Roman Mosaic hits the ground running with automated terrazzo layout from Rugged Robotics.

THE PROJECT

➡ Roman Mosaic & Tile Co., known for its expertise in terrazzo and mosaic flooring, encountered a significant challenge in the construction of a new wing at a high school. In this project, Roman Mosaic was tasked with the installation of detailed terrazzo flooring across two floors—spanning roughly 17,000 square feet—prior to the start of the school year. The challenge lay not only in the project's scale and timeline but also in its complexity, as the unique design featured continuous curves that demanded exceptional precision—starting with field layout.

In the face of this challenging design and pressing deadline, Roman Mosaic sought a layout solution that would not only meet the project's intricate requirements but also optimize their team's productivity. Roman Mosaic's leadership engaged with Rugged Robotics after seeing their team on another job. Rugged quickly emerged as the optimal solution due to its ability to translate complex patterns to clear layouts quickly and accurately.

Project:

MULTI-LEVEL HIGH SCHOOL

Use Case:

TERRAZZO FLOORING

Project Size:

3500 LINEAR FEET / 17,000 SQUARE FEET

KEY OUTCOMES

1 WEEK
Of schedule savings, a **20% reduction** in delivery timeline

500 SHEETS
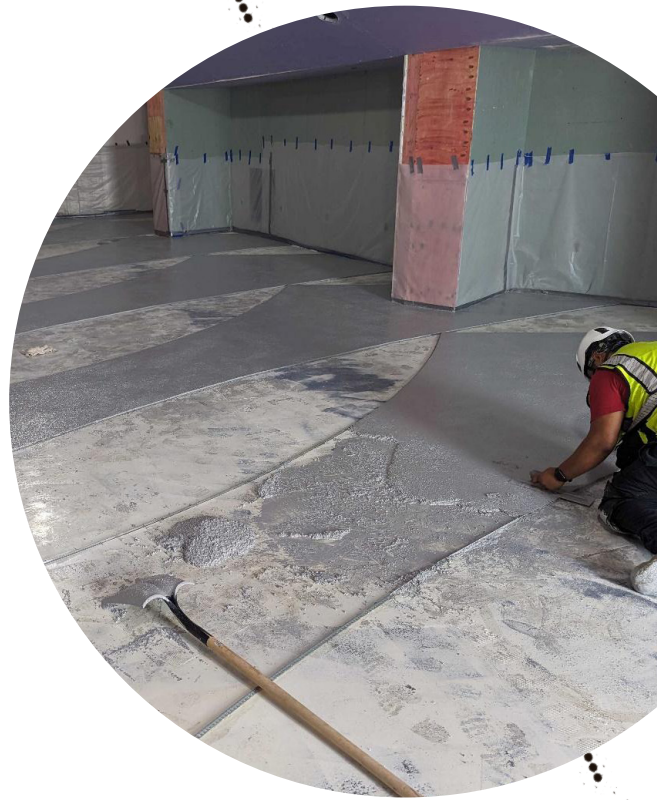of single-use plywood **eliminated**

15 DAYS
of labor redirect towards to installation and other **critical** path tasks

THE CHALLENGE

➡️ The project's intricate design spanned multiple irregularly shaped and disjointed spaces. The pressing deadline, with an immovable start-of-school date, created a high-stakes situation for the Roman Mosaic team; traditional layout methods presented a daunting array of challenges that simply wouldn't work.

Options like CNC-cut plywood sheets, assembled like a jigsaw puzzle and spray-painted like stencils, were not only labor-intensive but also wasteful, with over 500 sheets of plywood destined for one-time use. Other methods—like cutting the curved layout into hundreds of straight segments for manual connection, or approximating curves with flexible materials—required painstaking manual measurements and adjustments. These approaches were all too slow and fraught with potential for error, unsuitable for the project's unique design and tight schedule.

" This was a very difficult project with a quick turnover for the start of a new school year. The terrazzo design included complex curves weaving in all different directions. As soon as I saw Rugged's Mark1 platform, I was sold. For complex or curvy geometry there's no better solution."

DOUG WILCZEK, OPERATIONS MANAGER -- TERRAZZO INSTALLATION

→ Armed with the project's digital design assets, Rugged prepared the data and arrived at the job site ready to deploy their robot solution— to precisely and rapidly recreate the custom flooring pattern with terrazzo separation lines, control joints, and color codes. They completed 3,500 linear feet of terrazzo curves over a 17,000-square-foot area in roughly two days of printing. By completing the project's layout, Rugged made it possible for the Roman Mosaic team to shift their focus to other mission-critical tasks, like material management and early installation.

The Impact

By combining robot technology with a full-service layout approach, Rugged allowed Roman Mosaic to faithfully adhere to intricate design specifications without the need for complex math, error-prone chalk lines, or even more exhausting traditional methods—cutting a full week out of the schedule and reallocating 15 days to installation and other critical path tasks. This boost in efficiency was crucial in enabling the Roman Mosaic team to meet its aggressive deadline, ensuring that the new wing was ready for the influx of students at the start of the school year.

AUTOMATE.
ACCELERATE.
DOMINATE.

Leave manual methods in the past and let Rugged Robotics modernize your layout processes. No more crawling around snapping lines—just pinpoint precision, detailed information, and expedited results.

GET STARTED →

RUGGED ROBOTICS