

PRESS RELEASE

Grand Prix Models takes to the sky with Fabcon Steel design solution

*29 August 2018: When **Gary Gibson** had a vision to transform Grand Prix Models in Boksburg, adding another level for a restaurant and function area, he turned to steel engineering solutions provider Fabcon Steel to achieve his architectural vision. A total of 25 t of steel and 2 200 bolts later, and Gibson's original vision is finally taking shape.*

Specialising in radio-controlled (RC) cars, drones, and planes, Gibson has long had a desire to expand the specialist hobby shop – one of the largest of its kind in South Africa – into a general venue for RC enthusiasts and their families and friends to spend time together.

With the business starting off as a bare piece of ground, on which Gibson and his crew built the original building themselves 15 years ago, his long-term vision was to utilise the tarred rooftop area. Not one to do anything in half measures, Gibson's vision was for a curved fabricated steel structure to extend over the area, resembling a giant airplane wing.

The structure by itself would become the building's dominant architectural feature and aesthetic: not only a talking point for visitors, but being a striking visual feature highly visible from the main road. The curved shape was selected to represent an airplane wing, as the building is in line with the flight path from OR Tambo International Airport, providing a spectacular vantage point to view airplanes landing and taking off.

Such was Gibson's confidence in Fabcon Steel, he had no doubt that Director **Andrew van Gool**, a steel industry veteran with 20 years' experience, and Factory Manager **Andre Schultz**, would be able to turn his dream into reality.

"Andrew knew what I wanted, and also that he would be able to create what I was thinking. Whereas other people would have said they would get back to me, Andrew has the passion to make anything happen," Gibson comments. Van Gool admits that translating Gibson's vision was a difficult task.

In addition, it is not a commercial building like a shopping centre with a double or triple volume height. Instead, people are quite close-up to the actual structure itself, meaning that every joint, weld, and patch of painting is highly visible to inspection. "The patrons may not be engineers or architects themselves, but they know what is straight or unpainted. Hence the attention to detail is the most important part of an undertaking of this nature," Van Gool stresses.

Informing Gibson that Fabcon Steel had never undertaken a curved steel structure in the shape of an airplane wing before, Van Gool was nevertheless bullish. "My guiding philosophy is that we look past any obstacles to create solutions for our clients. We have key staff in place with the necessary experience and technical expertise to see such challenging projects through to successful completion."

Commenting on the design and engineering challenges posed by this project, Schultz explains that, not being a ground-up structure, the load of the lower slabs was carried by pre-existing concrete columns. The engineer's specification was that the load imposed by the new structure had to be borne by these columns, and not the existing downstand beams spanning between the columns.

The project was complicated further by the fact that one of the exterior support walls was thicker than expected, meaning an unanticipated differential in aligning the steel and concrete columns. "This is important because the engineer ultimately has to sign-off on the structure, in addition to us meeting our client's own exacting requirements," Van Gool notes.

A quick redesign resulted in some on-site fabrication for the necessary adjustments. "Due to the unusual shape of the structure, comprising curved tubular trusses spanning long distances without column support, which is usually a feature in much larger structures like shopping malls, we had complex geometry to consider. Hence this was by no means a slick, bolt-on project, but a detailed engineering exercise," Schultz highlights. The longest truss fabricated at Fabcon Steel's Midvaal factory was 14.5 m.

Barely two weeks before the project was due to commence, the client was informed that the site next door could no longer be used as a laydown area. With the detailed programme in jeopardy as a result, Van Gool and his team undertook the herculean task of a 75% acceleration of the entire project cycle. Lifts and installations that normally would have taken two weeks to execute were now scheduled for four to five days.

"This is almost unheard of on any construction project in South Africa. However, our team pulled through, and it is incredible what they managed to achieve at the end of the day. What this project has taught us is that, no matter how careful the planning, one must always allow for contingencies at the end of the day," Van Gool highlights.

With the project well on-track, Gibson concludes that what has been achieved to date has far exceeded his expectations. "I was duly impressed as soon as I saw the beams and columns start to go up. Effectively I had been unable to see the big picture until that critical stage. Thereafter I was able to visualise the entire structure, and how intricately it had been designed and put together. Every member of the Fabcon Steel team, from Andrew to the installation crew, has been professional to a fault. And the structure has generated a lot of interest in people, so it is already serving its purpose."

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About Fabcon Steel

Established in 2008, Fabcon Steel's vision is to be recognised as a leading supplier of steel products and value-added solutions to the steel industry in South Africa, and to gain in-depth understanding of our customers real needs, thereby transforming supply relationships into mutually beneficial partnerships.

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