



RIBBON SELECTION GUIDE

HOW TO CHOOSE THE RIGHT RIBBON FOR YOUR LABEL APPLICATION

TOSHIBA

RIBBON SELECTION GUIDE

Labels are essential to the smooth and efficient running of many businesses.

You're probably reading this because you print and use labels in your organisation, or are about to start.

The key with selecting the right printer, ribbon and label is to think about what it is you need to achieve, and selecting the right ribbon is crucial.



WAX

THE 3 TYPES



**WAX
RESIN**



**FULL
RESIN**

So, read on to learn about the 3 ribbon types and make sure you get labels that are fit for purpose and that won't end up in costly mistakes.

CHOOSING YOUR LABELS

A label is only useful if it can be read - either by the human eye or by a scanner. Labels that can't be read are just pieces of paper, not doing the one job they were put there to do. If the information on your label is smudged, scratched, blotchy, faint or faded, then it's no longer information.



The implications of unreadable labels are potentially very significant for your business:

Products can be rejected by retailers especially the big supermarkets, whose processes rely on rapid scan of label information

You can't manage batch information making it harder for product recall processes

You lose products because you can't track their whereabouts

Wrong dosage, or even the wrong drugs could be given to patients

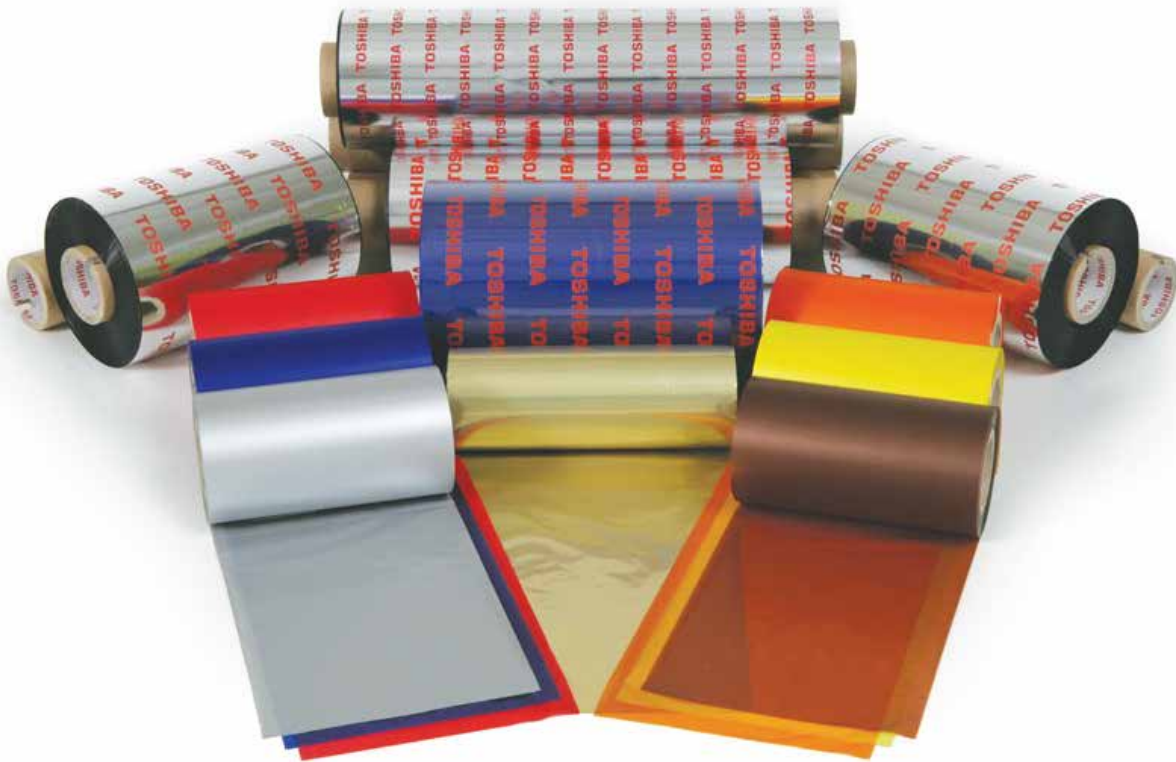
Injury or misuse of equipment is possible due to missing information on how to operate machinery or medical devices

Hazardous substances may not be disposed of safely if spilled without a readable label

These situations can cause a great deal of cost and time - all for the sake of a label.

THERMAL RIBBONS

If **thermal transfer is your chosen technology**, then you'll be using printers that create an image by using heat to transfer ink from a ribbon to the label.



Thermal transfer ribbons are made up of several layers. A ribbon will have:

An ink layer - the surface that connects with the label and melts the ink onto it

A release layer - ensuring the ink is released onto the label

A base film - which acts as a carrier for the ink

A back coat layer - to protect the print head from abrasion

The classifications above refer to the material in the ribbon. As the ink layer is heated, the ink becomes viscous and is released onto the label. Each of the layer materials have different properties, strengths, applications and price points. And each is best suited to specific applications.

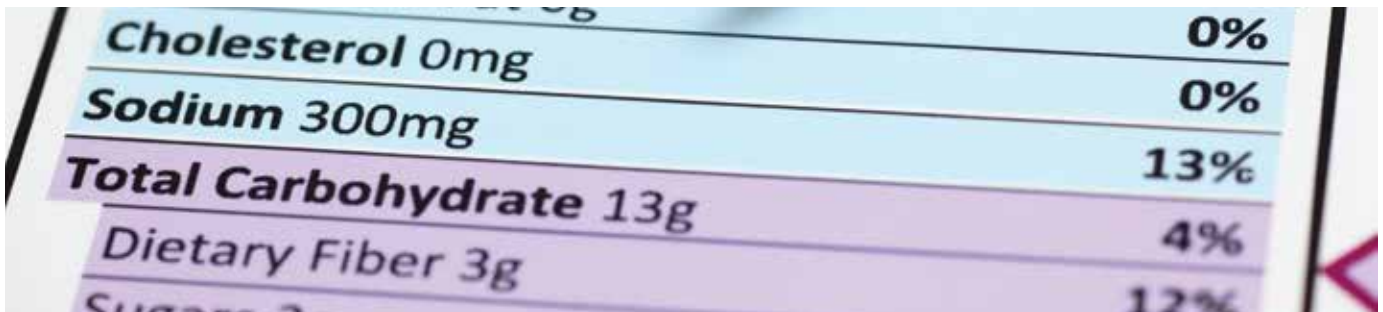
THE 3 TYPES

The ribbon is an essential part of the overall system and has as a big impact on the quality of the label to avoid the pitfalls described earlier. **Not all ribbons are equal** and your selection of ribbon is as important as choosing the right printer.

The first thing you need to know about ribbons is that there are three types:



WAX



WAX RESIN



FULL RESIN

Make sure you get labels that are fit for purpose and that won't end up in costly mistakes.

WAX

Wax is the softest of all the ribbon materials - it needs less heat to melt and release the ink. When it is melted, wax can form any shape, so it can fill the miniscule dips and valleys in the paper surface and produce a very dark, crisp image. It literally gets into the grain of the paper, so **works best with rougher-surfaced label stock**.



There are actually two sub-categories of wax ribbon: Soft and hard.

SOFT WAX

100% wax, (sometimes called pure wax, or economy wax) and is the cheaper of the two.

HARD WAX

Also referred to as resin-enhanced wax, has a small amount of resin added (but not enough to call it a wax resin), which makes it slightly more expensive, but does offer greater smudge and scratch resistance.

PROS

Cost

Wax is the cheapest of all the materials and makes for the lowest cost ribbon

Higher speed

Due to its low melting point, the print head does not need to be heated as long with wax ribbons, allowing for faster printing

CONS

Short life

When wax is re-heated it can re-shape, so if the label is subject to heat or friction, the printed image can come off or become unreadable, especially on smoother surface or glossier labels. This makes it only suitable for short shelf-life labels and not for freight or warehousing applications.

Because Australia has very strict regulations about labels being scannable first time, with smudges to be avoided at all costs, wax now only accounts for around 5% of ribbons used here. (In New Zealand, by contrast, it is still used in 80% of cases).

USES

Shipping, warehousing, retail labels.



WAX RESIN

These ribbons are coated with a mix of wax and resin and are the most popular, accounting for 75% of the Australian market. **The higher the resin content, the more resistant the print.**



There is no set standard for the percentage of resin, and it will vary by coater. (In the world of ribbons, a coater is the ‘manufacturer’, who makes the ink formulation and the master rolls. A convertor is the ‘wholesaler’, who buys them and splits them into smaller rolls based on label width, winding configuration and printer type).

PROS

Wide range of applications

Wax resin ribbons can be used on a wide variety of label stock.

Long lasting

This blend of ribbon contains a key element, Resin, which improves print longevity against smudges and scratches.

Density of colour

Wax resin prints can range from grey to black, with varying densities.

CONS

Price

Wax resin is more expensive than wax

Not good for synthetic or plastic labels

Wax resin ink on smooth surfaces will eventually rub off. Given that you would only print onto these materials if longevity matters, you wouldn't use a wax resin ribbon on them.

USES

Shipping labels, prescription medication, retail goods and shelf labels.

Labels that will be exposed to tougher conditions including moisture, handling, abrasion, sunlight, fridges and freezers.



FULL RESIN

Resin ribbons are designed for more specialised use, and therefore account for just 20% of the market. They come in a range of different chemical formulations, each one being specific to a particular application.



Resin itself is sourced from trees, with all the ingredients having to be registered with the Convention on International Trade in Endangered Species (CITES) to make sure it is sourced appropriately and doesn't impact endangered plants and animals.
Resin chemically bonds with the label surface, creating a **permanent print**.

PROS

Specialised uses

Using differing formulations, resins can be created that are resistant to a range of chemicals and conditions that would otherwise destroy the ink.

Cannot be removed

If a resin ribbon is paired with the right label surface, it actually bonds the ink to the label so that it becomes indelible, no matter what the circumstances

CONS

Price

Resin ribbons are considerably more expensive than wax or wax resin, so should only be used where the application demands it.

USES

Fabrics, cleaning detergents, medication labels, food packaging, asset tags and chemical drums.

Labels that will come into contact with chemicals or motor oil, will be heated or used in water.



GET IN TOUCH

With a little bit of planning and the knowledge we've shared with you in this guide, you'll have the right label for the job, every time.



Get in touch today to continue on your ribbon journey.



AU: Option 3 on 1300 794 202
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