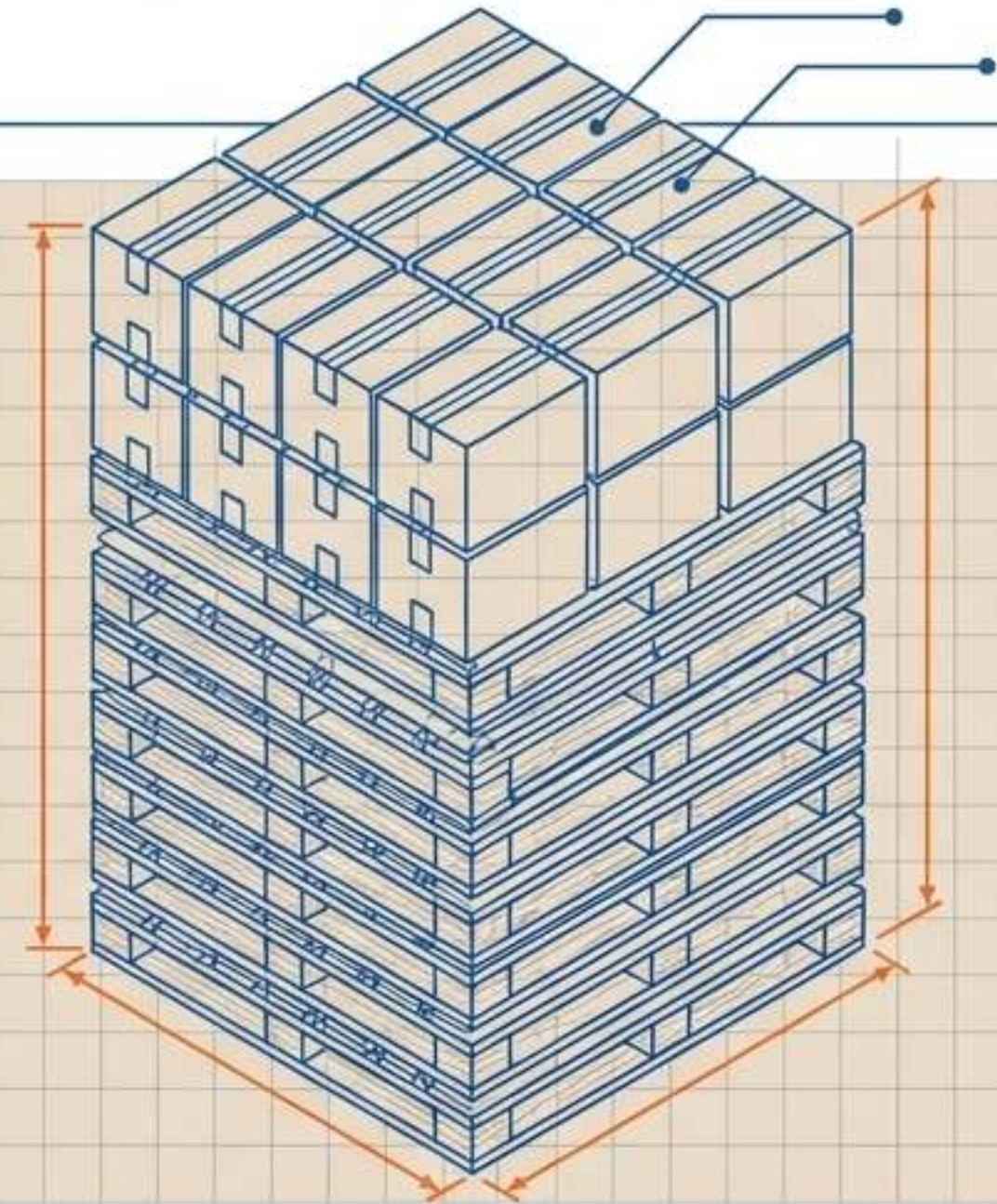
- Specify bundling requirements, palletization rules, bundle labels, and moisture protection needs during transit.

The Spatial Economics of Supply



Flat Supply

- **Pro:** Highly space-efficient transport and storage.
- **Constraint:** Transfers forming and closure work (labor, assembly time, tape/adhesive) directly to your packing site. Requires checking maximum blank size handling.



Assembled Supply

- **Pro:** Zero assembly labor required on site.
- **Constraint:** Highly inefficient transport volume; requires massive storage availability.

Quality, Compliance, and Testing



Sustainability

Define recycled-content preferences and end-of-life recycling requirements.



Specialized Environments

Note if the packaging requires food-contact safety, chemical resistance, or export-grade validation.



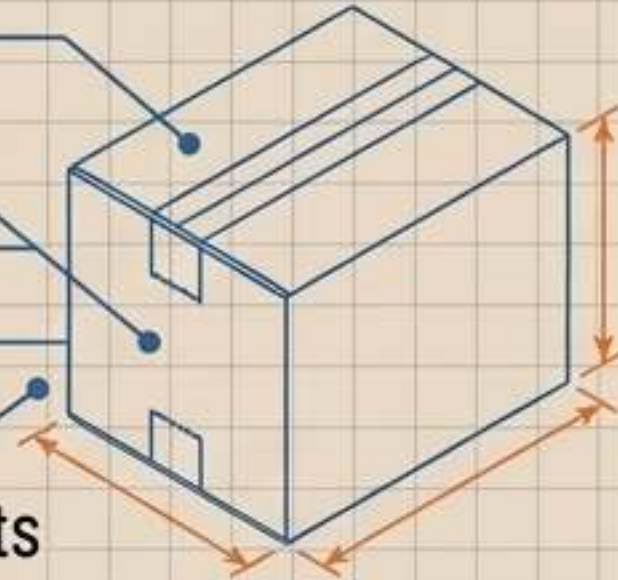
Verification

Do not assume availability. Ask what specific evidence, testing data, or documentation the supplier can offer for their proposed specification.

The RFQ Master Architecture

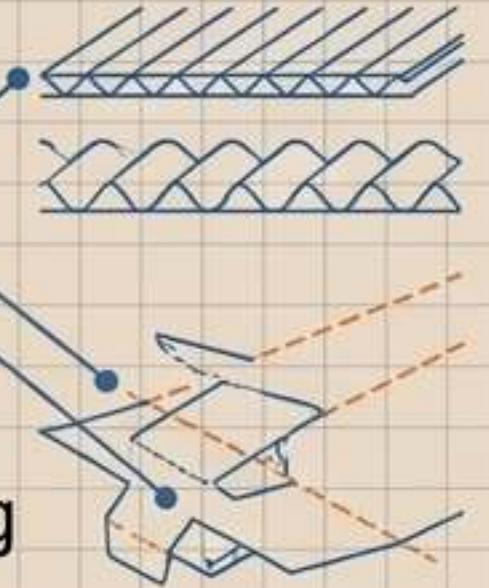
The Product Context

- Box role
- Internal/external dims
- Packed weight/fragility
- Product movement
- Delivery/storage environments



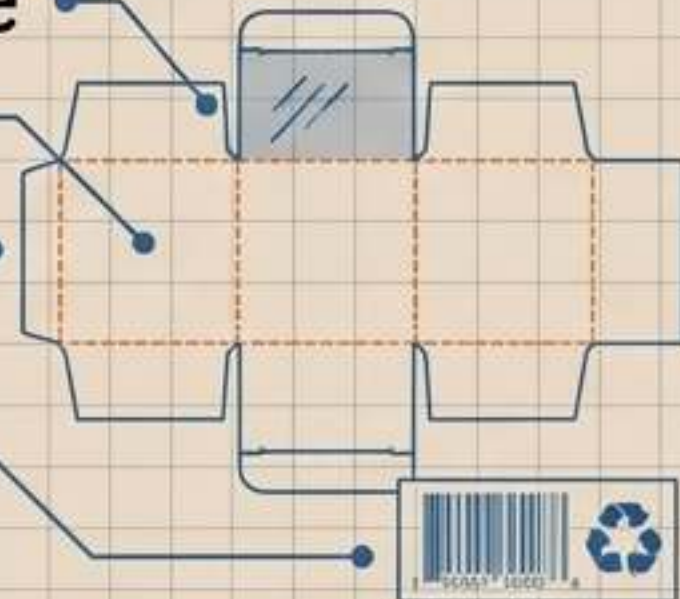
Structural Engineering

- Preferred style
- Closure method
- Structural features
- Proposed corrugated construction & supplier reasoning



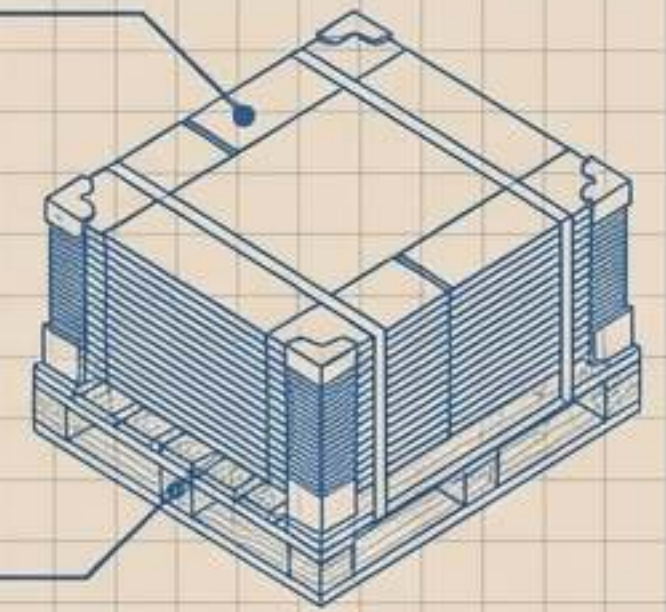
Visuals & Compliance

- Liner appearance
- Print route & finishes
- Dieline/artwork variants
- Barcodes/marks
- Sustainability/testing requirements



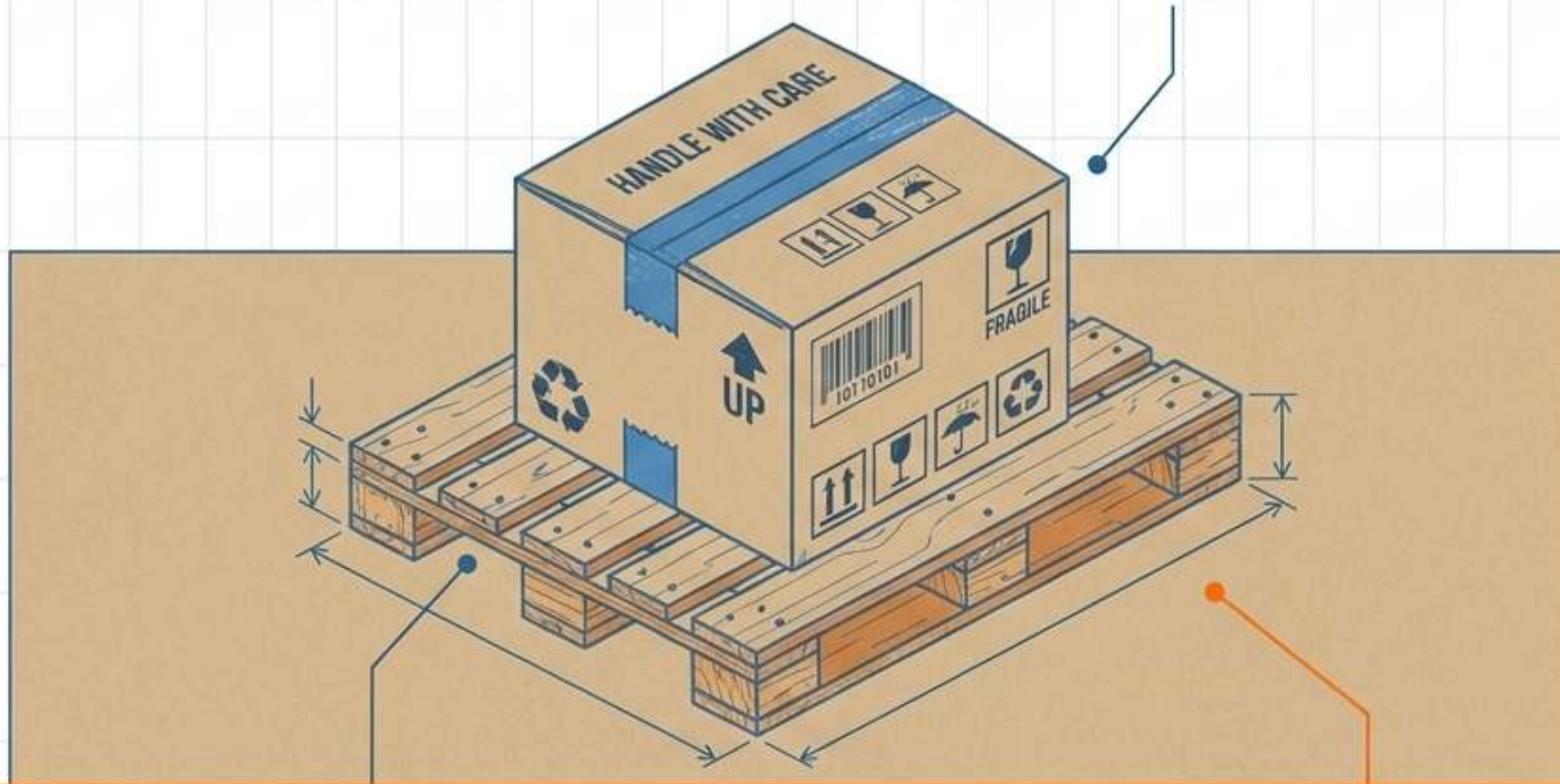
Supply Logistics

- Flat vs assembled
- Bundling/palletization
- Order quantities/forecasts
- Requested proofs/samples
- Clear quotation assumptions/exclusions



The Engineered Sourcing Conclusion

Buyers obtain more comparable, accurate quotations when they define use conditions and approval priorities instead of naming a box style alone.



Final Rule: Match the structure, board proposal, printing route, and packing format to your actual product and distribution environment. Exact commercial and engineering terms belong in the reviewed quotation, not assumptions.