ABMI
Association of the Beverage Machinery Industry

Method sheet: Labeler – Labeler for paper labels and cold glue
Sheet no.: 050301 – 1.01
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Machine: **Labeler for paper labels and cold glue**
Criteria: **Labeling faults**

Contents:

Labeling faults

1. Definition: Machine and criteria

An important parameter of a labeling machine is the number of labeling faults. The following refers to machines for paper labels and cold glue.
The used bottles and labels have to fulfil good manufacturing standards and have to be specified for using on the machine.
For all actions the relevant safety instructions must be strictly adhered to.

Further related documents
free

2. Inspection

2.1 Scope

Detection of labeling faults after the labeling process.

2.2 Apparatus

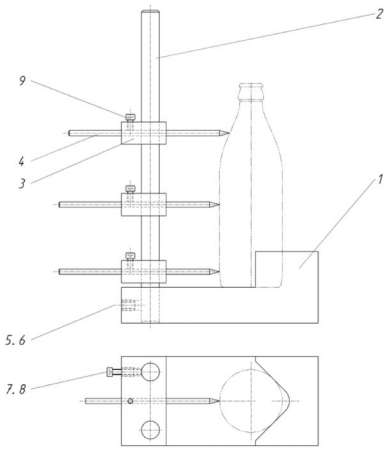

Fig. 01: Measuring tool

2.3 Procedure

For inspection, random samples have to be taken.

Correct label positioning can be checked by using the measuring device shown (Fig. 01). The correct position of the label can be fixed by using pins and the samples taken after the labeling process can be compared with the defined position.

Labeling faults are:

- Missing, deformed, torn, slanted labels
- Axis deviation between several labels applied simultaneously
- Double labeling
- Labels with an insufficient amount of glue

Defined capacity performance data can only be valid under optimum conditions, i.e.

- New, exactly adjusted format and guiding parts
- Glue and paper correspond to guarantees
- Dry bottles are in accordance with permissible tolerances
- The bottle finish must be centric to the bottle diameter or width, whereby a tolerance is acceptable.

All tolerances are only valid if bottles and labels are within the tolerance range defined by the manufacturer (see technical data of the machine)

Incorrect means that the label is:

Missing (A), deformed (B), torn (C), slanted (D); axis deviations (E) between several labels which should be applied simultaneously, double labeling (F) and labels with an insufficient amount of glue.

3. Sampling

To check labeling quality, samples of labelled packages are needed. Samples have to be taken after 15 minutes of production in standard operation and at nominal capacity.

Quantity of sampled bottles:

Machine capacity up to	15,000 bottles per hour	→	100 bottles
Machine capacity up to	40,000 bottles per hour	→	500 bottles
Machine capacity more than	40,000 bottles per hour	→	1000 bottles

3.1 Calculation

Inspect the bottles visually. If there are any doubts, measure the position of the label with the measuring unit shown in part 2.2.
Count all bottles with labels which do not meet specifications.

3.2 Results and data sheets

Count all bottles with labels which do not meet specifications. Cf. Pt. 4 for definitions of labeling faults.

4. Evaluation and Documentation

4.1 Detailed definitions of labeling faults

- **Missing labels (A):**
  Each bottle with a missing label is counted as a single fault

- **Deformed Labels (B):**
  Labels which moved, perceptible through wrinkling, which is not caused by rising of the material. Inclining of the labels is nearly inevitable.

- **Torn labels (C):**
  The typical tears which can arise when the back holding hook is taking the label out of the magazine are caused by the paper and do not count. Tears in the labels which occur when taking the label from the label magazine and/or when transferred to the gripper cylinder, and which are longer, are considered as faults.

- **Slanted labels (D):**
  That means labels where the horizontal centreline of the label is not parallel to the bottom of the bottle. There is a permissible tolerance measured from the vertical centre of the label to the outside edge (see figure 2).

- **Axis deviation between several labels which should be applied simultaneously (E):**
  Labels are evaluated which are applied simultaneously on one labeling station, i.e. on top of each other. The label centre axis should be concentric, one over the other (see figure 03).

- **Double labeling (F):**
  Multiple removal of labels from the magazine, caused by e.g. static charging or punching with burrs, will not be counted as a fault.

- **Labels which are glued incorrectly (G):**
  If labels have been glued with an insufficient amount of glue they will be evaluated as a fault.

- **Deviation in vertical direction between front and reverse labeling (H):**
  Labels which are not applied concentrically to the bottle axis - do not confuse with (E), axis deviations‘.

A bottle with multiple faults will be evaluated as one fault. A label which is missing because of defective gluing will be counted as one fault and not as ‚missing' or ‚incomplete'. A consequential fault is evaluated as one fault. If a label for example is applied on the glue roller it can cause consequential faults (in this case only one bottle will be counted).

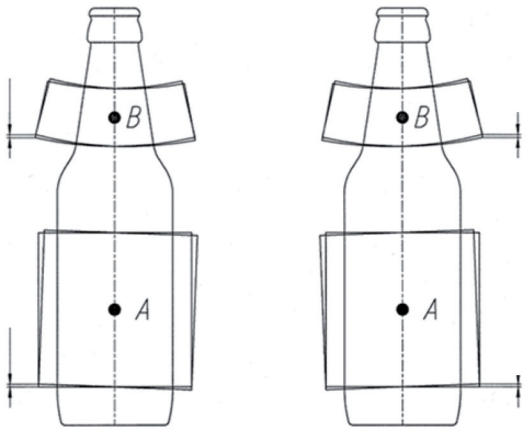

Fig. 02: Deviation from horizontal application

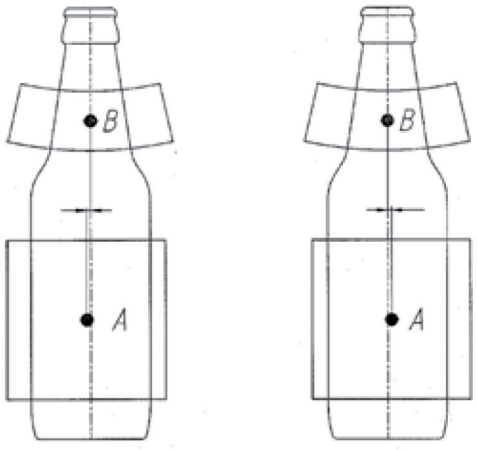

Fig. 03: Deviation in horizontal direction: Front Labeling

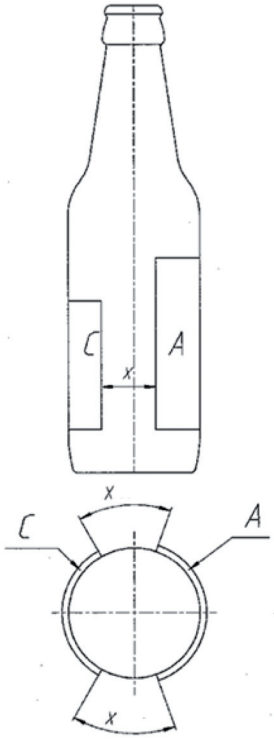

Fig. 04: Deviation in horizontal direction Reverse labeling

4.2 Evaluation

The labeling accuracy is correct when the amount of labeling faults is not higher than warranted in the contract.

Amount of allowed faults: _____

Detected faults: _____

4.3 Documentation

Allowed faults _____ ≥ detected faults _____ Labeling is o.k. ☐

Allowed faults _____ ≤ detected faults _____ Labeling is not o.k. ☐

Name and signature of inspector: _____