

# hitmark = robotics

## **Hitmark Sp. z o.o.**

ul. Platynowa 3

05-090 Wypędy

tel +48 22 754 10 13

fax +48 22 754 10 14

nip 123 10 57 785

mail [hitmark@hitmark.pl](mailto:hitmark@hitmark.pl)

**Serwis** +48 604 262 200

[www.hitmark.pl](http://www.hitmark.pl)



**Laser Marking Stations for Insulation Elements  
in Water Tanks for Concealed Toilet Systems.**

# CASE STUDY

**Client:**  
Tece Industrial Sp. z o.o.

**Industry:**  
Finishing elements

**Location:**  
Strzelin

**Completion date:**  
luty 2024

## Process safety is the key to success.



The client's goal was purely marketing – marking polystyrene insulation of WC water tanks with the TECE logo, so that the installer could see the TECE logo at the time of installing the concealed set. This goal was dictated by market trends as other manufacturers also mark their products in this way. It also helps in recognizing and distinguishing the manufacturer on store shelves.



## CLIENT'S ORDER

Designing and building two laser marking stations

- Initially, there was a site visit to the HIRSCH factory, which produces insulation on behalf of TECE.
- Laser trials were performed because different styrofoam elements had varying moisture levels, and it was necessary to check how the laser would behave in specific cases.
- The first idea was to install the laser in the machine producing styrofoam elements, but due to a large number of variables plus human intervention, it was impossible.
- The biggest challenge was installing the extinguishing system due to the flammability of the product and the environment mostly made of styrofoam. It was necessary to get information from BASF (styrofoam manufacturer) on the type of material used for production and choose the appropriate extinguishing mixture that would most effectively extinguish the product.

## MARKING PROCESS BEFORE THE IMPLEMENTATION OF HITMARK'S SOLUTION

### The styrofoam insulation products were not marked

Tece company tried marking with labels, but it required employee involvement and there was a risk of label damage during packing or transport.

Thanks to laser marking, the TECE company's logo is durable and legible, and most importantly, the process is fully automated.

## Implementation

**The laser marking station was entirely designed and manufactured by HITMARK.**

Challenges:

- Conducting discussions with several companies: TECE, HIRSCH, and the vision system supplier.
- Implementing the appropriate extinguishing system.

**The solution proposed to the client and its functionality can be divided into the following stages:**

- The operator places 4 pieces of insulation in dedicated molds.
- Transport to the marking chamber.
- Verification through the vision system of the number of products and their correctness according to the parameters selected by the operator.
- HITACHI CO2 LM-C331 (30W) laser marking process.
- Release of the marked product



## Summary

The implementation of laser marking stations for insulation elements in water tanks for concealed toilet systems was a response to marketing needs for the entire product to be permanently marked. The client chose laser technology because other solutions, such as labeling, were unsuitable due to durability and resistance to mechanical damage.

### Process completion time:

from initial discussions about 1.5 years, but the actual preparation process from signing the contract: 6 months.

### Process efficiency:

4 pieces / 50 seconds

### Station dimensions:

~ 175 cm x 198 cm x 153 cm

### Weight:

about 800 kg

### Printer:

LASER HITACHI CO2 LM-C331 (30W)



## Benefits for the Client

- The ability to permanently mark the product according to the needs and guidelines of the marketing department
- The mobility of the station allows it to be placed in the most convenient location on the production floor and provides full flexibility in case of expansion of the hall

*„Hitmark demonstrates high competence, punctuality, and attention to detail. Their dedication and professional approach to every stage of project execution allow us to wholeheartedly recommend their services to other companies.”*

**Sławomir Krówka**  
CEO of Tece Industrial Sp. z o.o.