

FASSON™ Wine Stocks



❖❖❖ A fine label begins with **quality stock**

❖ PERFORMANCE ADVANTAGE

❖ FASSON™ PROCESS ADVANTAGESM

❖ SERVICE ADVANTAGE

❖ AESTHETIC ADVANTAGE

Working Together to Drive Solutions

❖ *That is the FASSON™ Advantage*

Wine labelling continues to be one of the most challenging of all the label segments with regards to not only the specialised printing required but also the rigorous application requirements.

Uncoated/textured papers continue to experience growth globally and this trend has been particularly pertinent to our local markets across Australia and New Zealand.

It has become clear that this trend will continue as specialty papers themselves continue to gain favour with designers, brand owners and brand managers across the wine industry. The number of converters making significant capital investment in offset and digital offset printing technology further supports this trend. This level of commitment to design, label aesthetics and printing sophistication will ensure Australia maintains its reputation as the leading producer of wine labels in the world.

Pressure-Sensitive, Not Self-Adhesive!

The term 'pressure sensitive' (PS) is often used interchangeably with 'self-adhesive'. However, pressure sensitive materials require pressure to activate a bond to the substrate and will not self-adhere. Application pressure is critical as is 100% surface contact of the label. Once adhesion has been achieved, pressure sensitive materials will not self-release from the substrate. Even removable adhesives require peel force to be removed from the substrate.





Why PSL is Winning?

Pressure-sensitive labelling (PSL) presents a number of advantages versus traditional glue-applied labelling...

DESIGN FLEXIBILITY

PSL technology provides greater design and production flexibility with fewer limits on label shape and size. No other decorating technology offers the same combination of brilliant graphics; intricate die cuts and virtually invisible edge lines. There are many ways in which PSL delivers distinctiveness and true brand differentiation, including broad material selection (clear-on-clear “no-label-look”) and split label design options.

SUBSTRATE VARIETY

A variety of papers and films combined with specifically formulated adhesives accommodate your most innovative wine packaging ideas. PSL substrates include glossy bright white papers and traditional tactile paper, and if that doesn’t satisfy your desire for differentiation a wide variety can be sourced from around the globe to fulfil your requirements.

SIMPLER AND CLEANER APPLICATION SYSTEMS

Glue-applied labelling involves cumbersome and time-consuming materials & equipment maintenance. Adhesive temperature and viscosity must be tightly controlled and change parts are required when moving from one product to another. With PSL, we take care of the adhesive for you. Change-overs are as simple as switching rolls, without the mess of wet glue. Which means quicker, easier operations; less downtime; and much higher productivity.

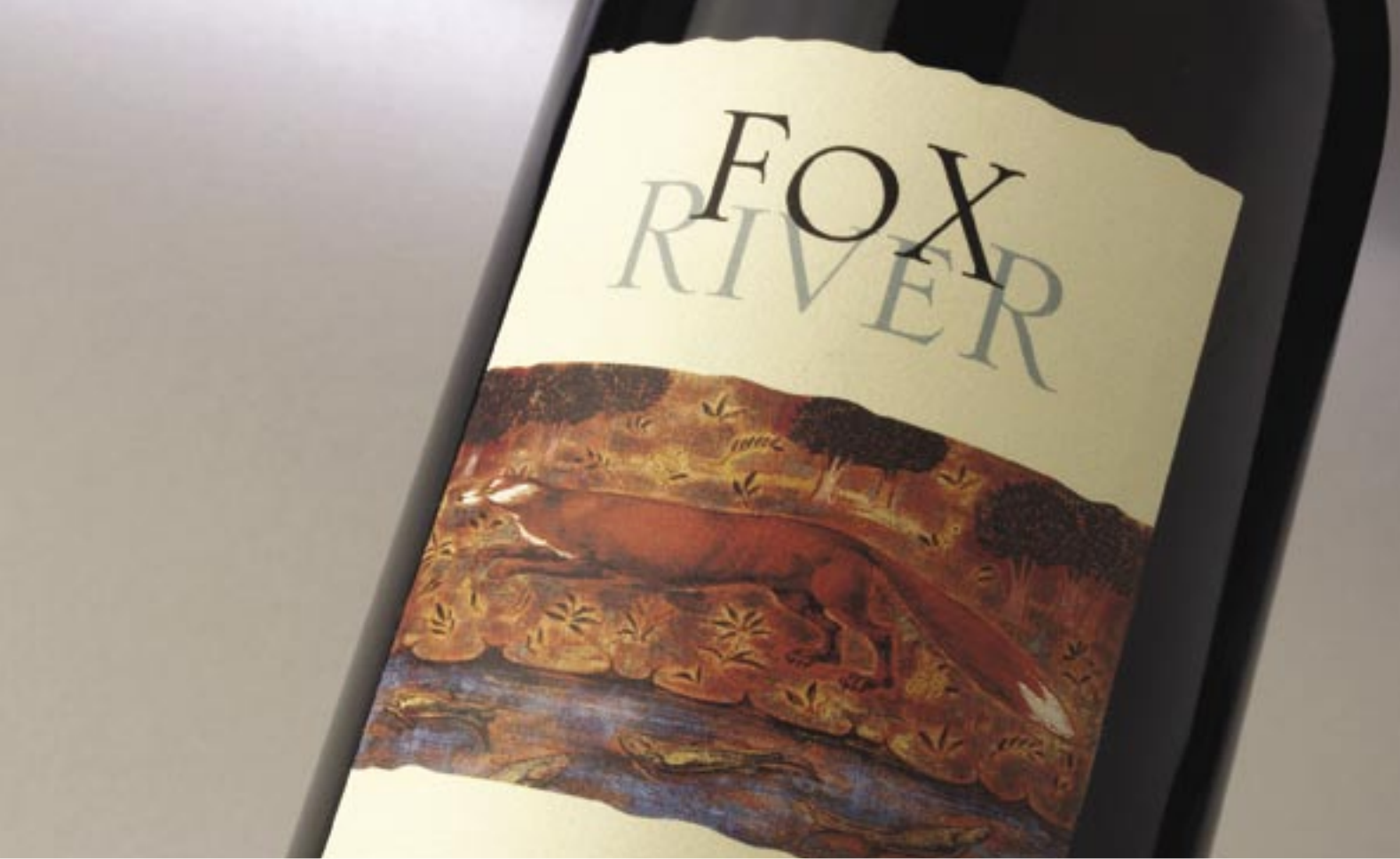
Furthermore, today’s PSL adhesive technology in conjunction with existing label application equipment means that you do not need to compromise on application speed versus wet glue. PSL is the perfect ‘total solution’ for short and long run labelling applications.

SUPERIOR END-USE PERFORMANCE

With PSL, you get superior shelf-appeal that lasts, even after exposure to the fridge and ice bucket. Which means, your labels last longer and look better than traditional glue-applied labels.

Here is a summary of the major differences between pressure-sensitive labelling and glue-applied labelling:

	Pressure-Sensitive Labelling (PSL)	Glue-Applied Labelling
Label Design	Flexible sizes and intricate label shapes A wider variety of material options including crystal clear and solid films	Non-standard shapes are more complex in application
Printed Graphics	Web-fed: Combination presses Multiple technologies and techniques in-line	Sheet-fed Multiple passes may be required
Adhesive Selection	Variety of performance parameters can be tailored for specific applications: i.e. wet stick, fridge and ice bucket Wider window to reposition misapplied labels	Limited to permanent
Shelf Impact	Virtually invisible edge lines High shelf impact – more vibrant colours	Gum residue, edge lines
Label Cost	Slightly higher, but includes adhesive cost	Lower, but does not include adhesive cost
Set Up / Clean-Up	Ready-to-Apply - no machine or temperature adjustments for adhesive No adhesive sediment / overflow	Temperature is critical for adhesive viscosity control Potential hazard of labels blocking magazine Equipment wash-down, adhesive waste
Change-overs	Easy change-overs; minimal adjustments No change parts required for different label sizes	Suitable for long runs with the same label size Change parts required for different label sizes Very expensive change parts (twice the price of PS)
Production Speeds	Low to super high-speed applicators Multi-piece labelling from one roll	Low to super high-speed applicators



The Newest in Adhesive Technology from Avery Dennison

WRP – WINE LABELLING REPOSITIONABLE

WRP is a special purpose repositionable adhesive designed to provide **repositionability** on dry or very mildly condensated wine bottles. This extended period of repositionability offers bottlers and wineries alike, a wider operating window in the removal of misapplied labels.

Note: This information should be read in conjunction with the Fasson Swatch Booklet and relevant spec sheet.

WLP – WINE LABELLING PERMANENT

WLP Performance:

WLP is a special purpose **permanent adhesive** designed to provide high initial tack and ultimate adhesion onto dry wine bottles.

WLK202 – WINE LABELLING PERMANENT FOR NECK LABELS AND SPARKLING WINE

WLK202 Performance:

WLK202 is a **super aggressive adhesive** designed to provide excellent 'wet-stick' properties onto condensated surfaces. It has been designed with **anti-slip properties** to ensure that it does not move out of position on condensated surfaces during labelling.

S2400 – WINE LABELLING PERMANENT FOR HIGH-MEMORY TACTILE PAPERS

S2400 Performance:

S2400 is an aggressive adhesive designed to offer extremely high tack and adhesion for use in conjunction with high-memory textured papers such as Estate#8 and Antarctic White. This will **reduce the incidence of labels butter-flying away from the bottle**, particularly in the case of larger label shapes. Exhibits excellent cold temperature performance.

All wine bottles made in Australia have a surface treatment made up of a Tin Oxide/Polyethylene coating. These two coatings are critical to ensure scuff resistance during packaging and transport and are the world wide standard for surface treatment of all non-returnable bottles. Our adhesives have been tested and are compatible with these coatings.

Note: The coatings on imported bottles may differ and this could affect adhesive performance. We always recommend initial testing to verify performance.



Process AdvantageSM

••• Avery Dennison Australia and NZ leads the charge

DEVELOPMENT OBJECTIVES:

- Offer high-speed release consistency through matrix stripping and application processes
- Offer a high-speed solution for complex label shapes
- Reduce downtime/scrap associated with web breakage by improving release characteristics

THE RESULTS

Previous efforts to increase material conversion speeds, particularly for complex label shapes, have in some cases involved de-lamination and re-lamination of the stock to improve on-press release. However, this alters the release properties of the construction and can cause pre-dispensing of the labels during application. Rigorous conversion trials with a highly complex label design consistently **showed productivity improvements of between 10-30%** based on increased speeds through the matrix stripping process.

That is because FASSONTM PROCESS ADVANTAGESM technology offers the same release consistency across all speeds, giving customers the flexibility to increase conversion speeds without affecting the stripping performance of the product.

Converters are already starting to see the benefits through **reduced downtime** as a result of **consistent press-speeds** and **reduced web-breakage**. Corresponding bottling trials also produced favourable results with improvements evident in both **increased application speeds** and a **reduction in recorded error rates**.

FASSONTM PROCESS ADVANTAGESM is available as a standard offering with all FASSONTM Wine Label Materials.

It's all about creating and maintaining “just the right look” for your label

The critical points that can result in non-performance are:

1. Label adhesion
2. Effectiveness of the varnish/sealant
3. Sufficient pressure during label application to activate the pressure-sensitive adhesive to the glass surface.
4. Sink / non-uniformity of the bottle surface including seams, resulting in non-contact of the label (refer to diagram)

WHY IS BUBBLING MORE PREVALENT WITH UNCOATED PAPERS?

The tactile characteristic, which gives uncoated papers their ‘old world’ charm, is achieved through the open-woven nature of the fibres, which have a tendency to absorb moisture. Bubbling is caused by moisture penetrating the label, which then causes the paper fibres to expand. The ability of moisture to penetrate the paper is determined by the three areas identified above.

Label printers are required to use specific varnishes that work to protect the label from surface penetration and to a degree, side penetration. During application, 100% contact of the adhesive to the bottle will prevent moisture build-up behind the label and will stop moisture from migrating through to the paper.



Product Solution

Avery Dennison has pioneered new label technology for the wine market to counteract the issue of bubbling, which can occur as a result of the above factors.

Talk to your Avery Dennison sales representative to find out more about the use of filmic ‘**Under-Laminates**’. The product solution will allow you to retain the surface aesthetic of the stock while adding stability to the paper and reducing the expansion of the paper fibres when wet. Note: paper expansion will occur over the area on the label where it has not achieved full adhesion to the glass surface.



Environmental Conditions

In part, adhesive selection should be guided by the conditions expected during label application:

1. Will the air and/or bottle temperature be below 5°C?
2. Will there be a layer of water/moisture on the bottle surface?

Labelling wet bottles is a challenge. Water acts as a contaminant, compromising the integrity of the adhesive. When applying pressure-sensitive labels to wet bottles, the following tips may assist in overcoming the issue:

- Control air temperature, humidity and fill temperature to prevent condensation on filled bottles. Use the Dew Point Chart (below) to balance temperature values at the labeller with relative humidity.
- Blow water off the bottle surface by installing air knives just before the labeller head. Let gravity work for you; blow the water down the bottle to expose dry glass.
- Apply the pressure-sensitive label to the dry glass after water/condensation has been blown off.

Relative Humidity (%)

	Ambient Temperature °C						
RH%	10	15	20	25	30	35	40
10							3
15					1	5	9
20				1	5	9	13
25				4	8	13	17
30			2	7	11	16	19
35			4	9	13	18	22
40		2	7	11	16	20	24
45		4	8	13	17	22	27
50	1	5	10	14	19	24	28
55	2	7	11	16	21	25	30
60	3	8	13	17	22	27	32
65	4	9	14	18	23	28	33
70	6	10	15	20	24	29	34
75	6	11	16	21	26	31	36
80	7	12	17	22	27	32	37
85	8	13	18	23	28	33	38
90	9	14	19	24	29	34	38
95	9	14	19	24	29	34	39
100	11	16	21	25	31	36	40

The numbers on the Dew Point Chart indicate the lowest temperature at which wine can be filled before condensation forms on the bottle.

HERE'S HOW TO USE THIS GUIDE:

1. Verify relative temperature and humidity at the labeller
2. Find the corresponding dew point on the chart
3. Keep the fill temperature of the wine above this value to prevent condensation interfering with your pressure-sensitive labelling operation or determine the required adjustment to the relative humidity or temperature to effectively compensate.



Key Considerations when Using Pressure-Sensitive Materials:

MATCHING THE PAPER SELECTION TO THE PRINTING TECHNOLOGY

If a textured paper has been selected to best reflect the design and personality of the wine, it is very important to match this with the most suitable printing technology. Due to these papers being open woven, mottled and very absorbent, we do recommend that offset or digital offset quality be used to achieve the necessary print quality.

HEAVY EMBELLISHMENT

Heavy embossing and embellishment changes the formation of a paper and this will alter the initial tack and ultimate adhesion of the adhesive, as the surface contact of the underside will reduce. As less surface contact is being achieved, we recommend that a permanent adhesive exhibiting higher tack be selected.

UNIFORMITY OF THE GLASS SURFACE

- While glass manufacturers try to maintain a smooth bottle surface, some irregularities are unavoidable due to shrinkage/softness of the hot glass. Sink and bulge in the sidewall of the bottle surface and the bottle seam itself are two areas that can contribute to difficulty in application. The applied label will generally adhere within the specified tolerance (of usually 0.5mm), however, more rigid labels may have difficulty conforming and additional pressure may be required during application.

Recommendation: Bottle Sink

- Sink can stop the adhesive contacting the glass
- Increase Wiping Pressure (Stiffening Plates)
- Use Segmented Wipers (Horizontal Splits)

APPLICATOR SETTINGS

When applying PS� it is imperative that firm pressure is applied across the complete surface of the label (in a 'wiping' motion) to ensure that full adhesion to the bottle is achieved. It is therefore important to consider the size of the label relative to the type of application used.

Note: Change-overs between substrates i.e. cast coated to textured papers, may require some adjustment to the applicator settings due to the inherent differences in the materials. High memory materials may require additional pressure to achieve good adhesion.

Small turrets have more problems with speed variation

As the turret rotates, the *outside* moves faster than the *inside*. Label application speed changes and wiping is different for the *inside* and *outside*. Small turrets exaggerate this problem.



In-line applicators can have dispensing speed variations

- In-line application is a stop/start process. As the motor starts for each label there is a slight speed surge which can cause the first third of the label to overfeed and bubble.

Recommendation: Label Panel Size

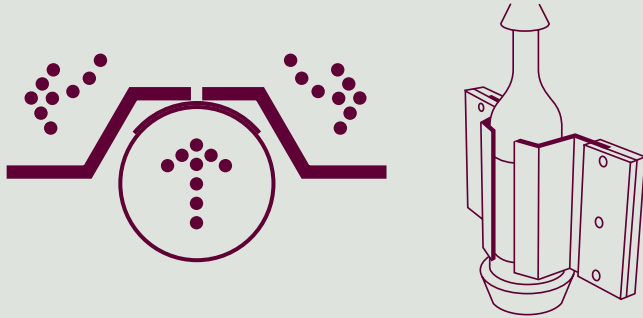
- The label size needs to be 6mm less than the label panel.
- Applicator and bottle variation can allow ± 3 mm vertical alignment variation.

APPLICATION PADS – BEST PRACTICE ‘WIPE DOWN’

The type of pad is important and needs to be considered in conjunction with the type of label stock being applied.

Note: The same pressure will not suffice for gloss and uncoated papers. Uncoated papers, such as Estate#8 have a much higher memory than gloss/metallic materials and thus require higher pressure to activate a bond. Therefore ‘plastic’ pads should be used in place of ‘brushes’ and applicator settings adjusted to increase the pressure of the pads. These change-overs should not be considered inefficient but rather standard process improvements.

The number of roll-on stations may also play a role to assure 100% contact at the end of the labelling process.



Recommendation:

Best practice “wipe down” is to use solid “Zed” panels and wipe from the center of the label toward the edges.

SEALING OF THE PAPER SURFACE

A sealant is required to (1) protect the label image during transport and consumer handling and (2) reduce or eliminate the absorption of moisture/water when exposed to the fridge and ice bucket. Protection is strongly recommended for all paper substrates.

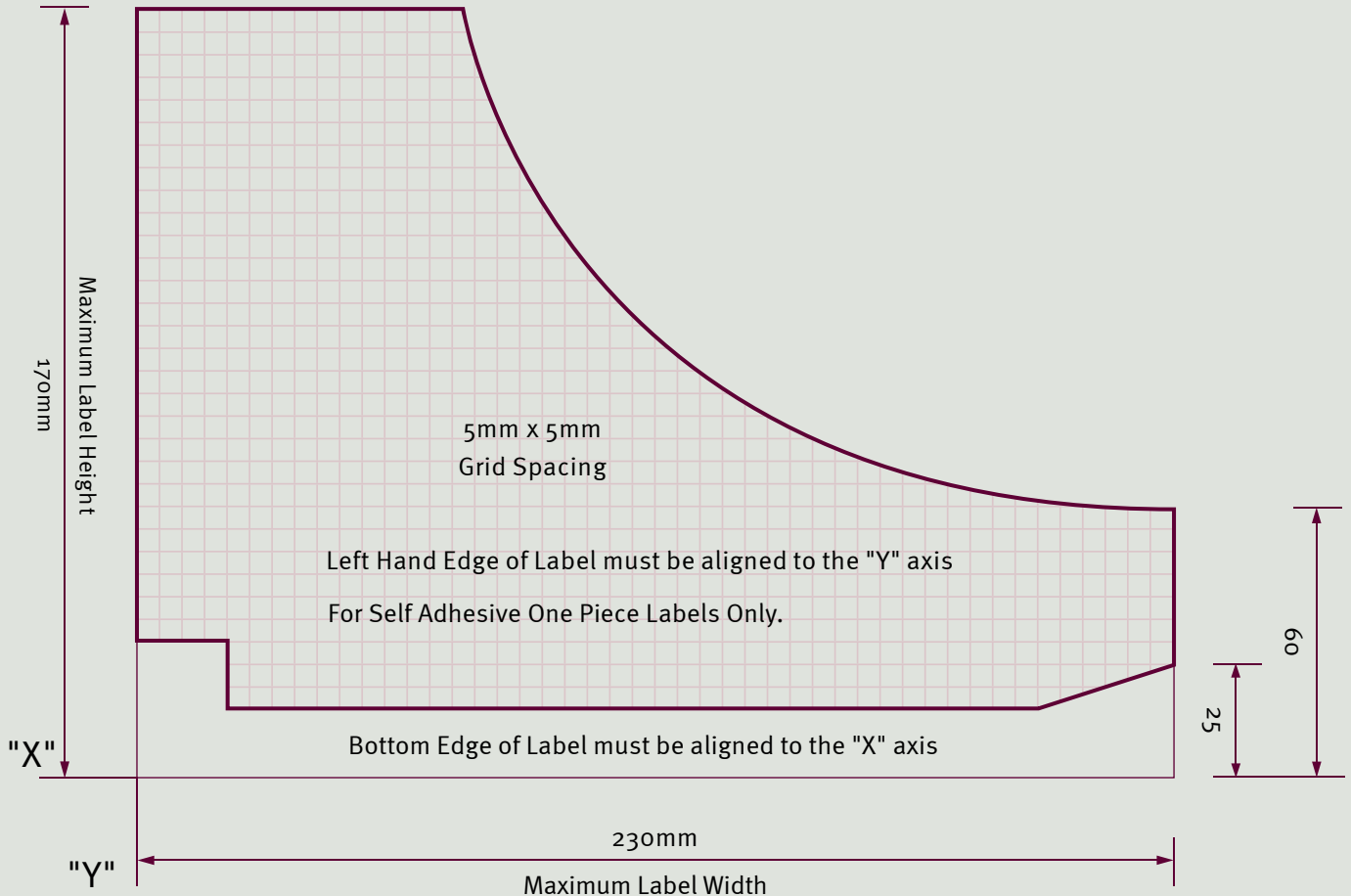
THE SIZE OF THE LABEL

- Small increases in label size have large effects on label application
- It is critical that the label size is compatible to the bottle and to the overall application

In particular, textured/laid papers that are fibrous and bulky in nature do tend to exhibit high memory. This is critical when considering label size and when selecting material for a curved surface or tight mandrel application i.e. neck label. The size of the label relative to the size of the bottle is also pertinent to ensure processibility of the label during application and to avoid the label from butter-flying away from the bottle during its life cycle.

RECOMMENDED LABEL SIZE

See diagram below for recommended label dimensions. This graph illustrates the recommended height to width ratio of a label to achieve optimum processibility during application. Supplied by Vinpac International.



*Note: Top right hand corner of label must finish within this hatched area and be within the label panel as shown on the bottle specifications.
Download your template from www.fasson.com.au*



Spray Test Protocol for Tactile/Uncoated Wine Labelling Papers:

Due to the unique characteristics of open-woven papers - absorbent, high memory/stiffness - it is critical that full adhesion onto the surface is achieved. Areas of the label (particularly large wine labels) that have not made sufficient contact with the substrate are more susceptible to bubbling when exposed to moisture. This is due to the paper expanding with moisture intake from environmental changes.

Based on the continued growth surrounding uncoated/textured papers, Avery Dennison Materials has devised a 'Test Method' to identify whether the process of automatic application of open-woven stocks onto the wine bottle surface is sufficient to achieve the full contact required to reduce or eliminate label 'bubbling'.

The protocol comprises two key stages:

APPLICATOR SET-UP:

Even and consistent pressure over the entire face stock of the label is critical to ensure the adhesive is anchored onto the bottle after the label is dispensed off the Peel Plate.

SPRAY TEST METHOD:

1. Run 10 empty bottles through the applicator using stipulated labels.
2. With a fine mist spray, cover the entire label immediately after application.
3. After 60 seconds visual analysis of the label can begin.
4. If bubbling or tunnelling appears, the label has not contacted the bottle surface at this location.
5. Re-adjust the applicator to ensure entire label face is free of bubbling or tunnels when tested with water spray.

The steps detailed above will assist in optimum applicator set-up. This will minimise potential label bubbling issues on wine bottles.

Note: This process should be run on every machine set-up or shift change-over.

ICE BUCKET TESTING

A performance test in which labelled bottles are immersed in a water and/or ice bath for a specified period of time. Failure may include edge lifting, sliding, label delamination or ink flaking off the label.

Note: There is no standard industry test protocol for ice bucket testing. The testing protocol varies and tests should be customer specific i.e. 1-hour versus 12-hour ice bucket immersion. It is critical that paper and varnish combinations are tested according to the specific requirements of the individual customer, as the ice bucket performance of a label will differ greatly between the 1-hour and 12-hour water immersion test.



PET Liners - taking web breaks out of the equation

As printing and label application technology continues to evolve in-line with the high-speed demands of wineries and bottlers, the transition from paper to polyester liner materials will be a key success factor in extracting value from your investment. The wine market in the USA has already seen the growth in polyester liner materials with the key benefits being around speed and productivity.

When applying labels at high-speed, it is absolutely critical when using paper liners that die-cutting is faultless as deep die-cutting or slight nicks in the paper coupled with high web tension will result in web break.

THE BENEFITS OF PET:

- High to super high-speed label conversion and application
- No web breakage
- More forgiving towards variations in die-cutting

While the per unit label cost may be slightly higher, the Total Applied Cost of label application will be lower based on speed and production efficiency when taking web breakage out of the equation.

Ask Avery about our new, cost effective PET solution

Glossary of Terms

Wet Strength

The ability of the paper fibres to retain their bond strength when wet, and should not be confused with "water resistance".

COBB Test

Measures the rate at which paper absorbs water from its surface.

Ice Bucket Test

A test to verify that a label will remain on the bottle during water immersion.

Note: Avery Dennison can provide further technical assistance, if required. Please contact your local representative to discuss your requirements.

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