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7 Common Problems When Using a Label Printer/Applicator...

In order to obtain the maximum performance from your equipment, it is important to have an understanding of the relationship of the printer with the supplies. A label printer / applicator is basically a labeling robot that must print, strip, and apply a label without operator intervention. A 1% error rate is unacceptable on a system with a production throughput of 40 labels / minute - this would result in almost 200 rejects per day. As such, it is imperative that the equipment be properly maintained and the supplies be properly matched in order for the equipment to run at optimum efficiency.

Following is a list of some of the most common supply problems we have encountered in our many years of selling and servicing label printer / applicators.

NOTE: When differences exist between thermal and thermal transfer a (TT) designates a thermal transfer issue, a (TH) designates a direct thermal issue.

1) Mismatch Of Supplies

- ❖ Symptoms (TT): Poor print quality, ink smearing, poor ink adhesion to label creating voids.
- ❖ Common causes: Wax based ribbons used on synthetic label stocks, resin based ribbons used on paper label stock, using labels not designed for thermal transfer printer,
- ❖ Symptoms (TH):(1) Poor print quality. (2) Premature Printhead Failure
- ❖ Common causes: (1) Printhead heat setting is either too low or too high for the label. (2) Thermal label coating is too abrasive. Improper / inadequate printhead cleaning cycle (TT & TH).

2) Die Strikes

- ❖ Symptom: The labels are difficult to peel or not consistently peeling from the backing.
- ❖ Common causes: Label converter using incorrect tools for label material construction. The result can either be a die strike that is too deep or not deep enough. A deep die strike breaks through the liner surface thereby exposing the paper interior to the adhesive. The adhesive then grips the liner making stripping difficult. To test for this, use a black felt tipped marker to outline the die cutting area, if a solid black line appears along the die cut, the die strikes are too deep. A shallow die strike does not properly cut through the adhesive leaving adhesive 'legs' that hold on to the label stock. Ask us to quote labels converted for hi-speed auto apply.

3) Incorrect Release Specification

- ❖ Symptom: (1) Labels lift up or drop off as the label web is pulled through the machine. (2) Labels difficult or impossible to peel.
- ❖ Common causes: (1) During the label construction, the adhesive coater can adjust the amount of release agent on the liner that will effect the amount of tension required to

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release a label from the liner. If the labels are lifting as they travel through the equipment, one cause can be that the release was set too low during label construction. (2) In the case where the labels are difficult to peel, the release was set too high.

4) Core Diameter

- ❖ Symptom: This problem is most common in those applications where a label five inches or longer is being used. Those labels near the end of the label roll have a permanent curl that will make it difficult for the vacuum system to hold the label in place on the applicator pad.
- ❖ Common cause: The label roll ID is too small, normally a 3" core is being used. We recommend that any label five inches or longer use a 5" ID label core.

5) Label Winding

- ❖ Symptom: (1) Label sticking as the labels are unwound from the roll. Adhesive buildup on equipment rollers. (2) The label rolls are difficult to pick up and mount because the center core falls out or telescopes.
- ❖ Common causes: (1) In the first case, the sticking during unwind is the result of the adhesive oozing from under the label as the result of the labels wound too tight. (2) Labels wound too loose causes the second symptom of the cores falling out. Specifying and monitoring the correct wind is more an art than a science and relies on the experience and expertise of the label supplier.

6) Label Length Varies

- ❖ Symptom: In those applications where the label must fit within a tight space, the label will randomly be too large or too small - on the same roll. The label printer will periodically and randomly lock up and give a label length error.
- ❖ Common cause: The improper web tension was used by the label converter during the die cutting operation.

7) Label Liner Stiffness

- ❖ Symptoms: (1) The label is difficult to peel. (2) The liner breaks.
- ❖ Common causes: (1) The liner is too thick for the label printer/applicator peel bar thereby providing insufficient release tension for the label. (2) Conversely, the liner is too thin and will break away from the label web tension as it is pulled through the machine. This condition can be aggravated when there are die strikes on the liner.

The labels used in most label printers consist of a label sandwich with five parts:

- the liner or carrier sheet
- the liner release coating
- the adhesive
- the label material
- the label topcoat

The ribbons consist of three parts:

- a silicone
- the carrier sheet
- the wax or resin ink

We sincerely hope this information helps you keep the uptime you demand from your label printer/applicator. Please call (423) 629-6245 if there is anything we can do to assist you.