

SEPTEMBER, 2017



PROJECT LOCATION: Community College | South Carolina

DATE OF PROJECT: September, 2017

THE CLIENT

Located in South Carolina, this Community College was founded in 1963 with 150 students as its first class. It serves the citizens of neighboring counties in South Carolina.

This Community College's Machine Tool Technology students learn to set up and operate all standard machine tools. Students acquire knowledge and skills in mathematics, blueprint reading, computer aided drafting, precision measuring equipment including CMM training, and computer numerical control (CNC) as well as CAD/CAM training.



THE CHALLENGE

The three main issues that needed to be resolved for this machine shop's floors were an impact resistant floor, demarcations to indicate walkways, and resurfacing of the ramps beneath the overhead doors. The machine shop's floors take quite a beating on a regular basis, from the everyday use of heavy duty machinery, to tools being dropped. Safety lines were needed to indicate safe areas and walkways. The ramps underneath the overhead doors had an unlevel gap in them, and additional concrete that needed patching.

THE SOLUTION

A diamond blade concrete grinder was used on the entirety of the floor. Afterwards, the floor was profiled with a bushing head concrete grinder attachment. **OilEater 939** was used to remove any deep-seated oil and grease stains, along with any other contaminants. Once the oil-eating microbes had removed all contaminants, the floor was pressure washed at 4,000 psi.

After the substrate had been properly repaired, a 15 mil coat of **BondTite 1101** primer was applied with a squeegee and roller brush. **LiquaTile 1143** epoxy coating was then applied otop of the primer at 25 mils using a squeegee and back roll method. Once the base coat cured, an additional coat of **LiquaTile 1143** was again applied at 25 mils. **LineGeivity 1382** was used for foot traffic demarcation lines, and was applied at 15 mils. To remedy the uneven surface underneath the overhead doors, the contractor used **TrowelEase 1162 PK**. For the sealer coat, **EnduraShield 2254** with **SpheriTex 110** aggregate was applied at 5 mils using a dip and roll method.

The finished machine shop floor has excellent impact and abrasion resistance. The primer's advanced penetration paired with it's robust adhesion to concrete provided an excellent foundation for the flooring system. The uneven surface underneath the overhead doors were smoothed out and is no longer a tripping hazard. The line demarcations established definitive foot traffic lanes. The aggregate that was added to the sealer coat gave the floor a slip-resistant surface, that is still easily cleanable due to the aggregates round, rather than angular profile.



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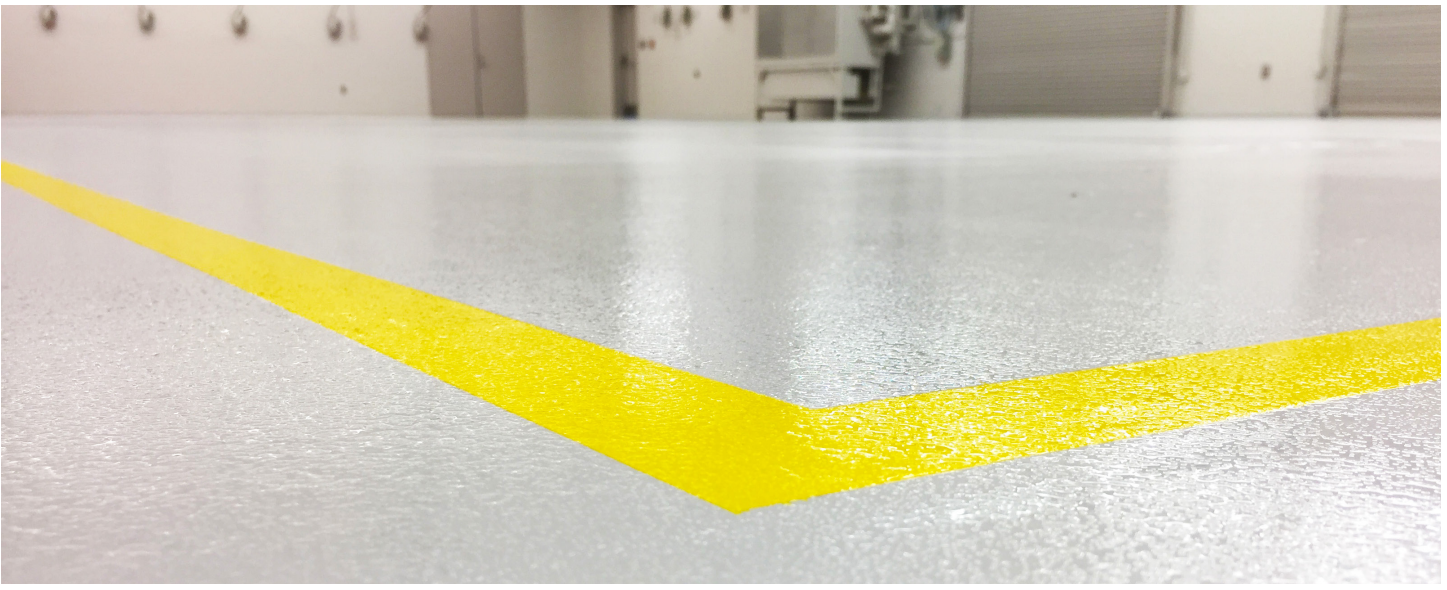
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Prep Work

1. All surfaces to be coated received diamond blade concrete grinders.
2. All surfaces to be coated received bushing head concrete grinders.
3. **OilEater 939:** Advanced microbial oil digester to remove oil-based contaminants from substrate.
4. All surfaces to be coated received multiple passes with a pressure washer at 4,000 psi.
5. **TrowelEase 1162 PK:** Patching kit used to resurface ramps beneath overhead doors.

Epoxy Lining System

1. **Primer: BondTite 1101** - Applied at 10 mils
2. **Base Coat: LiquaTile 1143** - Full Ceramic Epoxy Floor Coating - Applied at 25 mils
3. **Top Coat: LiquaTile 1143** - Full Ceramic Epoxy Floor Coating - Applied at 25 mils
4. **Safety Lines: LineGevity 1382** - Self leveling polymer designed for the application of lines - Applied at 5 mils
5. **Sealer Coat: EnduraShield 2254** - Clear gloss urethane with SpheriTex 110 added for slip resistance - Applied at 5 mils



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