# The Label Spec Cheat Sheet

Every field a printer needs to quote and run your label — condensed from the PackOS label library.

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## 1 · THE SPEC — WHAT A COMPLETE ORDER ANSWERS

| | | |
|---|---|---|
| 1 | **Size & shape** | Finished W × H, plus shape: rectangle (corner radius — 1/8 in is a typical default), circle, oval, or custom. Sized from the container's flat area, not the artwork; standard sizes reuse existing dies. |
| 2 | **Material** | The face-stock family — paper vs film. Dry & indoor leans paper; wet, oily, chilled, or squeezed means film. Table below. |
| 3 | **Adhesive** | The adhesive family, matched to the surface and the environment the label must survive. Table below. |
| 4 | **Finish** | Lamination, varnish, foil — or nothing. Protection first, shelf presence second. Strip below. |
| 5 | **Cut & format** | Kiss-cut on rolls is the production default (rolls feed applicators); sheets suit small hand-applied runs; die-cut singles are event stickers. |
| 6 | **Roll spec** | Unwind position + core ID + max OD + labels per roll — all dictated by the applicator that will run them. Box below. |
| 7 | **Quantity & versions** | Total count and how many artwork versions share the run. Setup amortizes, so unit price falls as runs grow. |

**Common size families:** 2–3 in circles (jar lids) · ~7×2.25 to ~9×3 in bottle wraps · 4×6 in shipping · 1×2.625 in address. Typical, not mandatory — the container decides.

## 2 · WRAP MATH

```
WRAP WIDTH
  W = π × D            (π ≈ 3.1416)
  partial wrap:  W = π×D − gap
                 gap 1/8–1/4 in typical
  full wrap:     W = π×D + overlap
                 keep art clear under the
                 overlapping end
HEIGHT
  H = straight wall only — clear the
      shoulder taper & base curve
EXAMPLE
  3 in dia jar → π × 3 ≈ 9.42 in around
```

Better still: wrap a flexible tape around the container — it measures the true circumference, including out-of-roundness. Overlap or gap, decide deliberately: a near-miss butt seam telegraphs every application tolerance.

## 3 · FACE STOCK — MATERIAL FAMILIES

| | |
|---|---|
| **Uncoated / textured paper** | Dry goods, craft & premium looks. Absorbs moisture, scuffs — short indoor life. |
| **Semi-gloss paper** | The retail default — food, boxes, barcodes. Sheds splashes; edges still wick water. |
| **White BOPP** | Bottles, jars, fridge & bath. Waterproof, oil- and chemical-resistant. |
| **Clear BOPP** | The "no-label" look on glass & clear containers. Needs white ink under the art. |
| **Vinyl** | Squeeze bottles, compound curves, outdoor. The most conformable film. |
| **PET** | Harsh service — chemicals, heat, UV, outdoors. Stiff: flat or simple curves only. |

**Rule of thumb:** if the product sweats — a cold bottle out of the fridge — paper is out and film is in.

## 4 · ADHESIVE FAMILIES

| | |
|---|---|
| **Permanent** | The default. Bonds hard, keeps building over dwell time; removal tears or leaves residue. |
| **Removable** | Peels cleanly within a designed window; time or heat can set it harder. |
| **Repositionable** | Low first grab so you can lift and re-place at application, then it sets. |
| **High-tack / LSE** | Low-energy plastics (HDPE, PP), textured, powder-coated, recycled surfaces. |
| **Freezer / all-temp** | Cold chain & frozen — standard adhesives stiffen and lose tack in the cold. |
| **Wash-off** | Releases in a caustic or hot-water wash; returnable & refillable containers. |

**Two questions catch most mistakes:** what is the surface, exactly — and how cold is the container at application?

## 5 · FINISH

**LAMINATION**
Gloss, matte, or soft-touch film bonded over the print. The workhorse protection for anything handled wet or often.

**VARNISH**
Printed coating, gloss or matte, spot-applicable. Thinner and cheaper than laminate; protects less.

**FOIL**
Hot-stamped or cold-applied metallic. Highest shelf impact; adds tooling and setup, so it rewards larger runs.

## 6 · ROLL SPEC — FROM THE APPLICATOR'S MANUAL, NOT FROM MEMORY

**CORE ID**
Must match the applicator mandrel. 3 in (76 mm) is the common automatic fit; 1 in (25 mm) hand & desktop; 1.5 in (40 mm) also seen. The machine manual is the authority.

**MAX OD**
Capped by the equipment. Order the largest outer diameter the machine accepts — bigger rolls, fewer reloads.

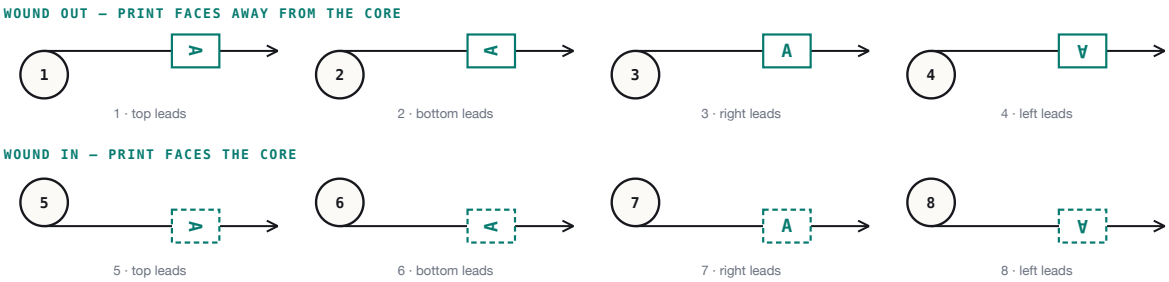
**LABELS PER ROLL**
Set by core + OD + label height + gap + stock thickness. Have the supplier calculate the exact count.

**WIND DIRECTION**
Print faces out (visible on the roll) or in (toward the core) — dictated by the machine's peel path.

**UNWIND POSITION**
Which edge of the copy leads off the roll — the eight positions below. Machine application must match exactly.

**HAND VS MACHINE**
Hand-applied: almost any unwind works — take the stock wind. Machine or co-packer: copy the spec sheet exactly before ordering.

## 7 · UNWIND POSITIONS 1–8




**The 1–8 numbering is a widely used convention, not an enforced standard** — converters' charts vary. State it in words ("position 3 — right edge of copy off first, wound out"; PackOS Quick Quote numbers positions 1–4 the same way) and confirm against your applicator's spec sheet.



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