

**Foam manufacturer for
automotive deploys Matthews'
CO2 Laser for dynamic product
marking to replace in-mold
product identification process**

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► The Challenge

A manufacturer of cross-linked polyethylene (XLPE) foam sheets used for insulation, shock absorption and sound dampening in automotive needed a more flexible way to mark product identification codes onto their product. The company had been using an in-mold solution; manually placing alphanumeric dies into a production run's mold form to indicate unique product identification codes and lot numbers. The process was time- and labor-intensive. It was also prone to errors that could only be corrected by manually grinding off the raised, formed codes and hand-writing the correct message with a grease pencil. The company needed a faster, more efficient and highly accurate alternative marking solution that included:

- + The ability to make three lines of crisp, highly legible, permanent alphanumeric marks on the foam material
- + An easy, automated way to change mark and code messaging on-the-fly with no labor required
- + Fast operating speeds and easy integration with existing production lines
- + A controller to manage and direct mark timing and message selection

► Matthews' Solution

For this operation, Matthews recommended the e-SolarMark+ CO2 laser marking and coding system. The laser produces permanent, high-resolution marks of variable text (in addition to date and time codes, serial number, barcodes, 2D codes and graphics) at high speeds to replace the in-mold dies. It etches a mark on the edge of each foam sheet without introducing ink or chemicals that could negatively impact product integrity. Due to the production environment, a stainless steel, heavy-duty enclosure package was also installed, along with a water-cooled temperature control system to extend the life of the laser and its CO2 pump, and a fume extractor to prevent debris from clouding the laser lens. Two identical systems were commissioned—one per production line—with each capable of marking a new, stationary foam sheet every 10 to 15 seconds as they pass single-file down the line.

Mark content and timing of both laser systems are controlled by Matthews' marking and coding automation platform, MPERIA. MPERIA also interfaces with the facility's product code and lot number database to obtain the correct field messaging data for each production run. As a result, the company experienced a significant decrease in labor associated with the identification process, as product codes are populated automatically instead of manually, and saw a savings of 520 annual labor hours. Likewise, mark errors are no longer a problem, as the automated control system is pulling messaging directly from the data source.

SOLUTION:

- + e-SolarMark+ CO2 laser marking and coding system
- + MPERIA Universal Automation Platform

