



## Application note



# Thermal Transfer Overprinting A guide to ribbon selection

**Research and development in coding technology does not stop at the printer. To support the constantly evolving packaging environment and the increased demands of customers in the flexible packaging industry, continuous improvement to consumables is an equally important requirement.**

Suppliers have recognized the need for investment in a wider selection of ribbons due to specific application needs, such as smudge resistance or high bar code definition.

This has resulted in an advanced portfolio of high-quality, thermal transfer overprinter ribbons.

Knowing which ribbon is most suitable for your particular application may not be easy, which is why there are experts in Thermal Transfer Overprinting to help guide you. However, having some knowledge of what is available to you is important to ensure you are getting the best out of your Thermal Transfer Overprinter.

**The following guide is designed to provide some basic thermal transfer ribbon tutoring, giving you the knowledge to make educated decisions about ribbon selection\*.**

## Why choosing the right ribbon matters

To achieve the best possible printing performance from your Thermal Transfer Overprinter, you require the optimum match between your printer, the material you are coding and thermal transfer ribbon.

If careful consideration is not taken into account when selecting the right ribbon, print problems can sometimes be encountered. See examples of print problems below:

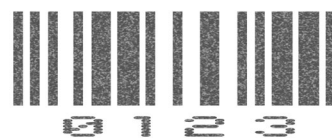
### Pinholes –

Substrate too rough



### Grey shading –

Incompatibility of ribbon and substrate



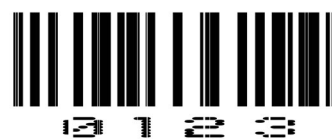
### Partial ink transfer –

Incompatibility of ribbon and substrate



### Vertical lines –

Printer's printhead dirty or inactive elements

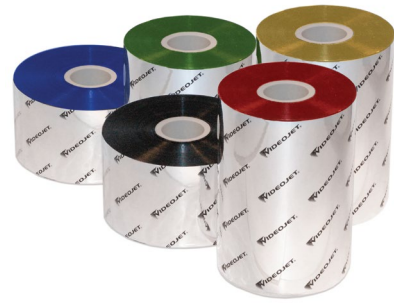


To avoid these print problems it is important to select a quality ribbon from a legitimate and well-regarded supplier. Secondly you need to ensure that the ribbon you are recommended is in fact best suited to your application.

\*Please contact your coding and marking representative to assist you in providing the optimal ribbon selection for your application.

# How to identify the right ribbon

There are typically two types of ink layers applied to TTO ribbons, wax/resin mix or resin only and which one you use depends on the application.



## Wax/resin applications

- General purpose ribbon for all speed ranges
- Provides good smudge and scratch resistance
- Good heat resistance up to 100°C
- Good range of colors available
- Good print quality throughout speed range

## Resin applications

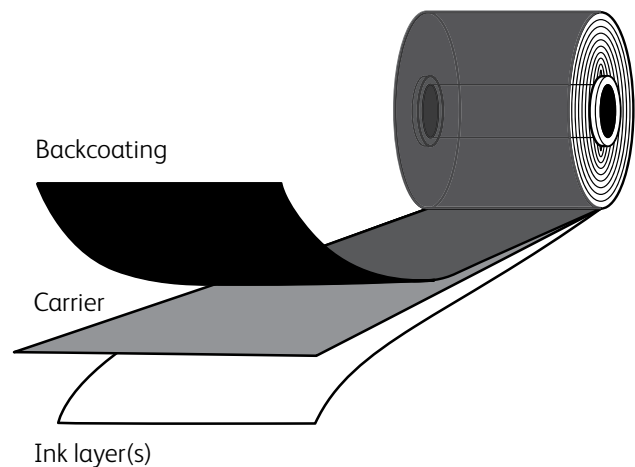
- Provides excellent smudge and scratch resistance
- Excellent heat resistance up to 250°C
- Smaller range of colors available compared to wax/resin
- Slow speed applications only
- Superior print quality to wax/resin ribbon

Note – Ribbons with a wax only ink layer are not suitable for TTO applications

## Benefits of backcoat technology

It is common for TTO users to experience problems if they do not source good thermal transfer ribbon. Cheaply constructed ribbons can cause printheads to wear out quickly due to lack of lubrication, or the film can burn as the material has a low heat resistance, or static charge can build up, or finally the ink transfer can be poor through weak thermal conduction.

All Videojet ribbons feature advanced backcoat technology to combat these issues. A non-abrasive silicone based coating is applied to protect the printhead and extend printhead life. This technology also helps in dissipating static charges (which can result in damaged printheads and code degradation), while providing an excellent thermal conductor for ink transfer.





## Ribbons for all your needs

Videojet's thermal transfer ribbons offer high performance, excellent print quality and superior durability.

Our wide ranging selection includes ribbons designed specifically to meet the challenges of flexible packaging applications.



### Ultra

High performance ribbon for general purpose applications

**Applications:** Salty/savory bagged snacks, meat and poultry, wrapped confectionery products, snack bars and nuts.

### Standard

General use solution for mid-range speeds

**Applications:** salty/savory bagged snacks, fresh and frozen foods like vegetables, meat and poultry, dried fruit and candy.

### Super standard

Provides extra adhesion and super durability, recommended when film type and speed often varies

**Applications:** glossy labels, pharmaceutical and nutraceutical labels, cosmetics, nutritional and ingredient statements.

### Premium

Ultimate adhesion, well suited for applications requiring resistance to temperature or chemicals

**Applications:** glossy packaging, medical devices, pharmaceutical, automotive and high end cosmetic labels.

### Extreme temperature

Optimal choice for hot-fill applications 180 - 195°F

**Applications:** fresh-made soups and packages filled with hot products.

## The ideal ribbon for your application

Videojet has a wide range of ribbons to choose from so why not compare our thermal transfer ribbons to see which one would suit your exact requirement.

### Compare Videojet Thermal Transfer Ribbons

| Key factors                | Videojet Ultra Ribbon | Videojet Standard Ribbon | Videojet Super Standard Ribbon | Videojet Premium Ribbon | Videojet Extreme Temp Ribbon |
|----------------------------|-----------------------|--------------------------|--------------------------------|-------------------------|------------------------------|
| Printing speed (mm/s)      | 1000                  | 800                      | 800                            | 400                     | 200                          |
| Substrate compatibility    | ●                     | ●                        | ●                              | ○                       | ●                            |
| 90° bar code definition    | ●                     | ○                        | ●                              | ●                       | ●                            |
| Blackness/contrast         | ●                     | ●                        | ○                              | ○                       | ○                            |
| Smudge resistance          | ●                     | ○                        | ●                              | ●                       | ○                            |
| Scratch resistance         | ○                     | ●                        | ○                              | ●                       | ○                            |
| Number of available colors | 1                     | 10                       | 2                              | 5                       | 1                            |

● Superior results   ○ Very good results   ● Good results

# Quality and expertise

**Videojet ribbon has many advantages over similar competitive products.**

- High-quality printing
- Silicon coated ribbon removes printhead friction to increase life expectancy
- Long ribbon length
- Large range of colors
- Large range of application possibilities

However the single biggest differentiator is the ribbon length – Videojet's range of thermal transfer products have a maximum 1,200m length as standard, which provides the customer with longer intervals between ribbon changes and more online availability.

Videojet ribbons have been developed with global experts in materials for TTO applications to construct the most reliable and durable products. The ribbons' raw materials are selected for regulatory compliance, environmental impact and sustainable production.

Videojet ribbons are backed by certifications and other documentation to assure that they comply with appropriate standards and regulations. The manufacturing processes of Videojet's ribbons are designed to tightly monitor production and maintain consistent quality from ink grinding to final packaging.

**With consistent production worldwide, you are sure to get ribbons of the same high quality wherever you place your order with Videojet. Videojet's ribbons demonstrate consistent performance, color and strength – from batch to batch and in every region.**

**Talk to the experts and find your perfect ribbon.**



Videojet has over 20 years' experience in thermal transfer technology and is dedicated to supplying the highest quality ribbons, as well as having the widest range of different ribbons to suit specific applications.

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