

Revealing History Through Concrete Polishing

The Art of Concrete

Category 4 – Best Building Project – Specialty Contractor (Under \$2 Million)

Overview Statement:

What happens when a new state-of-the-art concrete contractor gets teamed up with a renowned team consisting of The Beck Group and Gensler Design? A world-class office space gets transformed from a historic 1949 building in the heart of downtown Denver. The team worked together to find the beauty in the old building while maintaining the history and stories the structure had to tell. The Beck Group and Gensler hired The Art of Concrete, a new decorative concrete contractor in Denver, to find the beauty within the 69-year-old concrete floors.

Although The Art of Concrete may be a new organization, they are no strangers to concrete construction. Both partners come from an entire life of concrete construction and teamed up to bring their knowledge and passion for concrete to Denver. This knowledge and passion were put to the test with this historic renovation. The designers of Gensler asked for polished concrete in all of the main spaces of the office. In order to polish concrete that is 69 years old, you really need to understand and know concrete. Luckily, the team not only understands concrete, but they also know how to reveal the beauty within it and polish it to make it tell the story of the building while creating a durable and lasting finish that will serve the building another 69 years. Concrete is made to last, and this project shows that it can truly stand the test of time when crafted well.

Solutions of Special Projects:

As a renovation of an old building in the heart of downtown Denver, the project delivered many obstacles. Renovation projects are always an adventure, because you never know what you will discover as you start opening up walls and floors. The entire team, from contractor to designer to owner, had to be very flexible. The floor was very old and very soft. Because it had been around for a while, the building had served many purposes in the past – and that story is told through the concrete in the floor. The floors had several different batches of concrete, there were many trenches and patches, and even the patches had patches. Most of the original concrete was very soft and not of the best quality, and soft concrete hardly ever polishes well. However, because the team at The Art of Concrete knows concrete, they were able to give it the finesse it needed to

bring it up to a full polish. Every patch, trench, and multiple loads of concrete turned into a high quality polished concrete floor. One way this was achieved, was through the concrete densification process. To polish concrete properly, it needs to be densified – which means the Calcium Silicate Hydrate in the concrete is reactivated to make the concrete harder, more dustproof and abrasion resistant. And to achieve that with soft, low quality concrete, is not an easy task! To be densified, a densifier product -made up of a silicate to reactivate the calcium silicate hydrate within the concrete - needs to be applied to the point of rejection. A typical new slab today would take about 1 gallon per 600 square feet of concrete. This 69-year-old slab with all of its history, trenches and patches took 5 times that amount of product to properly densify to rejection. The team at The Art of Concrete knew this, and instead of just following a label and quitting at the standard coverage rate, they continued to push for the quality the owner and architect desired. When a slab is densified to rejection, no matter how old it is, it will be a denser, harder floor, be easier to maintain, retain its shine, and be resistant to wear patterns.

Excellence in Project Execution and Management/Team Approach:

Because this renovation project happened in the heart of downtown Denver with many trades working at once, safety and coordination were of utmost importance. Many times the crew from The Art of Concrete opted to work a night or evening shift in order to be most productive and safer for themselves and the other workers. The team also provided mock-ups of the polished concrete floors for the owner and Gensler to approve prior to polishing all of the concrete. The beauty and risk of polishing such an old floor is the challenge of meeting expectations of the designer and owner. The mockup helped show the team what the final floor will look like – with all the beautiful imperfections of an old floor.

Construction Innovations/State-of-the-Art Advancement:

One technique for polishing concrete that The Art of Concrete brings to Colorado is utilizing ride-on power trowels to polish concrete. When done correctly, it provides a high-quality polish in a very efficient manner. Typically ride-on power trowels are used to place fresh concrete. Using them with polishing pads is a new up and coming innovation to the polished concrete realm. With the latest concerns about silica dust, this process, done with water, minimizes the health and wellness concerns for concrete polishers and those within their construction vicinity.

The Art of Concrete utilized this innovative process to polish the concrete on both the main floor and lower level of this office space renovation.

Environmental/Safety

The Art of Concrete utilized the power trowel concrete polishing system which polished the concrete using water, which makes it a dustless process. Without concrete dust in the air, the site is safer for all workers from silica dust in the air. The team also communicated regularly with The Beck Group to coordinate pouring back any new patches or landings and when polishing is best to take place to maximize use of available floor space and minimize safety risks. The crew utilized proper PPE during the entire process and was mindful of the other trades. Working on 2 levels of a building, especially an older building renovation, produces many hazards that everyone on-site needs to be mindful of. The crew from The Art of Concrete received American Society of Concrete Contractors orientation safety training and training on OSHA's Silica Dust rules prior to construction.

From an environmental standpoint, polished concrete is one of the most environmentally friendly floor finishes available. Because the design utilized the existing slab, the project's carbon footprint was minimized. New material or finishes were not introduced to the project to go over the existing concrete foundation, the team polished the surface that was already there. The densifiers used to polish concrete are also zero VOC.

Excellence in Client Service and/or Contribution to the Community:

Not only did the team exemplify great teamwork by open and honest communication, they remain in communication dreaming up how to polish future projects. The client, designer, and general contractor were all pleased with the final finish produced by The Art of Concrete. The final polished concrete floor embraces the history of the historic building, provides a beautiful and low maintenance floor, and the rustic decorative concrete finish ties together the entire interior design of the space. In addition to this project, the team worked so well together, that as the project wrapped up, they decided to tackle another one together for the community. Gensler, The Beck Group, and The Art of Concrete teamed up to donate work of renovating the art room of a local Boys and Girls Club which wrapped up just in time before the new school year started up.













