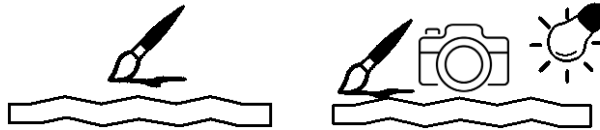


Description



MRP-MS2015 marking systems for defect and code marking

System description:

After a web inspection system has detected various defects during the production or finishing process, the next step is to evaluate these defects and, if necessary, to remove them from the web for further processing.

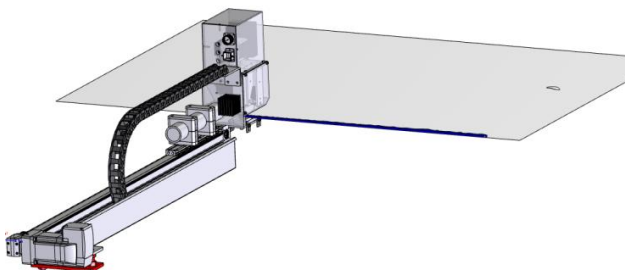
For this purpose it is essential to find the defects quickly and reliably during unwinding on the finishing system. There are often reports that describe the defects at web meter x. But how do you quickly and effectively find this position in the roll if we can assume that a certain length has been removed from the roll?

There are 2 possible approaches:

A web inspection system controls a printer unit in such a way that detected defect areas are marked at the edge of the web. The marking is selected so that it can be seen from the front side of the roll. Manually the rewinder approaches these marks in order to carry out its actions (splice, cut out...) on the web.

Disadvantage:

- Manual actions of the operator necessary
- Imprecise positioning
- Time-consuming search for defects

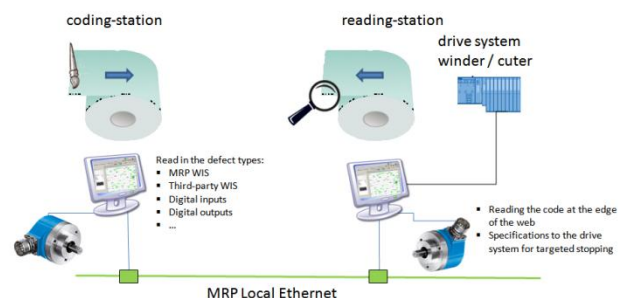


Code marking (destination holding system)

In the case of code marking, it is not the defects on the web that are marked, but rather cyclically a length information is printed on the edge of the web, which can be read back on a further processing machine. Therefore, the exact longitudinal position of the web is known for the moment.

System structure of a target holding system

The system structure of a destination stop system is shown below.



Procedure at the coding station:

- Printing a binary code on the edge of the web as information of the current web meter. Attention, the code is not readable by humans. The imprint is 50-1000 m, depending on the current web speed (up to 2000m/s).
- Integration of a traversing unit for the compensation of web swarming and different widths of web.
- Optionally a reader can be used to check the print.
- Digital inputs for additional defect markings from other systems or manual inputs.
- These signals / information are additionally stored in the defect-map, e.g.: rejects by machine operators etc.
- Optionally, a barcode can be printed on the roll report to identify the reel for identification at the finishing machine.
- Depending on the product and ambient conditions, an vacuum device unit is available.

Procedure at the reading station:

- Identification of the current reel. e.g. by entering the reel number or by reading a barcode.
- Reading back the printed code (Attention - direction is normally reversed). This means that the MD web position is known at the further processing device.

- A defect-map with critical defects is known to the MRP target holding system through a data coupling with the installed web inspection system.
- With the first code read, the MRP target holding system knows the current longitudinal position in the reel.
- Through suitable communication with the drive system of the finishing machine or with the gates in the cross cutter, the defects can now be processed with cm-accuracy.

Installation situation

The installation situation for both the printer and the reader is determined by the customer. Due to the possibilities of an individual design, the devices can be operated in almost any installation situation.

Requirements for the marking fluid

For every installation, the important question of marking fluid must be answered in addition to the installation situation. Depending on the application, various points must be observed here. The marking fluid is selected individually according to the necessity of the process so that optimum printing results can be achieved. The marking head supplier is also the manufacturer of the marking fluid. This means that the device and the ink match perfectly.

- What is the material of the product to be printed?
- How much time is available for drying?
- Water-soluble or solvent-based?
- Must adhesion to greaseproof papers be guaranteed?
- Does adhesion have to be guaranteed on wet-strength papers?
- Are there coloured products, so that several colours have to be printed?
- Should defect marking be possible as an alternative?

