**Category 5: Best Building Project – Specialty Contractor ($2M - $6M)**

**Specialty Contractor: ICI, LLC**

**Project Name: CoorsTek**

Since their inception in 1910, CoorsTek has made major advancements as global experts for engineered material challenges. They are working to grow their international footprint while expanding and refining what they have here at home. With R&D centers on three continents and 600,000 square meters of manufacturing space in over 50 manufacturing centers worldwide, CoorsTek is not only innovating in the present, they are setting their sights on the future by expanding where they are based in Golden, CO. This improvement comes in the form of building a new research, development, and manufacturing facility. This new facility, 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. Bringing this vision to life is where ICI steps in. ICI was tasked with cold-formed metal framing, rough carpentry, firestopping, joint sealants, hollow metal doors and frames, non-structural metal framing, and gypsum board.

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 to the top story. Working at this height is an extreme challenge in its own right. Add in a heap of other trades and you are looking at a logistical nightmare. This is the obstacle that we were facing when we accepted and walked onto the CoorsTek job site.

ICI started construction on Wednesday September 20, 2017. The project didn’t technically begin when our boots hit the ground, it began with in depth preplanning. While the general contractor was responsible for preplanning many aspects throughout this job, our project manager played a large role in preparing our field and site. This project was designated as a 5s and clean workspace project. Not only did we need to prep to be on a site designated as such, our project manager would need to attend multiple orientations and work all of this into our integrated work plan. The goal of designating a project to be 5s and clean space is to help make every aspect of the job site more clean, efficient, and safe. The 5s rules are stringent specifying how material is stored, moved, handled, and disposed. This was an adjustment for our project manager and superintendent overseeing the project. They met this challenge head on by staying ahead of material ordering and being creative with how our crew would work together on site.

Coming together with the general contractor and all subcontractors on the job was imperative. The general contractor required each trade to create integrated work plans. After these were created, each trade was expected to attend Plan of The Day meetings every morning. This consisted of our superintendent and foremen discussing how to connect with each trade to make sure everyone was aware of where manpower would be working and potential safety hazards that would be present. Along with daily meetings, we were required to have a weekly walk with a member of the general contractor team to view the entire project and critique what was happening. Safety was the main purpose of these walks, which we continually worked to make the strongest part of this 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 was working safely and efficiently. Our new safety program was a success on this project, so we have since incorporated that strategy on our other job sites.

This project encompassed a building as large as two football fields, four stories tall. Not only was planning between trades a major undertaking, trying to frame in walls and move equipment in between areas proved to be the largest challenge. The height of the walls added increased difficulty, having to use 150lb 12-gauge studs, at 6in. 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. Our superintendent is more accustomed to working with large exterior framing systems making him 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. From the safety of those around us to the actual logistics of finishing the walls, each move had to be planned and followed through precisely. A very large part of what made this project unique was the infrastructure 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 preplanning and manufacturing new tie off points. Special equipment was also needed to get drywall into the building and hung. To accomplish hanging all our drywall we had to use telescoping booms and scissor lifts to achieve the height needed. To get our material to the 3rd and 4th floors we had to strategically leave openings in large walls in order to allow our scissor lifts to get access to difficult areas on the job site. 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.

Midway through the project, CoorsTek decided that being able to power wash these large vessels and walls was now a necessity. Power washing the drywall already 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 and many solutions were extremely expensive. 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 any 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. Our project manager discovered a drywall paint that would bond and adhere to our drywall mud creating a watertight barrier. This solution worked and ended up saving the owner money because it required less hours of demolition by recreating what was already constructed.

As the construction phase was ending 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 creating an integrated workplan with the general contractor it was decided that the safest and easiest 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 to ensure safety of the area. 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.

Upon completion, the entire team at ICI was really excited and proud of the final result. ICI was able 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 from start to finish. Our project manager and superintendent put together a team with great talent and chemistry. We are proud of our products and the work that goes into each one, this challenging project was no exception.





















