

## **2018 ACE Awards**

### **Category 2: Meeting the Challenge of a Difficult Job – Specialty Contractor**

**Specialty Contractor: ICI, LLC**

**Project Name: CoorsTek**

CoorsTek - A name that's very familiar to residents of Colorado and beyond. Since their inception in 1910 they have made major advancements in their productions and in the world of science. CoorsTek is not only innovating in the present, they are setting their sights on the future and are doing this by expanding where they are based in Golden, CO. This improvement comes in the form of building a new research, development, and manufacturing facility here in our own backyard. The Center for Advanced Materials is their way to meet increasing demands for performance and speed to get products completed. They will be combining where their products are created with where they house their research, development, and analytical teams. Creating this new idea is where ICI steps in. ICI was tasked with cold-formed metal framing, rough carpentry (as applicable), firestopping (as applicable), joint sealants (as applicable), hollow metal doors and frames (as applicable), non-structural metal framing, and gypsum board.

Take a moment to picture a warehouse the size of two football fields with walls that reach up to 85 feet. Now imagine framing this out and creating walls of drywall up to the top story. The thought of all the issues that working at this height can cause can be staggering when trying to construct the logistics. This is the obstacle that we were facing when we accepted and walked onto the CoorsTek job site. We knew that this project would be a challenge but the team that we put together for this project produced unbelievable results even after a few stumbles.

ICI started construction on this project on September 20, 2017. The project didn't begin when our boots hit the ground, it began with in depth preplanning for every aspect of the project. While the general contractor was responsible for preplanning many aspects throughout this job, our project manager played a large role in preparing our field. The designation of this project as a 5s and clean workspace project demanded this planning all to keep the job site more clean, efficient, and safe. To prepare for this our project manager would need to attend multiple orientations and work all of this into our integrated work plan. The 5s rules are stringent upon how material is stored, moved, thrown away, and worked with. This was an adjustment for our

project manager and superintendent, but they met this challenge head on by staying ahead of material ordering and being creative with our crews.

Coming together and working as one unit with the general contractor and all other subcontractors on the job was imperative. Each trade was expected to create integrated work plans and attend Plan of the Day meetings every morning. Along with daily meetings we were required to have a weekly walk with the general contractor to view the project and critique each area. After the project began we recognized that safety was going to be a key factor in successfully building the AMP project. Our safety manager was able to revise our safety program to add ten safety leads that came directly from our field crew to ensure ICI's safety and efficiency. We have since moved on to implement this new tactic on other projects as well.

This project encompassed a building as large as two football fields, four stories tall, and kept a steady manpower of 40-50 workers on site for ICI alone. Not only was planning between trades a major undertaking but trying to frame in walls and move equipment in between areas proved the largest challenge. The height of the walls added increased difficulty, having to use 150lb 12-gauge studs, at 6" on center with new and existing equipment in the same vicinity. The interior of this project was designed to be built with the same gauging and dimensioning that is found on an exterior build. The superintendent we chose for this job is more accustomed to working with large exterior framing systems, so he was the perfect choice for this project! This was his first time leading a multimillion dollar interior project for ICI and his expertise and willingness to work with the general contractor made this project a success.

Many strategic sessions came into play when it came time for us to start framing in the walls. A very large part of what made this project unique was what is already residing in CoorsTek. Large equipment was already in place for us to build rooms around and this made rooms tight for crews working on the ground, in the air, and trying to move lifts. Scaffolding was not always an option to use because of how the walls were built. Each tie off point needed to be able to meet a minimum of a 5,000 lb. rating. This wasn't always available from the beams on the wall, so we had to get creative with manufacturing new tie off points. Special equipment was needed to get drywall into the building and hung. To accomplish hanging all of our drywall we had to use telescoping booms and scissor lifts to achieve the height needed to place material. Construction was scheduled so that the building was closed in before we were able to stock the upper floors

where offices were built. To get our material to the 3<sup>rd</sup> and 4<sup>th</sup> floors we had to strategically leave openings in large walls in order to allow our scissor lifts to get access to them. These materials included 12-foot drywall sheets and 18 and 20 foot studs that needed to be lifted and transported. This created an overhead hazard for the trades working below us that we would have to address daily.

After beginning to drywall in a few of the rooms that contained the larger equipment that CoorsTek uses they decided that being able to power wash these large vessels and walls was a necessity. Power washing the drywall that had already been installed would be a major problem for the integrity of our product. To combat this a few options were offered but all would require an increased amount of work to complete. One of the solutions offered was to install 20-foot CMU block walls with metal framed walls above, then top the concrete with our drywall to the ceiling. This would increase costs for the owner because the concrete floor would need to be demolished in order to add concrete footers to support the new added load. Our project manager immediately went to work to figure out a more cost-effective solution for them. He came up with the idea of using a relatively newer drywall product, DensArmor Plus from Georgia-Pacific, that is a highly mold resistant drywall with a vinyl face. Part of its composition includes fiberglass which helps keep out moisture and is designed to create a watertight seal. This would solve the drywall issue but to protect the mud between the interface of where the drywall meets another product would be needed. Through hours of research our project manager came upon a drywall paint that would bond and adhere to our drywall mud that would create a watertight barrier. This solution was very cost effective and perfect for the owner.

As the construction phase was coming to a close for ICI, we were getting ready to begin our punch list when we were called back to help solve a problem that had come up with the performance of their vessels. After the creation of the rooms that initially held the vessels had been constructed, they began to test for differential pressures needed at different vessels and their specific areas. This investigation led the crew to find out that the existing ceiling decks were not completely tied into the new metal decks at the addition portion of the project. After brainstorming it was decided that the safest way to achieve this was to lift a worker and material to the entry point of the confined space and allow them to enter after atmospheric testing had been performed. Once the entire area surrounding these conjoining rooms was closed off they

were able to control the pressure with ease. Thanks to the ingenuity of our employees and the work ethic they showed when called upon, we were able to finish this project safely and on time.

Finishing this project was nothing short of gratifying for the members in our field. By going above and beyond what was originally suggested allowed ICI to deliver a product that was well above the standard previously agreed upon and was a true testament to every member of our company. From the office to the field, we couldn't have done it without every single hand that touched this project. Our project manager and superintendent put together a team who was new working together and created great unity to ensure that we prospered on this project. We are proud of our products and the work that goes into each one, this challenging project was no exception!











