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M A G A Z I N E

PREP WORK RAMPED UP

YEARS
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2 DECADES OF COVERAGE



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- » ROLLER COASTER COLOR SCHEME
- » TWO WAREHOUSES, ONE FAILED FLOOR

GREEN ROOF



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NEVER AGAIN

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ON THE COVER With pre-skinned walls, this West Texas crew had to pay particular attention to prep to avoid damages before installing a resinous flooring system at a privately owned aviation hangar.

—Photo courtesy of T.W. Hicks, Inc.

Letters to the editor are always welcome. We reserve the right to edit for space considerations. Email responses may be sent to editor@coatingspromag.com. Or mail to: Editor, CoatingsPro Magazine, 4501 Mission Bay Drive, Ste. 2G, San Diego, CA 92109

Editor,

Thank you for choosing to work with T.W. Hicks, Inc., on the upcoming issue of *CoatingsPro Magazine* ("Beat the Heat: New Aviation Hangar Floor Ready for Takeoff," September 2022, page 32). We are always excited when we see an email from you or someone on your team pop up in our inbox.

Taylor Hicks
Corinth, Texas

Dear Taylor,

We are always happy to work with T.W. Hicks! Thank you for sharing some of your expertise with our readers, particularly in the flooring area of the coatings world. We're looking forward to working with you again soon.

~Editor-in-Chief



T.W. Hicks, Inc. is flooring the industry with this award-winning project (page 32).

This Month On: *coatingspromag.com*



Online Only

Check out our online-only articles for September and October: What the future may look like for drones and coatings projects, new videos, and much more! www.CoatingsProMag.com/articles, www.CoatingsProMag.com/videos, and www.CoatingsProMag.com/podcasts

FEATURE: Pharmaceutical Project Floor Fix

Crews at Black Bear Coatings & Concrete worked to apply a new floor coating system for a pharmaceutical project in Massachusetts, all while overcoming challenges from COVID-19.



~Photo courtesy of Black Bear Coatings & Concrete

DEPARTMENT: Company Culture Landmines

When leaders step over, ignore, or inadvertently reward the five lethal landmines, culture and strategy alignment can fragment and fall apart.



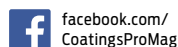
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CONCRETE FLOOR EPOXY COMMERCIAL

Beat the Heat: New Aviation Hangar Floor Ready for Takeoff

BY **BEN DUBOSE**

PHOTOS COURTESY OF **T.W. HICKS, INC.**

In early 2021, T.W. Hicks, Inc., was contracted by Teinert Commercial Building Services to install a resinous flooring system for a privately owned aviation hangar in Midland, Texas, known as The Good Shed Hangar.

With 33,600 square feet (3,121.5 m²) of space, the owner needed the floor to have light reflection, chemical resistance, and slip resistance. This hangar also doubles as an event space for parties and gatherings, so the owner needed a floor that would be safe, clean, and beautiful for its luxurious clients and end users.

“There was a competitive bidding process, and we received the invitation to bid from the [coatings] manufacturer, Tnemec,” said Kurt Dreger, division manager at Corinth, Texas-based T.W. Hicks. “It was a sales process between me, the architect, and the owners.”

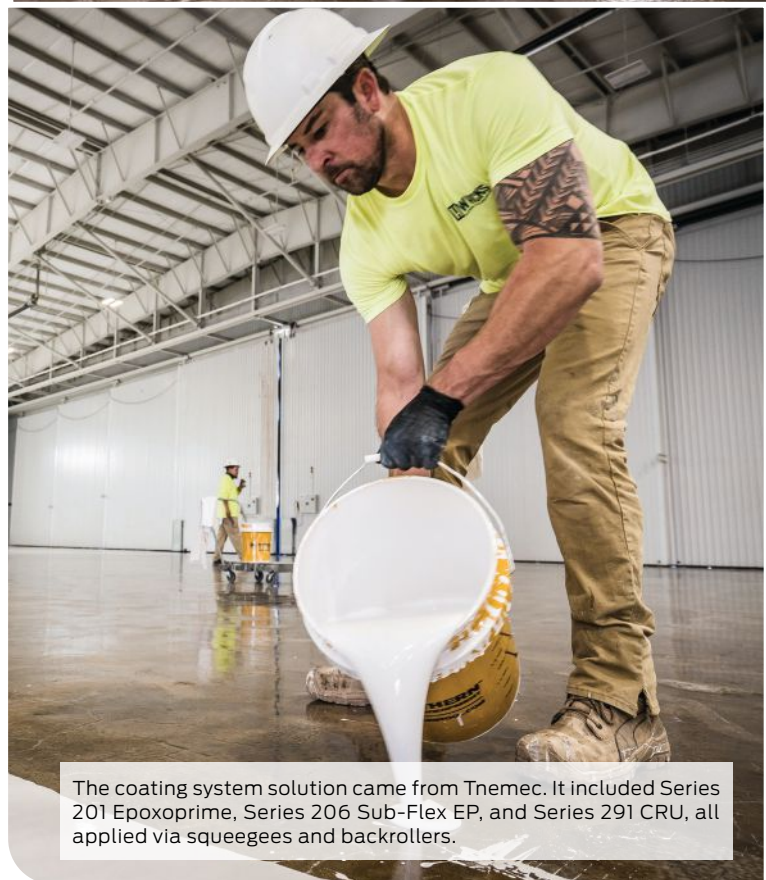
Because it was new construction, there were many other trades involved with the project. However, they didn’t interfere much with the work scope for Dreger and the T.W. Hicks crew, which traveled more than 300 miles (482.8 km) for this job from their home base in Corinth — located just north of Dallas — to the heart of the Permian Basin in West Texas.

“We made it known that we needed to be the last ones in there,” Dreger said. “By the time we got into the physical hangar where we did the coatings, we were the only ones in there.”

Flight Plan

One problem with going last on this project was the calendar. By the time the hangar was open to the six-person T.W. Hicks crew for coatings work, it was in the middle of a sweltering West Texas summer — with temperatures often well over 100 °F (37.8 °C) during the days.

“We had to adjust our hours to accommodate the heat,” Dreger said. “The summer heat in Midland was unbearable. Our crews would work earlier in the mornings or later in the evenings to ensure the job was completed on time.”



The coating system solution came from Tnemec. It included Series 201 Epoxoprime, Series 206 Sub-Flex EP, and Series 291 CRU, all applied via squeegees and backrollers.



When a hangar needed its new concrete protected, the owner called in T.W. Hicks, and it won the crew 3rd place in CoatingsPro's 2022 Contractor Awards Program in Commercial Concrete.



The project took a six-person crew from T.W. Hicks (shown here in vests with their operations manager and specialty prep crew counterparts).



Floor Ready for Takeoff



The floor covered 33,600 sq. ft. and took 13 days to complete, as well as special time to prep as grinding was necessary around pre-skinned walls. Blasting was used, too. The goal was to achieve ICRI's CSP 4.

Beyond simply comfort for the crew members over approximately two weeks at the jobsite, high temperatures posed a potential threat to the materials themselves. This also contributed to the crew's decision to work late and/or early.

"There can be issues with some of the coatings when you're

working in extreme heat," Dreger explained. "They have their parameters for installation temperatures, and when you go over that, you're taking a chance of bubbling or separation, or something of that nature. It's tricky. These coatings can be very, very temperamental when it comes to extreme heat."

Another adjustment the crew had to make involved grounding points, which are commonly found in aircraft hangars for safety purposes during service, Dreger explained. In this case, they found several grounding points that had been set as much as 0.75 inches (1.9 cm) too high in the concrete substrate, which led to trip-and-fall risks for crew members.

"Our team repaired these grounding points by tapering out the system," Dreger said. The system was tapered out through the use of an epoxy mortar material, which was created using a mixture of Tnemec's Series 222 Deco-Tread epoxy with industrial-grade trowel sand.

Cabin Crew

With a proper plan in place, crew members arrived in Midland and wore standard personal protective equipment (PPE) throughout the project, including safety glasses and face masks. When grinding, they also wore face shields and ear plugs. They utilized Tyvek suits, gloves, and face shields during mixing to keep materials off

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JOB AT A GLANCE

of the operators. And they also wore 3M respirators when applying the polyurethane topcoats.

Dreger credits much of his crew's success to the company's focus on continuity. "Our teams are exceptional," he said. "Everybody who we employ is full-time. We have no part-time people, and we don't pick up additional assistance on the road. Our teams work together very well. And our team leaders have been working for us for 20 years. We have very few guys who have been with us for five years or less."

As always, constant communication was a priority during this project at The Good Shed Hangar, which went on to win third place in the Commercial Concrete category in *CoatingsPro Magazine's* 2022 Contractor Awards.

"When we leave the jobsite for the day, they're already talking about making a game plan for the following day," Dreger said of his crew. "They all know what their qualities are. They all know what their features are within the team. But at the same time, they all do their best to grow and to train each other."

Prepping for Takeoff

Before the T.W. Hicks crew could begin its installation process in Midland, they repaired various areas of concrete deficiencies. Those included addressing the uneven grounding points, divots, and other imperfections.

"We took about two days to prefill joints and divots and to do some ancillary grinding because of the situation with the substrate, which was not in the best of condition," Dreger said. "It was new and pretty wavy."

Once the floor was tapered, crew members methodically prepped the concrete over the next four days. Using 15-inch (38.1 cm) Blastrac shot blasters with high-efficiency particulate air (HEPA) filters, the T.W. Hicks team worked to achieve the International Concrete Repair Institute's (ICRI) Concrete Surface Profile (CSP) 4 standard for surface preparation. For the edges, they prepped using Metabo 7-inch (17.8 cm) diamond grinders in tandem with shrouds and vacuum systems from Joe Due Blades &

PPE on this job included safety glasses and face masks in general; face shields and ear plugs for grinding; Tyvek suits, gloves, and face shields for mixing; and respirators for top-coating.



PROJECT:

Install a flooring system to protect the concrete at a private hangar

COATINGS CONTRACTOR:

T.W. Hicks, Inc.
Corinth, TX
(866) 841-3484
FB: T.W.Hicks.Inc
www.twhicksinc.com

SIZE OF CONTRACTOR:

40 employees

SIZE OF CREW:

6 crew members

PRIME CLIENT:

Midland International Air & Space Port
Midland, TX
(432) 560-2200
FB: MidlandInternationalAirandSpacePort
www.flymaf.com

SUBSTRATE:

Concrete

CONDITION OF SUBSTRATE:

New but wavy with fractured cracking

SIZE OF JOB:

33,600 sq. ft.

DURATION:

13 days

UNUSUAL FACTORS/CHALLENGES:

- » The West Texas summer heat required installers to work early mornings or late nights for suitable application temperatures.
- » The walls were pre-skinned, which required extended prep time to grind around the corrugated walls without damaging them.

MATERIALS/PROCESSES:

- » Repaired areas of concrete deficiencies, such as uneven grounding points and divots, by tapering out the system with epoxy mortar
- » Used 15-inch Blastrac shot blasters with HEPA filters to achieve the ICRI's CSP 4 standard for surface preparation
- » Prepped edges using Metabo 7-inch diamond grinders with shrouds and vacuum systems from Joe Due
- » Used 18-inch squeegees from Midwest Rake, and backrolled Tnemec's Series 201 epoxy Epoxoprime primer at an average of 10 mils WFT
- » Applied Tnemec's Series 206 Sub-Flex EP flexible epoxy build coat in two passes at an average of 25 mils WFT
- » Applied two coats of Tnemec's Series 291 CRU polyurethane finish coat in a custom Midland Regal White color at an average of 8 mils WFT, combined

SAFETY CONSIDERATIONS:

- » Wore standard PPE, including safety glasses and face masks
- » Used face shields and ear plugs as additional PPE when grinding
- » Wore Tyvek suits, gloves, and face shields when mixing
- » Wore 3M respirators when applying the polyurethane topcoats

Floor Ready for Takeoff

Equipment.

“We were grinding in areas maybe 6 to 8 inches [15.2–20.3 cm] out from the wall,” Dreger said. “The other issue was that all the walls were pre-skinned. The interior panels were corrugated steel. That was the reason for the extended prep time because it takes quite a while to grind around all that stuff without damaging it.”

In just under a week, the crew had the hangar ready for application, and Dreger credited a collaborative approach for their success. “We have one safety guy who makes sure everybody’s taking care of business, and a project manager who oversees everyone,” Dreger said of the crew’s prep responsibilities. “We normally have one full-time operator on the blast equipment. If it’s an extended blast, we do have somebody that comes in and takes his place. But the blast machine is pretty much self-contained. The remainder of the guys are doing perimeter grinding and key-in work, things of that nature. Normally, we have one guy on the grinder, and one guy moving the vacuum for him. They will swap off every 30 to 45 minutes just so one guy is not doing that for an entire day.”

Handling Layovers

Using 18-inch (45.7 cm) disposable squeegees from Midwest Rake, the crew’s squeegee-and-backroll application process consisted of a



Due to the Texas summertime heat and an unconditioned space, the crew had to shift their work to early mornings and late nights to achieve suitable application temperatures.

four-coat system: Tnemec’s Series 201 Epoxoprime epoxy primer, Tnemec’s Series 206 Sub-Flex EP flexible epoxy build coat, and two coats of Tnemec’s Series 291 CRU, a chemical-resistant polyurethane topcoat. Each layer typically cured overnight.

“We generally had two people on the mix station,” Dreger said

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of the T.W. Hicks process in Midland. “We had checks and balances to make sure that everybody was paying attention to what they were doing. We had one guy on the mix station who’s transporting material in between mixes. Depending on the application, we have one to two guys running the squeegee, another guy doing a preliminary roll, and another guy coming behind and doing a backroll.”

The application started with the Series 201 primer, which went down at an average of 10 mils (254.0 microns) wet film thickness (WFT), followed by the Series 206 build coat as an intermediate layer at an average of 25 mils (635.0 microns) WFT. The build coat, described by Dreger as “thicker with a little elasticity to it,” was needed to address some cracking issues with the concrete after blasting. It was applied in two passes over multiple days, owing to the amount of material that had to be mixed in a short amount of time to achieve that thickness.

“The original system that was specified was taken off of another hangar that we did in Addison, Texas,” Dreger said. “On the preliminary evaluation, we saw fracture cracking in the concrete. You can’t spend enough time to patch all those. There’s not enough time in the year. So the recommendation from Tnemec was to just utilize their flexible epoxy to bridge those, which worked fantastic. We specified the same system at this particular hangar, which was a good thing because it actually needed it [even more].”

Dreger said an alternative could have been to “double prime” with an added thickener to the second prime coat in an effort to bridge any gaps. “But epoxies are extremely brittle,” he said.

Finally, with the build coat installed, crew members applied two coats of Tnemec’s Series 291 in a custom Midland Regal White color at an average of 8 mils (203.2 microns) WFT of combined thickness. The custom color was created to match the hangar’s metallic panels. “It provides the properties that will withstand aircraft fluids and anything that might leak out on the floor,” Dreger said of the polyurethane.

In all, the total system was in the ballpark of 40 to 45 mils (1,016.0–1,143.0 microns) WFT, and crew members applied it diligently over the span of about one week.

Cleared for Departure

According to Dreger, the T.W. Hicks crew completed the job in 13 days and without significant complications. Thus far, feedback on their award-winning work has been extremely positive.

“They liked it,” Dreger said of the client. “We had a couple of things [to touch up]. It’s hard to do an area of that size when you have basically an uncontrolled environment without getting any kind of debris or something on it. But yeah, they liked it. It was pretty much a straightforward job, other than the heat and being out of town.”

For T.W. Hicks, it was their fourth hangar they’ve done on this particular side of the airport, and it was important to get it just right. “It was high profile for a well-known family in the Midland area,” Dreger said. “It was one of those jobs that you knew you had to take care of. You do a few things over and beyond just to make sure that the client is happy.”



“It was one of those jobs that you knew you had to take care of. You do a few things over and beyond just to make sure that the client is happy,” said Kurt Dreger, division manager at T.W. Hicks.

Best of all, it should position the contract company for more success in the years ahead. “It was a continuation of our ongoing work out there,” Dreger said. “We’ve got to continue to make a name for the company, our quality, and our products that we put out in those facilities.”

With a happy client, this project should help T.W. Hicks continue toward that ascending flight path! **CP**

VENDOR TEAM

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