

Packaging for the Roaster

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OVERVIEW

- What does packaging do?
- Packaging format options
- What is barrier packaging?
- Barrier packaging materials
- One-way degassing valve
- Filling and sealing equipment
- To print or not to print... (Custom Printing)
- Sustainable packaging: are we there yet?
- Single serve

WHAT SHOULD PACKAGING DO FOR YOUR COFFEE?

- Contains
- Preserves
- Protects
- Displays
- Promotes & Sells



PACKAGING FORMAT OPTIONS

What types of packaging are available?

- Barrier Valve Bags
- Paper Bags
- Poly/Metalized Bags
- Cardboard Can
- Tins
- Glass Jars
- Single Serve Cups



THE PAPER BAG

- Short Term Storage of Coffee
- Typically lined to keep oil from 'wicking'
- Built in Re-closure (Tin-Tie)
- Eco Friendly options
 - PLA Plastic (Corn)
 - Paper Liner
 - Typical Size Range: 8oz~5lb
- Price Range: \$ 0.09~0.25
- Customized via: Print, Hot Stamp, Label, Ink Stamp



THE POLY BAG/THE OCS BAG



- Poly Bag
 - Short term & local delivery of coffee
 - Closed via twist tie / Pinhole
 - Typical Size: 5lb
 - Aprox Price: \$ 0.25
- OCS / Frac Pac
 - Thin Material
 - Ground Coffee
 - Single Serve
 - Institutional
 - Typically requires VFFS to make efficiently
 - Typical size range 1.25oz ~2.5lb
 - Aprox Price: \$ 0.03~\$0.25



THE FOIL GUSSETED VALVE BAG

- Long Term Storage of Coffee
- Foil for Barrier
- Valve
- No built in re-closure
- Typical Size Range: 2oz~5lb
- Price Range: \$ 0.12~0.68
- Customized via: Print, Hot Stamp, Label
- Variations
 - Quad, BBB, Clear, Natural Kraft



THE BLOCK BOTTOM BAG

- Long Term Storage of Coffee
- Foil for Barrier
- Valve
- Re-closure options (tin-tie and pocket zip)
- Typical Sizes: 8oz, 16oz, 2lb and 5lb
- Price Range- \$0.30-\$0.80
- Several customization options available (different side panels, front panels, etc.)

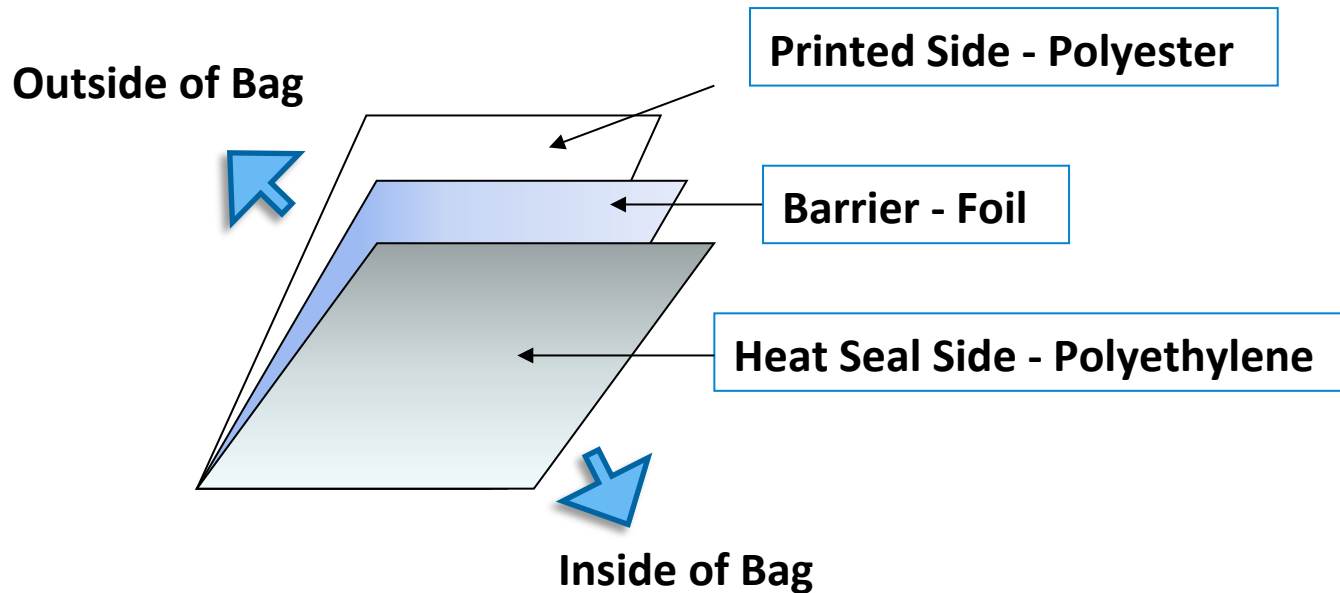


THE STAND-UP POUCH

- Long Term Storage of Coffee
- Foil for Barrier
- Valve
- No built in re-closure
- Typical Size Range: 2oz~5lb
- Price Range: \$ 0.12~0.68
- Customized via: Print, Hot Stamp, Label



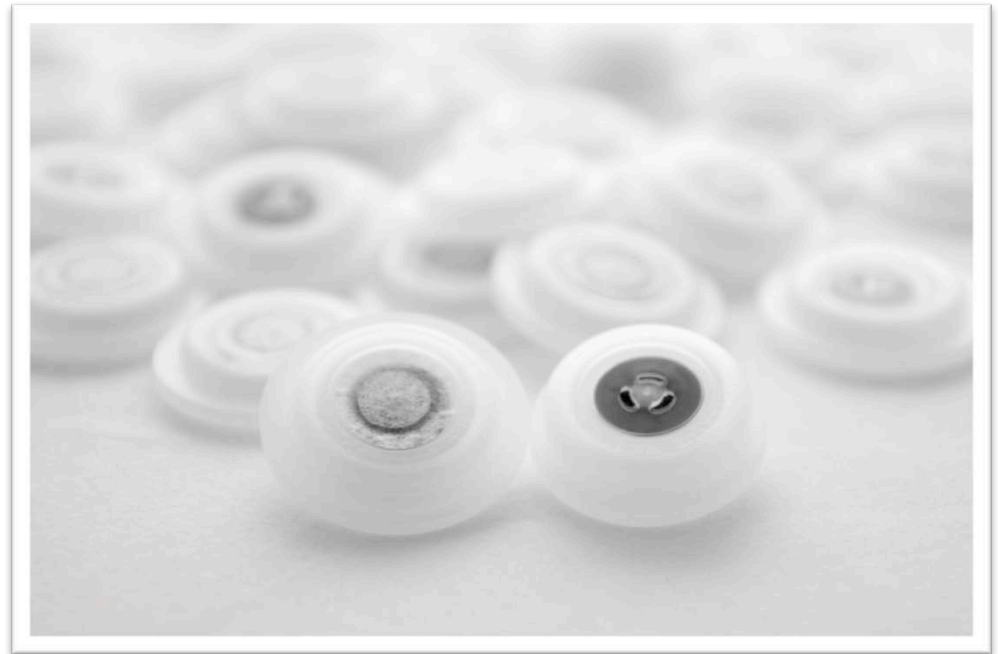
BARRIER VALVE BAGS



- Made of two or more layers
- Materials are combined to create “specific” performance.
- Materials are bonded together with adhesives or plastic.

ONE-WAY DEGASSING VALVE

- Established 20+ years ago
- Allows an airtight package
- CO₂ escapes and O₂ is kept at bay
- Ensures freshness & flavor. Bags don't "blow up"
- Stops oxidation

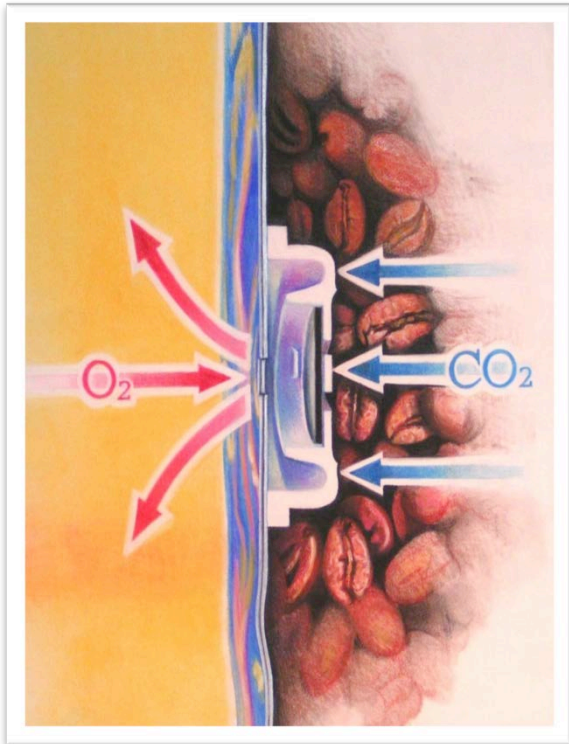


HOW THE VALVE WORKS...

Closed

When there is equal pressure inside & outside...

no O₂ in



Open

When there is higher pressure *inside the bag* vs. the outside...

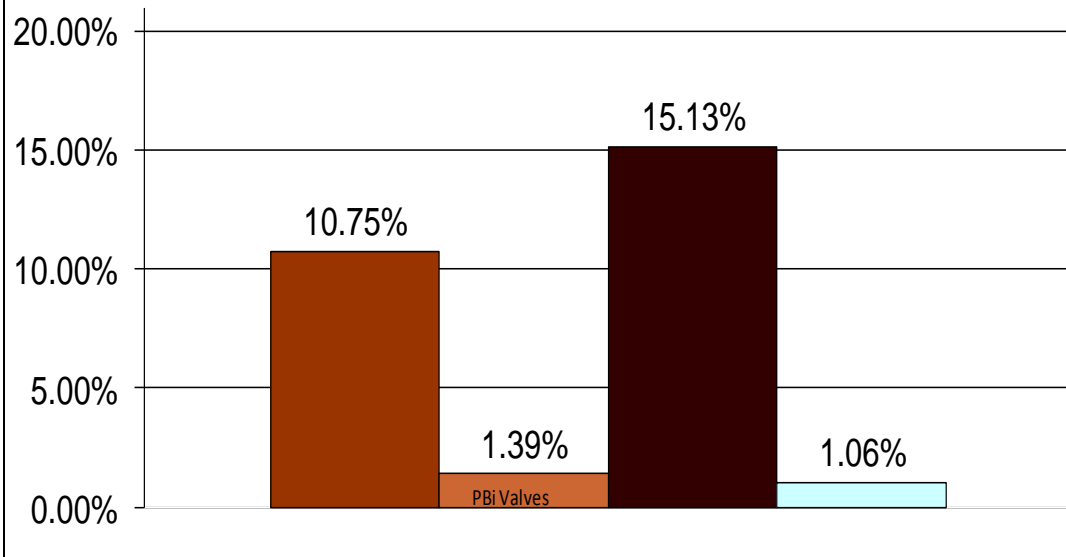
Gas Out



ERRATIC VALVES – AN “INVISIBLE” PROBLEM

Independent Laboratory Testing: Average O2%

Note: Max level possible is 20.9% at sea level



- There are valves on the market that do not perform
- Specialty/niche roasters risk loss of flavor and aroma if valves are dysfunctional
- The problem, Oxygen, is invisible
- Use valves from a proven, trusted supplier

FILLING & SEALING EQUIPMENT MANUAL

Common Tools of the Roaster:



The Scoop



The Scale



The Jaw Sealer

FILLING AND SEALING EQUIPMENT

SEMI-AUTOMATED

Rotary Band Sealer

Will keep up W&F Machine

Weigh & Fill Machine

Avg. 8-15 BPM

1 machine = 2mm lbs / annual

Vacuum, Flush & Seal Machine

Reduce Residual O₂

Does not increase line speed but does reduce O₂ levels



FILLING & SEALING EQUIPMENT

HIGH SPEED AUTOMATED

Automatic Fill & Seal Machine

- Uses premade bags
- Increase output 3-4 times
- Faster change over than FFS



Form, Fill & Seal Machine

- Increase output 4-5 times
- Reduces labor costs
- Reduces package material cost 20-30%
- Requires mechanical/electrical expertise
- F/F/S prices range from \$50k to over \$500k



TESTING PACKAGING INTEGRITY

- Constant QC Tests (Cupping)
- Random Package Integrity Tests
- Residual Oxygen Testing



Headspace Analyzer
(Approx \$ 3K)



Pressurized Water Tank Or 5
Gallon Bucket of Water

MARKETING: RETAIL



Formats:

- Side Gusseted Bags
- Quad Seal Bags
- Block Bottom Bags
- Stand-Up Pouch
- Paper Tin-Tie

Trends:

- Convenience Features
- Simple/Clean Art
- Muted/Natural Colors
- Matte Finishes
- 12oz or less

GOING CUSTOM

Minimum order = 3.5mmsi ~ 30,000
12 oz. bags

- How many do you need in the next 9-12 months?
- How much do I want to spend?
- How quickly do I need it?
- What am I trying to project?



SUSTAINABILITY: ARE WE THERE YET?



If a product is manufactured from a renewable resource, but in the process the earth is left with a permanent deficit *un-payable* by the next generation, that process is not sustainable.

It is the goal and desire is to supply packaging that makes the world a better place to live without depleting it of irreplaceable natural resources. That's how we define sustainable packaging and we feel we owe it to future generations to strive toward this.

SHORT TERM SUSTAINABLE PACKAGING

PLA (Polylactic Acid)

- Made from sugar in corn starch
- Film is clear and crispy
- Standard paper/plastic package with a wire tin-tie is not biodegradable or recyclable
- Paper/PLA tin-tie bag shows promise without significant added cost

*Composting Trials
at PBi DAY 1*



*Composting Trials
at PBi DAY 10*

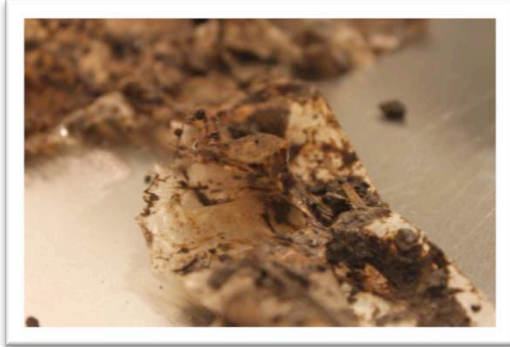


BIOTRE BARRIER PACKAGING



After 89 Days

This is the 40% portion that can be easily removed from the composter.



After 101 Days

- Biodegradable, heat sealable, barrier material
- Biotrē film is made from 60% (by weight) renewable wood pulp and is biodegradable
- The remaining 40% of the bag is Polyethylene (PE) from fossil fuels with an additive that is designed to make it breakdown over five to ten years
- Formats: Stand-Up Pouches, Block Bottom Bags, Side Gusseted Bags
- Certified by:
 - Industrial Composting norms
 - EN13432
 - ASTM D6400
 - OK Compost's Home Composting



Thank you!
Questions?

Kyle Knott – Pacific Bag