



**Matthews
Marking Systems™**

**Aluminum strip manufacturer
gains 2D barcode traceability
while maintaining production
line speed**

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► The Challenge

A supplier of metal coil and strip processing equipment turned to Matthews Marking Systems when their customer—an aluminum strip manufacturer—needed to implement 2D data matrix code for enhanced traceability without slowing down their existing production line speeds. Their existing marking equipment was unable to produce the 2.25 x 1.125 inch (57.15 x 28.575 mm) 2D codes and text. Additionally, all supplied equipment must withstand a harsh operating environment of a metal factory.

Requirements included:

- + Printheads capable of marking variable data matrix codes and text in multiple combinations
- + Ability to produce high-contrast, easily visible and crisp marks
- + Fast-drying ink capable of adhering to aluminum
- + Ability of the printhead solution to meet production speeds of 200 feet-per-minute
- + Universal controller to manage and direct printhead movement, camera-based mark timing and quality verification, print counter, and ink supply monitoring

► Matthews' Solution

Matthews recommended their large character drop-on-demand (DOD) marking system, VIAjet™ V-Series, with two 32-valve 8000+ printheads. The Matthews' printheads feature micro-valve technology that lowers ink consumption while producing high-quality, crisp marks in sizes ranging from 0.125 to 5 inches (3.175 to 127 mm) at high speeds. To maintain production speeds and minimize operator intervention, each printhead is equipped with large capacity ink system pumps. The recommended ink—SCP-411A Black—is formulated to adhere to aluminum and dry quickly, which was then increased with the addition of inline heaters to dry the marks immediately upon printing.

Additionally, the solution included the integration of vision systems for quality grading. This feature, along with a print counter, mark timing and ink level monitoring, are all controlled by Matthews' marking and coding automation platform, MPERIA®. By utilizing a custom software solution with plug-ins and an I/O module, MPERIA communicates with and synchronizes all components to produce accurate, variable data matrix codes at speeds of 200 feet-per-minute. Further, MPERIA communicates with the plant's host software to obtain the correct coding data for a given production run. For protection against the harsh environment, a special MPERIA controller enclosure was included.

SOLUTION:

- + VIAjet™ V-Series Printheads
- + MPERIA® Universal Automation Platform



