

Iowa Fertilizer Company (IFCo)

Wever, Iowa



Orascom Construction (OC) of the Netherlands decided to build a fertilizer plant in the United States, in a strategic location for shipping. So, in 2013, they purchased national construction firm, Weitz out of Des Moines, Iowa, to be the general contractor for the project. Eventually Wever, Iowa was selected as the location, because it had convenient access to the nearby Mississippi River for transporting fertilizer, and the Iowa Fertilizer Company (IFCo) was born.

OC set a tight, three-year timeline for the development of the IFCo site, which would require everything to stay on schedule. To make things even more complicated, CF Industries bought the North American and European operations of OC for \$8 billion in the middle of the project. CF Industries is a subsidiary of a company in the UK that is collectively the largest publically traded nitrogen company in the world. The deal included the \$2 billion fertilizer plant in Iowa that was expected to produce at least 1.5-2 million metric tons of nitrogen fertilizers and diesel exhaust fluid each year.

Hot-dip galvanized (HDG) steel has a proven track record in the Petro-Chemical industry as it is able to withstand the corrosive and abrasive environment. Knowing this, it was an easy decision for CF industries to choose HDG steel for their new investment. In addition to the durability in

an aggressive environment, hot-dip galvanizing offers cost effectiveness, expedited delivery, and long-term corrosion control.

With the three-year construction schedule, turnaround time was critical to this project. Iowa has harsh winters, but there was no time to slow the construction for the weather. The factory-controlled galvanizing process, which is independent of weather and humidity was able to accommodate the year-round schedule. The 10 million pound job was able to have a consistent flow of material thanks to HDG's quick turnaround, which was coordinated through five different plants close to the jobsite.

In addition to the durability and turnaround time, hot-dip galvanizing offers initial and life-cycle cost savings. Because HDG can withstand the tough conditions and continue to resist corrosion for decades, there is little to no future maintenance required. IFCo took advantage of this cost savings knowing it would make the fertilizer plant more sustainable by eliminating time and money wasted on costly, ineffective touch-ups and repairs. In addition to the economic savings, galvanized steel is recyclable and produced with low environmental impact, which helps ensure this operation will not be a burden on future generations.

Some unique design challenges with this project required careful coordination between the galvanizer and fabricator. The bracing plates were bolted on, and had to be unbolted for galvanizing, and then re-attached after to the same columns, as the sizes varied slightly. Reconnecting the pieces correctly was critical for the erectors onsite, and any issues would slow the construction schedule. The fabricators and various galvanizing facilities worked diligently to ensure the massive job was seamless.

Project Manager Les Walters said "It was a great experience being involved in one of the largest projects ever done in Iowa, and hats off to the galvanizer for their exceptional customer service and quality!"

Hot-dip galvanizing will play an integral role in the ongoing operation of this fertilizer facility. By preventing rust from spreading across the steel - both during construction and for years in the harsh Iowa winters - galvanized steel will ensure IFCo can focus on production, and not facility maintenance throughout the life of the fertilizer plant. ■



Galvanizers

- AZZ Galvanizing - Dixon
- AZZ Galvanizing - Kansas City
- AZZ Galvanizing - Peoria
- AZZ Galvanizing - St. Louis
- AZZ Galvanizing - Winsted

Fabricators

- Continental Steel, Ben Hur Steel Worx,
- Chillicothe Steel, Mid States, Cab Metal Fabrication,
- Selvaggio Steel, Hanley Iron, Kreco, Baker-Rullman

Transportation Engineer

Patrick McClain, Weitz

Project Manager

Les Walters, Weitz