Labeling Guidelines

Technical information and definitions regarding the facestocks, adhesives and liners commonly used in the wine and spirits segments

AVERY DENNISON

Wine and Spirits Label Adhesive Guidelines

Wine and spirits labeling requires special adhesive formulations due to the unique set of labeling and end-use conditions. Below are the adhesives best suited to labeling glass wine bottles under standard bottling room conditions. Please note, full label adhesion is usually reached 72 hours after bottles are labeled. Adhesion levels vary based on the type and thickness of the bottles' anti-scratch coating. In addition to adhesive selection, neck labels require a flexible facestock.

Adhesive	Long-Term Warm Water Removability	Short-Term Respositionability	Cold Labeling Conditions	Wet Label Conditions	Ice Bucket Test	Neck Labels	Bottle Coatings	Paper/Film Facestocks
AT20 (N) All-temperature emulsion acrylic adhesive	N/R	Good	Good	Good	Pass	N/R	All	Best with Paper
Z1010 Permanent emulsion acrylic adhesive	N/R	Good	Good	Good	Pass	Fair	All	Paper Only
Z2010 All-temperature emulsion acrylic adhesive	N/R	N/R	Excellent	Excellent	Pass	Excellent	All	Best with Paper
S246 Permanent rubber-based hot melt adhesive	N/R	N/R	N/R	N/R	Pass	Excellent	All	Best with Paper
S7000 ER Crystal-clear permanent emulsion acrylic adhesive	N/R	Good	Good	Good	Pass	N/R	All	Film Only

N/R Not Recommended

Wine and Spirits Label Liner Guidelines

The liner is a critical component of the pressure-sensitive labeling "sandwich" for a number of reasons:

1. Provides support for the facestock while it is being die cut
2. Provides a controlled release surface, enabling the matrix to be stripped quickly and efficiently
3. Transports the label on a durable web, enabling labels to be dispensed continuously at high speeds (or variable speeds) with significant web tension changes on the application equipment

Below are the liners typically utilized in pressure-sensitive wine labeling applications.

Liner	Description	Dispense Speed	Wet Labeling Conditions	Deep Embossing	Intricate Die Shapes	Paper/Film Facestocks	Recyclable
40#SCK	40# bleached super-calendered paper	Low to Medium	N/R	Fair	Fair	Best with Paper	Yes
44#PK	44# brown kraft paper with polyfilm coating	Low to Medium	Good	Good	Good	Paper/Film	No
.92 Mil PET	.92 Mil hazy-clear polyester film	Low to High	Excellent	Good	Good	Film	Yes
1.2 Mil PET	1.2 Mil hazy-clear polyester film	Low to High	Excellent	Excellent	Excellent	Paper/Film	Yes

N/R Not Recommended

Wine and Spirits Label Facestock Guidelines

Product	Color	Texture	Finish	Wet-Strength	Basis Weight
Uncoated Papers					
Bright White Felt	Bright White	Felt	Uncoated	Yes	70#
Bright White Felt 30% PCW	Bright White	Felt	Uncoated	Yes	70#
Brushstroke 30% PCW	Natural White	Smooth	Uncoated	Yes	70#
Classic Crest®	Natural White	Smooth	Uncoated	Yes	60#, 70#
Classic Crest®	Solar White	Smooth	Uncoated	Yes	60#, 70#
Classic® Felt	Natural White	Felt	Uncoated	Yes	60#
Classic® Laid	Bright White	Laid	Uncoated	Yes	60#
Classic® Linen	Bright White	Linen	Uncoated	Yes	60#
Eggshell Felt	Cream	Felt	Uncoated	Yes	70#
Estate Label® No. 4	Natural White	Laid	Uncoated	Yes	60#
Estate Label® No. 8	Bright White	Vellum	Uncoated	Yes	60#, 80#
Estate Label® No. 9	Cream	Laid	Uncoated	Yes	60#
Estate Label® No. 14	Bright White	Smooth	Uncoated	Yes	60#
Estate Label® No. 17 Martele	Titanium White	Martelle	Uncoated	Yes	60#
Estate Label® No. 17 Martele 30% PCW	Titanium White	Martelle	Uncoated	Yes	60#
Estate Label® No. 25 Black	Black	Vellum	Uncoated	Yes	60#
Global White	White	Smooth	Uncoated	Yes	74#
Houndstooth 30% PCW	White	Smooth	Uncoated	Yes	70#
Luna	Bright White	Stipple	Uncoated	Yes	60#
Natural Kraft	Natural	Smooth	Uncoated	Yes	50#
Royal White	Violet White	Vellum	Uncoated	Yes	70#
Stoneface	Bright White	Smooth	Uncoated	No	N/A
Titanium White Eggshell	White	Smooth	Uncoated	Yes	70#
Uncoated Litho 100 PCW	Bright White	Smooth	Uncoated	Yes	50#
Uncoated Litho WS	Bright White	Smooth	Uncoated	Yes	60#
Hemp	Natural	Smooth	Uncoated	Yes	60#
Crush Barley	Natural	Smooth	Uncoated	Yes	60#
Veil 30% PCW	Warm White	Smooth	Uncoated	Yes	70#
Willow 100% PCW	Warm White	Smooth	Uncoated	Yes	70#
Glossy Papers and Coated Papers					
Cast Gloss	Bright White	Smooth	Coated Gloss	No	60#
Matte Litho	Bright White	Smooth	Coated Matte	No	60#
Matte Litho WS	Bright White	Smooth	Coated Matte	Yes	60#
High Gloss	White	Smooth	Coated Gloss	Yes	60#
Premium High Gloss FSC®	White	Smooth	Coated Gloss	No	70#
Semi Gloss	Bright White	Smooth	Coated Gloss	Yes	54#
Semi Gloss Elite	Bright White	Smooth	Coated Gloss	No	60#
Laminated Foils and Metallized Papers					
Bright Silver Foil	Bright Silver	Smooth	Foil Laminated	No	70#
MaxFlex™ Bright Silver	Bright Silver	Smooth	Metallized	No	56#
Dull Silver Foil	Dull Silver	Smooth	Foil Laminated	No	70#
Black Collection					
25% Cotton Feel 30% PCW	Black	Smooth	Uncoated	Yes	70#
Black Velvet	Black	Velvet	Uncoated	No	155#
Black Vellum	Black	Vellum	Uncoated	Yes	60#
Black Cotton Feel	Black	Vellum	Uncoated	Yes	70#
Classic® Laid Epic Black	Black	Laid	Uncoated	Yes	70#
Eclipse Black 30% PCW	Black	Smooth	Uncoated	Yes	60#
Estate Label® No. 25 Black	Black	Vellum	Uncoated	Yes	60#

Product	Color	Texture	Finish	Wet-Strength	Basis Weight
Luminous Collection					
Brushed Platinum	Bright Silver	Smooth	Metallized	No	60#
Frozen Orion Diamond	Pearlescent	Smooth	Coated Gloss	Yes	60#
Snowbound White	White Pearlescent	Smooth	Uncoated	Yes	74#
Sparkling Asti	White Pearlescent	Smooth	Uncoated	Yes	64#
Estate Label® No. 6 White Pearl	Pearlescent	Smooth	Coated Gloss	Yes	64#
White Shursheen	Pearlescent	Smooth	Coated Gloss	No	60#
Sensorial Collection					
Hammered Metal	Copper/Silver	Hammered	Coated	No	100#
Birch Wood	Birch	Smooth	Uncoated	N/A	128#
Cherry Wood	Cherry	Smooth	Uncoated	N/A	119#
Cotton White Tree Free	White	Felt	Uncoated	Yes	80#
100% Pure Cotton	White	Smooth	Uncoated	Yes	70#
White Cotton Feel	White	Felt	Uncoatd	Yes	70#
Black Cotton Feel	Black	Vellum	Uncoated	Yes	70#
Dappled White	Bright White	Micro-Textured	Coated Matte	No	64#

Product	Color	Texture	Finish	Calipler (Mil)	Basis Weight
Films					
Clear BOPP	Ultra Clear	Smooth	Topcoat	2.0	
High Performance FasClear®	Ultra Clear	Smooth	Topcoat	2.5	
High Performance Primax®	White	Smooth	Topcoat	2.5	
Metallized BOPP	Bright Silver	Smooth	Topcoat	2.0	
White BOPP	White	Smooth	Topcoat	2.0	

Definitions

Adhesive

Long-Term Warm Water Removability: Label and adhesive will remove from glass and plastic containers when soaked in 100˚F water for 5 minutes. Best results when used on new glass coated with standard PE, AP-5 or Oleic Acid anti-scratch coatings.

Short-Term Repositionability: Low initial tack for up to 20 minutes of repositionability/ removability of misapplied labels.

Cold Labeling Conditions: Suitable for use when bottle temperature at time of labeling (or ambient temperature in bottling room) is between 40˚F and 60˚F. All adhesives are suitable for labeling at temperatures above 60˚F.

Wet Labeling Conditions: Labeling wet bottles is difficult. Water acts as a contaminant, compromising the integrity of the adhesive. Bottle dryers are recommended for heavy condensation. However, for applications where fogging may occur, be sure to use an appropriate adhesive.

Neck Labels: High initial tack and good mandrel hold for neck label applications. Testing is required as many factors will affect label performance, e.g., facestock stiffness, ink and varnish coverage, size of label overlap, bottling temperature and bottle coating levels.

Bottle Coatings: Suitable for use with bottle coatings as noted: PE, AP5 and Oleic Acid.

Liner

Super-Calendered Kraft (SCK): Very dense, very smooth, highly refined kraft liner. Provides excellent support for die cutting.

Glassine: Super-calendered, translucent paper made from pulp with high hydration. Provides excellent support for die cutting.

Poly-Film Coating: Polyethylene extrusion coating applied to a kraft paper for improved dimensional stability and strength.

Dispense Speed:

Low speed <150 750 ML bottles per minute

Medium speed 150-200 750 ML bottles per minute

High speed >200 750 ML bottles per minute

Wet Labeling Conditions: For use in wet labeling environments or when condensation may accumulate on the web prior to dispensing. Film or poly-coated liners are strongly recommended to prevent web breaks.

Liner Recycling: For information about liner recycling in your area, **please contact your Avery Dennison sales representative.**

N/R Not Recommended

* Performance of each printing technology is highly dependent upon choice of ink, degree of cure, etc. Inks should be thoroughly tested prior to production

** Performance of hot foil is dependent upon choice of foil. Test thoroughly before going into production. All comparisons are believed to be reliable and accurate. However, the furnishing of such information and comparisons is for reference purposes only and does not constitute a warranty of any kind. Actual product performance should always be tested for fitness-for-use

Facestock

Texture: The tactile surface characteristic of a paper sheet, including the following:

- **Smooth:** No noticeable relief pattern or texture
- **Vellum:** Rough, porous surface, but with no distinct raised areas
- **Laid:** Traditional hand-made feel; horizontal raised lines and vertical watermarked lines
- **Linen:** Crisp, tightly patterned horizontal and vertical raised lines
- **Felt:** Random, mottled, raised texture
- **Martele:** Small consistent indentations creating a subtle hammered look

Topcoat: Functional coating applied to a film to enhance the anchorage of ink without corona treatment.

Basis Wt.: The weight in pounds of 500 sheets of the paper at 24" x 38".

Foil Laminate: Special paper, extrusion laminated with thin-gauge aluminum foil for enhanced aesthetics (can be topcoated to improve its printability).

Wet-Strength: Paper has chemical and/or physical components added to increase internal bond strength when saturated.

Flexibility: The ability of a paper to wrap around tight diameters. Papers with "excellent" flexibility are good choices to test as neck labels and wide body labels. Papers with "poor" flexibility may flag when used on curved surfaces, especially when combined with low-tack adhesives.

- **CD Stiffness:** A measure of the flexibility and conformability of a facestock (across the web) as labels are unwound
- **MD Stiffness:** A measure of the flexibility and conformability of a facestock in the direction labels are unwound

Corona Treatment: A process of passing a web by the arc of an electric current (corona) to chemically enhance the surface and make it inherently more printable.

Metallized: Special paper with vacuum deposited metal for enhanced aesthetics.

Ice Bucket Testing

The ice bucket test is a performance test in which labelled bottles are immersed in a water and/or ice bath for a specified period of time. Label failures from ice bucket immersion may include pleating, edge lifting, sliding, label delamination, ink flaking, poor wet opacity, and weak resistance to label peel-off.

Note: There is no standard industry test protocol for ice bucket testing. Testing protocols vary, and should be customer-specific. It is critical that paper and ink/varnish combinations are tested according to the specific requirements of the individual customer, as the ice bucket performance of a label will differ greatly the longer it is submerged in water.

Variations in the test method used can introduce significant confusion and misinformation. For uniform results, Avery Dennison has designed the following protocol for wine label evaluation in the ice bucket.

Ice Bucket Method:

1. Apply finished (printed and varnished) labels to bottles and adequately rub down to ensure full adhesive contact with the glass surface.
2. Allow the samples to dwell for a minimum of 24 hours to bond with the glass. For best results, testing after 72 hours of dwell time is suggested to allow the adhesive to fully bond with the surface.
3. Fill the bottles with water so they will not float, and immerse in 50% water/50% ice mix.
4. Inspect the labelled bottles that have been immersed in the ice and water slurry at 1 hour, 2 hours, 4 hours, and 8-hour intervals.

Evaluation:

Evaluation of the success of the test can be achieved as follows:

- The label must remain adhered to the bottle for at least 8 hours. It should not float off of the bottle, nor slip off the bottle's surface when slight pressure is applied.
- No edge lifting or major tunnelling should occur during this 8 hour period
- When using Paper Labels to decorate the glass bottles, wrinkles can occur pending on the paper selection and whether the paper has a wet strength designation or not.
- A 'Z' type pattern can form on the face of the label, this is from the reaction of the adhesive to the temperatures it's subdued to during the Ice Chest Test, more common in Hot Melt Adhesives than emulsion acrylics or solvent based adhesives

"Pass" means labels do not float off or exhibit edge lift. Minor slippage with finger pressure may occur. Facestock saturation, degradation and/or discoloration is a function of the facestock chosen, not the adhesive.

This test protocol and timeframe are expected to adequately cover normal wine bottle use, enabling printers and designers to evaluate label performance within the context of typical end-use customer expectations.

Statement of Practical Use
All pressure-sensitive materials should be tested thoroughly under end-use conditions to ensure they meet the requirements of the specific application.

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