

Alternative Printing Technologies for Aluminum Cans

DESCRIPTION

An American Fortune 500 company is seeking novel, randomized printing or decorating technologies to generate high-quality graphics on aluminum beverage cans.

BACKGROUND

Customization is a powerful differentiator in consumer packaged goods. Individualized packaging can create a distinct and memorable consumer experience. Digital printing of graphics and labels on plastic bottles has enabled manufacturers to create distinctly unique labels in a completely randomized manner such that the total number of variations and combinations that are possible are immense. However, this digital printing technology cannot currently be leveraged on aluminum cans due to inherent limitations within the current decorating techniques used in the can manufacturing industry.

Current options for randomized can printing require blocking out a small area of the can for the random element. As such, only a limited number of unique graphics can be realized. These vary only slightly by manufacturer and ultimately limit the true customizability of the process in general. The company is looking for technology solutions that enable printing of individually unique graphics on every can at high speed or at levels that significantly surpass the current state of the art.

KEY SUCCESS CRITERIA

The successful technology will:

- Be of similar quality and cost to the current can graphic standard
 - Unique technologies may result in higher initial cost of goods sold (COGS)
- Printing must run at high-speed can line rates
- Must be compatible with can manufacturer and filling sites
- Printing order must be totally randomized OR achieve variability well in excess of current limitations
- Print layer cannot adversely impact the performance requirements for aluminum beverage cans



- Materials/ingredients used preferred to be and characterized as edible and safe by authorized regulatory body
 - For example, GRAS materials in the US; materials listed as safe to consume by EFSA or by Codex Alimentarius
 - At a minimum the ingredients must be non-toxic

POSSIBLE APPROACHES

Possible approaches might include, but are not limited to:

- High-speed decorating technologies
- Novel equipment or mechanical designs
- Technologies incorporating state-of-the-art randomization or automation hardware/software
- Stepwise improvements of existing printing or decorating technologies
- Printing or decorating technologies that can be adapted from adjacent industries for use on aluminum cans, including but not limited to:
 - Toys and consumer goods
 - Automotive
 - Personal care
 - Packaging
 - Healthcare and medical

APPROACHES NOT OF INTEREST

The company has conducted research into alternative printing technologies, mainly on label and secondary package substrates. The list below details some of the technologies that have been explored so far. Individual technologies that utilize only one form of printing from the list below should be avoided unless the inventor can offer a step-change in the existing technology to dramatically change its cost or performance.

1. Lithography
2. Traditional can decoration with print station/color limitation

PREFERRED COLLABORATION TYPES:

- Joint Development
- Contract Research
- Technology Acquisition
- Technology Licensing
- Supply Agreement
- Contract Analysis and Testing
- To Be Negotiated

If you are interested, please respond to:

Ms Katarína Nagyová
Technology Transfer Manager,
Head of TT Department
LC Innoconsult International

innovacio@lcinnconsult.com
nagyova.katarina@lcinnconsult.com

