

# Technical News Bulletin

Steinhausen, May 2019

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## ID-Mark

- A laser marking system for hot containers, part of the equipment offered to allow the total traceability of the containers as per Emhart Glass E2E strategy.
- Engraves a unique code on containers around 500°C, thus keeping glass integrity, such as resistance to pressure.
- Real production time of bottles allows easy identification if failures occur.

## Introduction

ID Mark is a laser marking system for hot containers, which is part of the equipment offered by Emhart Glass to allow the total traceability of the containers as per Emhart Glass E2E strategy.


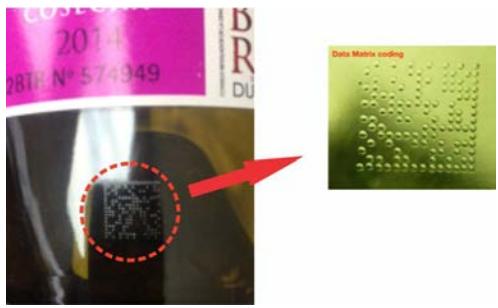

Installed between the forming machine and before the lehr, it engraves a unique code on containers around 500°C, thus keeping glass integrity, such as resistance to pressure.

The laser beam ensures a precise and smooth contrasted mark on the containers, allowing a high readability of the code (vision inspection high efficiency rates). This provides the best alternative to cold end marking systems such as ink-jet marking (high volume of consumables) or cold end laser marking (creates glass debris and potential glass cracks inducing weakness of the containers and poor reading efficiency).

## Code Specification

Two types of markings can be selected and combined for different purposes with different benefits.

- Alphanumeric code - human readable information
- Datamatrix code - machine readable information

	Marking type	Characteristics
Alphanumeric code		Human readable Normally 16 numeric digits including real production time. =>Can substitute cold end marking.
Datamatrix code		Unique Machine readable code to track the container all along its lifetime.  14x14 (dots) matrix • 16 numeric digits 7.5 x 7.5 mm 16x16 (dots) matrix • 24 numeric digits 9 x 9 mm
Combined code		Human readable information substitutes the cold end marking.  14x14 matrix makes the bottle worldwide uniquely marked

## Application and Installation

The ID Mark is designed to be installed in a harsh environment and comprises:

- full protection against heat radiation by heat shields,
- water-cooled system for sensitive components,
- compressed air to protect sensor against contamination,
- an isolation transformer against high-voltage surges, overcurrent, and electrical noise.

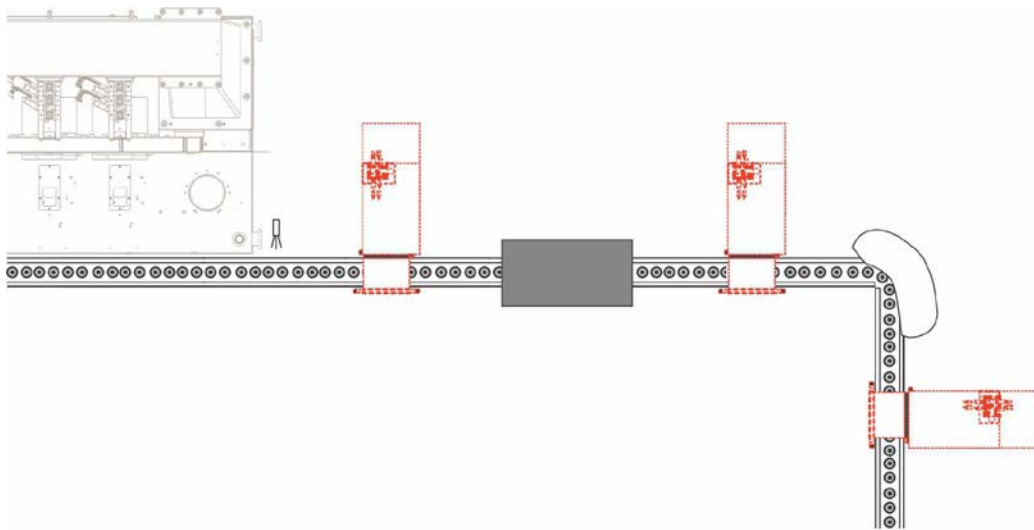
It can be used on any type of containers, with a position of the code on any part of the containers.



### IMPORTANT!

For best performance of the ID-Mark, the container temperature must be above 450°C to avoid container stress.

The ID-Mark can be installed at several locations, depending on available clearance along the production line.



The ID Mark can also be synchronized with the IS machine for relating mold correlation, machine and sensor settings to the unique code in a database.

## Available documentation

- Sales questionnaire
- Sales presentation
- ROI calculation in contrast to ink-jet marking (available)
- TNB about Traceability
- Instruction manual (reference H60001)

## Features / Benefits

Features	Benefits
Laser technology	<ul style="list-style-type: none"> <li>• Permanent marking</li> <li>• No weakening of the container</li> <li>• Easy-to-read marking</li> </ul>
Adjustment range	The code can be marked at any position on the container height.
Alphanumeric marking	<ul style="list-style-type: none"> <li>• Real production time of bottles allows easy identification if failures occur</li> <li>• Can substitute the cold end marking</li> <li>• Protection against counterfeiting</li> <li>• Traceability along the complete lifetime of the container</li> <li>• Promotional campaigns become much easier to control (can be turned on/off) <sup>(1)</sup></li> </ul>
Datamatrix marking	<ul style="list-style-type: none"> <li>• Real production time of bottles allows easy identification if failures occur <sup>(2)</sup>.</li> <li>• Promotional campaigns become much easier to control (can be turned on/off) <sup>(1)</sup>.</li> <li>• Can substitute the cold end marking if a cell phone application is used for reading. The machine readability of the code additionally offers:</li> <li>• Production information <sup>(3)</sup> of an individual bottle can be attached to the code in a database (Traceability) <sup>(4)+(5)</sup>. <ul style="list-style-type: none"> <li>- allows data driven joint failure analysis between filler and glass producer,</li> <li>- enables closed loops of cold end to hot end.</li> </ul> </li> <li>• Protection against counterfeiting.</li> </ul>

<sup>(1)</sup> More possibilities with datamatrix code as end-user must read with a dedicated application => Marketing department can record the phone number of end user.

<sup>(2)</sup> Readable with a cell phone application or from the database.

<sup>(3)</sup> IS settings, measurement data of smart sensors, inspection results and settings.

<sup>(4)</sup> With code reader.

<sup>(5)</sup> With FlexControl Center.