



CASE STUDY

DELIMART TURGEAU SUPERMARKET



PROJECT SPECS

Project: Delimart Turgeau Supermarket, Port-au-Prince, Haiti

Builder: GF Construction

Owner: Delimart

Total building square footage: 14,000 sq ft

Metal panels (wall): AVP in Polar White

Metal panels (roof): CFR in Polar White

WHY STAR?

Star Building Systems partners with leading builders and contractors throughout the United States to create custom-engineered steel building solutions for the commercial and industrial industries. Star builders receive extensive initial and ongoing training and have access to a comprehensive suite of tools and technology as well as a full range of the highest-quality products in the industry.

A LOVE & HAITI RELATIONSHIP: DELIMART, GF CONSTRUCTION AND STAR

Building on the small, Caribbean Island nation of Haiti is already difficult enough. Between political and civil instability and unrest, tropical storms, and most recently, the 7.2-magnitude earthquake that destroyed more than 50,000 homes, most builders would probably choose to do business elsewhere. But not GF Construction. Since the 1970s, this Port-au-Prince based firm has made it their business to adapt cutting-edge construction methods from the U.S. to the conditions and demands of Haiti. Among these methods is GF Construction's 20-year history of inventing creative uses for Star's pre-engineered metal building systems.

MORE IN STORE

When local supermarket Delimart approached GF Construction's head architect Jerry Fombrun about building a full-service supermarket on a tiny lot in Turgeau – an area of Port-au-Prince – he was undaunted. Even though the lot was only 30,000 square feet. Even though the client needed to include 100+ parking spaces in that small footprint. Even though unreliable local utilities meant the building needed to be fully self-sufficient in terms of water storage and generating its own electricity.

As an experienced architect partnering with his brother Charles, an engineer, and working together with their Star representative, Fombrun knew he could make it work. He explained the client request that the 14,000 square-foot building include “a minimum of a thousand square feet of showroom, cold storage, office space and at least one hundred parking spaces. “

DREAMING UP SOLUTIONS

To squeeze so much onto the small lot, Fombrun got creative. “I designed it personally,” he said. In addition to some parking out front, he put an entire underground parking lot underneath the supermarket. The basement level is constructed entirely out of seismic-reinforced concrete, with embedded four-foot-long bolts tying the supermarket above.

For the supermarket itself, Fombrun made use of Star's Long Bay® System. “Long Bay purlins allow for clear spans and an entirely free showroom, free of columns or obstructions,” said Fombrun. “The client did not want to have acoustic ceiling, so those bays were color-coordinated with the rest of the store to make sure they integrated well. The entire structure is visible from the inside.”

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LINING UP

However, there was a challenge in coordinating the placement of the long bay system with the concrete parking garage beneath it. “The challenge was to make the bays match the parking bays,” said Fombrun. In order to make the most of every square foot of parking space below, the long bay spans had to fall in just the right spots, “so the columns from the building could rest all the way down into that basement.” But like every other complication, Fombrun found a solution, and was able to provide both clear spans above and more than 100 parking spaces below.

“The client also insisted the building have a good insulation system,” Fombrun recalled. To that end, CFR Roof Panels were used for the entirety of the roof. These interlocking, insulated metal panels with a polyurethane core provide weatherproofing, high R-values, and a durable, attractive finish – all in one. Finished in Polar White, they minimize solar gain while protecting the supermarket from Haiti’s often torrential rain. For the supermarket walls, Fombrun used AVP Wall Panels, also in Polar White. The AVP Panel’s design allows more insulation to be added behind it to achieve the client’s desired insulation properties.

TAKING IT TO ANOTHER LEVEL

Fombrun’s design also integrated two mezzanines. The first, which is in the front of the store, stands 12 feet high and houses additional retail space. The second, in the rear of the market, is 16 feet high and includes cold storage below with additional storage and office space above. The building also features a load lift, elevator, and a handsome façade

comprising a light gauge metal stud structure finished with magnesium boards clad in stone and wood.

Reflecting on the job, which was completed in 2020, Fombrun recalled “it integrated quite a few combinations of elements – concrete, steel elements and light framing. It was a fairly complex project to combine the electricity, AC systems, parking, the Cold rooms – how everything would fit on that very tight lot.”

LOOKING BACK

Despite the challenges, GF Construction’s perseverance paid off. “I think the client is extremely satisfied with the performance of the building. In general, what we see around here is simple panels. We’ve got quite a few calls and people were intrigued with the system. I think we’ve been the pioneers in metal structures, transforming them and getting creative with it.”

Fombrun entered Delimart Turgeau – which, thankfully, was not damaged in the August earthquake – in Star’s 2021 Master Builder Awards and was recently selected as Master Builder of the Year. It’s no wonder they’re known as The Giants in Metal Building Structures in Haiti.

In support of all parties involved in this project and – most importantly – the thousands of people affected by the earthquake, Star has made a charitable contribution to the Rotary District 720 Haiti Earthquake Disaster Relief Fund to provide aid to those working on rebuilding and recovery efforts in the area.

